



Towards a framework for organizational learning

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Abstract

Purpose – Many tools exist to chart the progress of an organisation in its quest to become a learning organization or achieve organizational learning. Aims to expand a tool already developed to include learning organization conditions as they occur through dialogue between individuals within an organisation with an emphasis on social learning theory.

Design/methodology/approach – Literature relating to creating learning organizations as well as undertaking organizational learning is reviewed and critiqued. An argument for a tool in identifying learning activity functions as they take place through dialogue is presented along with the argument for expanding the tool to incorporate learning organization conditions that have been identified within the literature. The tool this work expands is the DISCOUNT scheme as developed by Pilkington. The paper closes with a discussion on justifying the use of the scheme and the future work that is to be undertaken.

Findings – Demonstrates that a tool can be expanded to take into account learning organization and organizational learning conditions and how they could be identified.

Research limitations/implications – Individuals who use the tool need a number of hours practice to become familiar with the scheme and its structure.

Practical implications – A tool has been expanded to look at learning activities as they take place within an organisation. By identifying these activities, more successful approaches to learning may be encouraged by looking at an individual's behaviour, personal and cognitive factors and the environment as is stated to apply when viewed through social learning theory.

Originality/value – This paper offers a practical tool that can be used on dialogue and other speech acts to look at learning activities within organizations with a specific focus on organizations wanting to improve organizational learning or try to create learning organizations.

Keywords Learning organizations, Learning

Paper type Research paper

Introduction

A review of the literature on learning organizations and organizational learning reveals both a lack of information on how these concepts are supported by underlying theories of learning and how learning is believed to take place at an individual level. Mavin and Cavaleri (2004) propose that learning organizations are best viewed through the lens of Social Learning Theory. However, this view, together with related theories from the field of educational research, is often neglected. To counter this omission we propose an approach that seeks to show learning activity functions taking place, when viewed through the lens of Social Learning Theory. Pilkington's (1999) DISCOUNT scheme, an instrument designed to reveal learning activity functions in higher education, is here expanded to take account of learning activity stimulated by the use of information and



communication technologies (ICTs) in a commercial context. By adding conditions identified within the literature on learning organizations and organizational learning, the scheme may enable the identification of learning activity beyond its original intended audience. This paper looks to develop an approach that can take account of learning being undertaken through the design, development, and use of ICTs that aim to promote learning capabilities within organizations. While the approach is aimed at viewing how learning activities change throughout the design and development of the ICT to finally using the technology, this paper concentrates on expanding the approach and its potential usefulness for this purpose.

Zuboff's (1988) view of technology, as an instrument of change in the acquisition and recontextualisation of knowledge, may take insufficient account of the individual learning process and how learning is undertaken within organizations when ICTs are used. Drucker (1995) points out that a database holds data that can be accessed by a number of individuals, but the database itself is not information, it just holds data. This view is upheld by Lewis (1994, p. 100) who states:

... a data system is concerned with acquiring, storing and making accessible facts which are meaningful to the organization; an information system however actively provides decision makers with the data which they perceive as information, in a way which is conducive to their needs ...

Organizations are designing and developing ICTs but how learning is undertaken through these technologies is unknown. Therefore, individuals may look at data and transform it into information but may not engage in learning unless the data are structured appropriately. This poses the problem in organizations trying to develop and use ICTs for learning, as identifying what learning is and how it takes place.

This paper begins with examining definitions of learning put forward and demonstrated in the learning organization literature, followed by an overview, from Moilanen (2001), on tools that may be used to classify either learning organizations or those that are in the process of achieving learning organization status. The DISCOUNT scheme (Pilkington, 1999) and its use in education is considered as an instrument capable of revealing learning activity but as the instrument places emphasis on the social context of learning, Bandura's (1986) Social Learning Theory is considered as a basis for expanding the DISCOUNT scheme to account for organizational contexts and is reviewed first. We present a perspective on the potential usefulness of the expanded scheme in showing activities as they take place within an organization. We conclude with a discussion upon future research where the expanded DISCOUNT scheme will be used.

Learning as it is presented and currently viewed within the field of the “learning organization” and “organizational learning”

Argyris (1999) simply sums up learning, within an organization, as stemming from two conditions. Firstly, learning is said to take place when a planned action was accomplished, and secondly, if the plan was not accomplished the reasons why are found and corrected. Whether this “detection” and “correction” approach is the best way to view how organizations learn has been the subject of much debate (Henderson, 1997; Robinson, 2001). Argyris and Schön's (1978) single-and double-loop learning framework is heavily referenced and quoted within the field, but few authors have

developed frameworks and tools (Moilanen, 2001) that can be used to trace and identify learning within an organization. However, this might be due to the second point, which is that learning is a very complex and difficult process to precisely track. These, and many more problems related to describing and demonstrating what a learning organization is, precisely, and how organizational learning takes place, are still looking for answers. The main answer as viewed by the authors of this paper, for undertaking organizational learning, comes from Argyris and Schön (1978), and for looking at the learning organization the work of Senge (1990). While the field is developing and applying new thinking, many references view these authors work as significant. Drawing on these works, many other authors have designed and used tools and frameworks to try to view these and other learning processes. Moilanen (2001) presents a nice review of some of these works.

Moilanen (2001) reviews the limited number of tools and frameworks that have been developed to diagnose if an organization is, or can become, a learning organization. Moilanen (2001) primarily reviews tools and techniques put forward by Pedler *et al.* (1997), Senge (1990) and Argyris and Schön (1978). This review shows that each approach demonstrates concepts of what a learning organization should be but is taken from a holistic perspective. These tools and frameworks, as good as they are, do not precisely show where exactly the learning has taken place, or point to the exact evidence that a learning organization has been created or organizational learning has taken place. Moilanen continues by demonstrating that the work of Pedler *et al.* (1997) and Senge (1990) differing from that of Argyris and Schön (1978). Moilanen then looks at a range of questionnaire-based tools (Mayo and Lank, 1994; Tannenbaum, 1997; Pearn *et al.*, 1995; Sarala and Sarala, 1996; Ojala, 1996; Redding and Catalanello, 1994; Watkins and Marsick, 1998). Moilanen believes these questionnaire approaches do not inform the researcher, or organization, about the precise way that the tool can be used, or explain for what purpose these approaches have been designed, and whether this purpose has been met. Therefore, any tool or framework that this paper may develop has to consider these criticisms. As a result of this review, Moilanen (2001) feels that the tools and frameworks are used more for consultancy than for the purpose of science. These tools and frameworks may be useful for identifying the stage an organization has reached in the process but do not show how an organization got there. It may be concluded that any tools or frameworks need to look at learning activities as they take place and not after the event. Regardless of whether these frameworks and tools are used in a primarily consultancy capacity, or for science, it is important that any new framework or tool, be designed for a purpose which is made clear, as well as contributing to the field of knowledge. These tools and frameworks should also be suitable for use by individuals within an organization. Taking a holistic perspective of a learning organization has its advantages but considering the individual before viewing the entire organization may be more informative. Before reviewing an instrument, which enables this to be done, the theory underpinning the tool and what we feel as a way to view learning within organisations is presented.

A view of learning taken from the cognitive perspective

Pemberton and Stonehouse identify two theories of learning as the behaviourist approach and the cognitive approach. They identify Kolb (1984) as favouring a cognitive viewpoint and add:

... individual learning is dependent on the learning arrangements that exist within the organization, either accelerating or slowing the learning process (Pemberton and Stonehouse, 2000, p. 187).

Kolb's (1984) work incorporates John Dewey's thinking, which although focused on learning in education, could be further reviewed within the field of the learning organization. It is possible that other authors have also touched upon learning theories, but work in this area would clearly benefit from a closer bond with underlying theories (excluding Argyris, 1999; Argyris and Schön, 1978). Social learning should complement the DISCOUNT scheme that will be presented in viewing learning within an organizational context. As a starting point for viewing this social aspect, we consider Cohen's (1996) view of individual learning and how it relates to organizational routines.

Cohen draws together work done in the organizational learning field with work being undertaken in the area of skilled performance in psychology. Cohen (1996, pp. 188-9) cites Stinchcombe's (1990) earlier work and concludes that the structure of an organization:

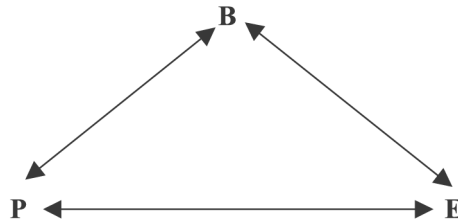
... is viewed as a design for organizational learning, for acquiring information about the state of the world, and for improving what organizations can do.

The skills possessed by members of the organization make up the very basis of an organization's capabilities. Therefore, how these skills are used and developed in the presence of other individuals is important. On the other hand, simply, the social aspect of how individuals work together is what needs to be understood further. Cohen (1996) suggests that Stinchcombe's (1990) approach emphasises the building of individuals' skills, renewing an interest in psychology as a way to understand why individuals behave in a particular way when exposed to certain stimuli and environments. Therefore, how and why individuals act and socialise in the presence of other individuals is important.

Bandura (1986) has described human behaviour as activated by needs, instincts, impulses, and drives. Complexity is present, as behaviour can be linked to many drives (Bandura, 1986). Therefore, how an individual reacts in one context could change in another. It is because of these constant changes, which makes learning, and in particular learning within an organizational context, very interesting but at the same time very difficult. One model that may be employed in understanding how, and why, individuals may act in a particular way, which can also link with the DISCOUNT scheme, is triadic reciprocity (Bandura, 1986, p. 23). This model combines the states of behaviour (B), cognitive and personal factors (P), and the environment (E) in an interacting and influential triangle (Figure 1).

Figure 1 shows the interaction of the three determinants labelled as P, B and E. "Reciprocal" refers to how the determinants in the model relate to each other and the word "determinants" refers to how the variables can change through differing conditions. It is important to note that Figure 1 does not imply an equal strength between each determinant, which is why this model could be a useful way to view how personal, behavioural, and cognitive factors and the environment can influence an individual within the context of the organization. It is not practical to go into sufficient depth in this paper upon how each force can dominate the others, but interested readers are referred to Bandura's (1986, Chapter 1, pp. 23-8) work. However, a summary of Bandura's (1986) examples can be seen in Table I.

It is believed that incorporating Bandura's (1986) model, into research on learning organizations can provide greater insight when examining ways to create and encourage techniques for individuals to learn together and how this process could be managed. This thinking leads us to argue for the use of the DISCOUNT scheme in identifying learning activities. Further, by using the DISCOUNT scheme to show learning activities, it could be viewed as a way for processes to be put in place for group work or allowing communities of practice to form. It is this thinking that we feel underpins how organizational learning can occur. Communities of practice, as developed by Lave and Wenger (1991) and Wenger (1998) is stated as a theory that demonstrates how individual learning translates within a group setting into group learning through the participants in the social aspect of learning. It is felt that this is important especially when viewed from the perspective of an organization. This view supports Pemberton and Stonehouse (2000) assertion that individual learning is related to the organizations arrangements for learning. If these arrangements cause an individual's behaviour in one area of the organization to act in one particular way, but different behaviour elsewhere, then through Bandura's (1986) model it can be hypothesised that personal and cognitive factors and the environment are not currently dominating. Therefore, if managers wanted to change an individual's behaviour they would have to encourage different determinants to dominate. Changes in determinants



Source: Bandura (1986, p. 24)

Figure 1. Schematisation of the relations between the three classes of determinants in triadic reciprocal causation

Determinant	Example of domination	Explanation
Environment	An individual being in prison ^a	If an individual has their behaviour constrained the environmental force will dominate (Bandura, 1986)
Behaviour	An individual playing the piano	Playing the piano is viewed as self-regulative. This self-regulation becomes dominant as the environment and cognitive factors are not required as much (Bandura, 1986)
Personal	Selecting a book from a library	Selecting a book is viewed as a personal choice. Personal factors dominated as the environment and behaviour was not called upon (Bandura, 1986). Bandura (1986) feels personal factors dominate when situational constraints are weak

Note: Bandura (1986) does not give an example of how the environment could dominate. This example is the authors

Table I. A summary of how the three causes of determinants could dominate an individual

can take the form of viewing or changing an organizations culture (Alvesson, 2002; Cook and Yanow, 1996; Harrison and Carroll, 2001); the layout of an individuals work space and who they come into contact with, also organizational structure (Argyris, 1999; Carley and Hill, 2001; Nonaka and Takeuchi, 1995) and the design and use of technology (Henderson, 1996; Masino, 1999; Mayo and Lank, 1994; Zuboff, 1988). This completes the examples of areas addressed within the learning organization literature for this paper. However, very few authors address these issues with a focused theory of learning clearly stated. A view based on social learning theory has been presented to counter this omission. We now turn to viewing what exactly DISCOUNT is and how it can be applied in practice.

The DISCOUNT scheme

Within organizations, people are always in dialogue with each other for various reasons, even if unrelated to the individual's role within the organization. This social aspect of learning has been well documented (Bandura, 1977, 1986; Vygotsky, 1978; Wenger, 1998). This discourse may prove useful in revealing how learning is affected by the context in which it takes place. Pilkington's (1999) DISCOUNT scheme is intended to give insight into how dialogue may be used as a learning activity. However, before going on to expand the scheme, how DISCOUNT has been created and works in practice needs to be reviewed.

Pilkington (1999) justifies the design of DISCOUNT as a qualitative tool by admitting that the interpretation of qualitative methods are important which can make them vulnerable, however, the richness that qualitative methods can produce are important. She continues by adding that quantitative techniques possess objectivity, that qualitative methods do not, but may not possess necessary explanatory power (Pilkington, 1999). By combining approaches, Pilkington's (1999) scheme is potentially more reliable.

When Pilkington (1999) refers to DISCOUNT, she is not referring to a qualitative software programme such as ATLAS.ti but to an overall scheme that requires an individual, or group of individuals to use, in marking up conversations, interviews or any other method of recorded interactions between two or more people using language. However, this thinking is how the authors of this paper perceive the scheme and not Pilkington's (1999) view as she uses the scheme within an educational context through a teacher-student interaction. Therefore, marking up transcriptions of dialogue within organizations requires the collection of recorded interactions either formally (e.g. an interview or focus group) or informally (e.g. general conversations that people undertake or e-mail exchanges) if they are available. Little research has been uncovered using DISCOUNT in this way, which is why firstly, the scheme is looked at to be expanded and secondly, to try to view organizational learning and learning organization conditions being undertaken and how they change or disappear over a period of time. For the authors of this paper it will be throughout a project designing, developing, and using an ICT. Therefore, for this particular project, exchanges of dialogue between participants will be captured using the above methods of interviews, general conversations and e-mail communication. From this dialogue, the DISCOUNT scheme will manually be applied, with conclusions being drawn about what the research has told us.

It is not practical to go into great depth on how the DISCOUNT scheme has been comprised, but interested readers can find information on: transactional analysis and exchange structure; logical dialogue games and rhetorical structure theory within Pilkington's (1999) technical report. What is practical is to give an overview of the scheme and how its use could provide useful outcomes in researching the learning organization and organizational learning. Pilkington (1999, p. 11) (the italics are Pilkington's own) gives a summary of the aims of the DISCOUNT scheme, which is reproduced here:

- Attribute utterance to a *participant*.
- To track *initiative* in any *exchange*.
- To identify patterns of *exchange* – *dialogue* roles and their associated *learning activity functions*.
- To identify the ideational *rhetorical content structure* within episodes.
- To identify the number of times, which instances of a given category are relevant to learning through triangulation with other performance indicators.

Use of DISCOUNT can show the shift that a dialogue role may take through the function of a participant's type. Pilkington (1999) uses the example here of a student or tutor but applying the scheme to an organization could include two managers or a manager and an employee, for example. Other outcomes that may be highlighted using DISCOUNT are:

- Asymmetry in move use as a function of particular *dialogue roles*.
- The effectiveness of the dialogue (at each level) in terms of *learning functions*.
- Progress on the learning activity in terms of *commitment outcomes*.
- The effectiveness of particular styles of interaction, e.g. debate/argument, negotiation/co-operation, facilitation/self-explanation through the tracking of discourse cues to specific *rhetorical relations*.
- Episodes (marked "episode" and numbered) consist of propositions on a topic linked by rhetorical relations in a developing focus-space. Episodes result in commitment and intention outcomes.
- Exchanges (marked "exchange" and numbered) within an episode, to be well formed these consist of at least one initiating and one responding turn and a minimum of two participants, each with social and cognitive roles. Exchanges have transactional functions. (In an educational dialogue, these are learning activity functions).
- Turns consist of moves (speech acts) and the propositions they contain.
- Moves consist of propositions and have a speech act function.
- Propositions entail commitments (commitment outcomes).
- Rhetorical Predicates link propositions together within and between moves to convey the ideational content (argument) structure (Pilkington, 1999, pp. 11-12).

Pilkington (1999) also considers episodes and exchanges (turns, topic-focus and issue spaces); episodes, exchanges and roles; moves; and argument (ideational content and rhetorical predicates) and how they can be interpreted. The remainder of the technical

report is used to give a full list, including definitions, of the DISCOUNT scheme and how to make up the protocol. An example of the DISCOUNT scheme in use can be seen in the Appendix that is taken from Pilkington's (1999) technical report.

We now consider how the scheme could be valuable in investigating learning organizations and organizational learning. Pilkington (1999) demonstrates that DISCOUNT was able to show the difference in the number of prompts and moves conducted when a tutor is working with one student compared to when working with two. Therefore, the same thinking can be applied to individuals within organizations undertaking organizational tasks. Similarly, data collected within an organization could show how many times an individual reflects, reasons and plans when working on a project of their own, compared to what they undertook when in contact with another individual, or a group of individuals, especially if these activities can be viewed from the learning theories of Bandura (1986), Lave and Wenger (1991) and Wenger (1998) concerning the social aspect of learning. By viewing and collecting spoken or written dialogue, it should be possible to see learning activities as they take place within an organization when they are marked up using the DISCOUNT scheme. By evaluating the outcomes, it can help to devise strategies that could aid more successful learning, such as exploring the environment and other conditions that have affected the learning activity to try to encourage further successful future projects when viewed through the work of Bandura (1986).

An example of this thinking is presented through viewing a project team. A project team may meet to discuss and take action on a project to develop an ICT. At each meeting what was spoken and to whom could be recorded by a researcher, consultant, or an organizational member. Once the dialogue has been recorded and transcribed, the DISCOUNT protocols are applied. This pattern is followed over the project. As the project moves forward it should be possible to see repeated patterns of who is speaking to whom and what initiatives were raised, what initiatives were followed and who speaks the most, for example. This information may provide insight into how well a team worked together and what specific issues caused the project to move in a specific direction compared with what other choices were available. This process is different to others, as DISCOUNT records the activities as they take place compared to a questionnaire approach that can only try and capture the issues after the event. However, firstly, DISCOUNT has to be applied to an organization and secondly, it needs to be expanded to try and capture what the literature on the learning organization feels relates to undertaking organizational learning or building a learning organization, and if these processes are present and helpful in organizations trying to develop these conditions.

The potential usefulness of the tool has been highlighted but the DISCOUNT scheme may possess a number of drawbacks also. Firstly, the scheme has a large number of listings and definitions, which can be applied to a transcript or other forms of captured dialogue between individuals, therefore, using the scheme could be found to be difficult. Secondly, the person collecting and analysing the data according to the scheme would have to have knowledge of the scheme. The scheme could therefore be viewed more as a consultancy tool than a tool that an organization's members could use themselves. Pilkington (1999) does discuss the use of software to help mark up a dialogue known as TACT. TACT refers to Textual Analysis Computing Tools, which would enable a coder to sort, index and code dialogues for analysis. However, the use of

TACT may help speed up the coding process as such, but the problem of familiarity with DISCOUNT and having the software to work with in the first place would remain. de Vicente *et al.* (1999) also have a concern about the DISCOUNT scheme, which relates to the reliability of the coders in coding a dialogue. In their review of DISCOUNT, de Vicente *et al.* (1999) analysed three educational dialogues. The results showed that results of the coding generated by two different coders were slightly different. To overcome this problem a level of agreement had to be reached which took about 20 hours of experience using the scheme. Therefore, how one individual views a dialogue will depend upon that individual and the instances that the individual is looking for. For example, the amount of observations an individual may make could be left open to interpretation from the coder. However, in concluding, de Vicente *et al.* (1999) feel that DISCOUNT would make an excellent research tool. This may be so, especially in the area of the learning organization and organizational learning. In order to consider how DISCOUNT might be employed in the identification of learning within organizations, we will first turn our attention to how learning is viewed within these constructs.

Current approaches to viewing learning from the “learning organization” and “organizational learning”

The “learning organization” and “organizational learning” field hint at the complexity that learning involves but, even though tools and frameworks exist, much work is focused on higher level problems such as creating a learning organization (de Geus, 1999; Örtenblad, 2004; Pedler *et al.*, 1997; Moilanen, 2001; Senge, 1990) or achieving organizational learning (Argyris and Schön, 1978; Huber, 1996; Keating *et al.*, 1996; Kock *et al.*, 1997). Other authors have looked at how learning is achieved within groups (Gibson and Vermeulen, 2003; Lave and Wenger, 1991; Loewen and Loo, 2004) or within communities of practice (Boud and Middleton, 2003; Brown and Duguid, 1996; Wenger, 1998). Very few authors have purely focused upon developing an approach aimed at the individual as a starting point in a chain of interactions that could go on to form further learning processes within groups, communities of practice, organizational learning and the possible outcome of creating a learning organization (Mayo and Lank, 1994 deal with Personal Learning in Chapter 6 of their book). From these areas listed, authors seem to pick only a couple, which are used as the basis to create the learning organization or how organizational learning is undertaken. While this research is very relevant, and vital, more research on the role of the individual within the “learning organization” should be undertaken with a tool that can be developed to view this learning. Only when it is possible to demonstrate that learning has taken place, and precisely how and when it was achieved, can other research areas within the field follow. The DISCOUNT scheme attempts to show learning as it takes place. It is not claimed that DISCOUNT will solve and resolve many of the debates that currently exist but it could provide a starting point. In order to do this we propose expanding the scheme.

Expanding the DISCOUNT scheme

To expand the DISCOUNT scheme to take into account learning organization conditions a review was undertaken of the organizational learning literature by the authors of this paper. Whenever a statement was encountered that could apply as a

condition(s) that relates to either the learning organization or organizational learning, the condition was manually recorded. Once all of these conditions were recorded, they were placed into a table, which consisted of two columns. The first column was headed “general learning” while the second was “the learning organization”. While these statements are important, no attempt is made to show the table due to its size. Each statement was placed into the column that was felt to best describe the condition of the statement. Therefore, statements that can be said to apply to all aspects of learning may be placed under “general learning” while statements that are theorised to only apply to “the learning organization” or “organizational learning” were placed into the column entitled “the learning organization”. In total 141 statements were recorded. However, only 67 were placed into the column entitled “the learning organization”. As the DISCOUNT scheme already possesses a large number of listings and definitions, it would firstly not be practical to add a further 67 codes to the scheme; and secondly, a number of themes are repeated or can be classified into the same category. Therefore, the expansion to the DISCOUNT scheme will come from looking at the 67 statements that are felt to represent organizational learning and learning organization conditions, and grouping duplicate conditions and re-occurring themes together, to reduce the overall number, which could then be added to the scheme. It should also be noted that even though 67 conditions have been identified no attempt in this paper is being made to operationalise all 67. Only the aspects that are being operationalised will now be discussed.

It is important to note that Pilkington’s (1999) DISCOUNT scheme already possesses what can be described as “general” learning activity listings and definitions, which is why those statements have not been paid a large amount of attention too in this paper. While tracking these learning activities is important, we are trying to identify “learning organization” conditions that can be applied to the DISCOUNT scheme. However, the 67 statements that were identified, while valid, could provide a degree of difficulty in identifying occurrences of each element due to the general nature of some and vagueness of others. It is important as a start to expand the DISCOUNT scheme to add elements of the learning organization field that can be identified, for example, within a group meeting on designing an ICT. This process will now be undertaken. Three conditions are attributed to the learning organization and organizational learning, which can be identified, are listed in Table II.

Table II identifies a few of the conditions identified through the literature review that applies to the learning organization. Table II also shows a list of authors who have stated the condition applies to a learning organization, or organizational learning, as well as the code in the style that other DISCOUNT codes appear that can be added to the scheme is shown. It can be argued that other authors may not support the conditions selected. This is a very valid point, and we ask other authors to state other actual conditions that are known to apply to the learning organization, and organizational learning, or better still, apply the conditions to Pilkington’s (1999) DISCOUNT scheme, use the scheme in a practical setting, and publish the findings. It should be emphasised again that by expanding the scheme we are trying to locate learning organization conditions as they take place along with learning conditions that DISCOUNT also possesses. Therefore, other authors expanding the scheme through adding and identifying conditions they feel are appropriate can only add value.

Table II.
Learning organization
conditions that are to be
added to Pilkington's
(1990) DISCOUNT
scheme

Learning organization condition	Authors who have identified the condition	Code to identify the condition within DISCOUNT
(Learning is a) continuous process	Appelbaum and Gallagher (2000), Boud and Middleton (2003), Garratt (1999), Pedler <i>et al.</i> (1997) and Savolainen (2000)	*Continuous process*
People development	Garratt (1999), Matlay (2000), Nonaka <i>et al.</i> (2001), Ortenblad (2004), Senge (1990) and Teare and Neil (2002)	*People development*
Listening to customers	Choueke and Armstrong (1998), Nonaka <i>et al.</i> (2001) and Ortenblad (2002)	*Listening to customers*

It should be noted that Table II currently does not give examples of elements that are to be looked for, within discourse, to identify the particular learning organization condition(s). Table III will attempt to resolve this problem by firstly listing literature that has been identified through the initial 67-statement literature review. Secondly, a view is set forth of the overall aim of the condition while critical success factors are listed which will be used to identify the learning organization condition.

Table III has been developed to provide the supporting literature that justifies the inclusion of the condition within the overall scheme. While it may be viewed that Table III is complicated it contains the necessary information and justifications of why the three learning organization conditions have been included. A vision of what the condition can do for an organization as well as critical success factors was also given. For example, the literature reviewed to support each of the three conditions is presented along with the authors who state them. From each extract of supporting literature, a vision was constructed by the authors of this paper, from what the learning organization condition argues to help an organization achieve, and why it is important. Therefore, to identify the learning organization condition viewed in a pure form is difficult as elements of the condition may be present. In order to tackle this problem a number of critical success factors as constructed by the authors of this paper in the final column of Table III. These critical success factors are derived from the literature contained within the second column of Table III (e.g. one critical success factor of learning is a continuous process relates to a way to measure the process and is taken from the fourth quote of the supporting literature from Appelbaum and Gallagher, 2000). Therefore, the greater the number of critical success factors identified, the more the learning organization conditions can be argued to be present. However, some of these critical success factors can already be identified within the DISCOUNT scheme and is pointless duplicating the same categories. Table IV has been constructed to demonstrate what conditions within the DISCOUNT scheme are already present to identify the learning organization condition, which will then leave the condition that is not already present to be added to the scheme. Therefore, Table IV lists the learning organization conditions with each of the critical success factors constructed in Table III. For each critical success factor the code the DISCOUNT scheme already possesses that can be used for each critical success factor is then listed in the final column (DISCOUNT categories).

Table IV has been created from Table III to view the learning organization conditions that have been identified within the literature and are already present in the DISCOUNT (Pilkington, 1999) scheme. It may be questioned why the specific DISCOUNT categories were selected to represent each critical success factor? The answer to this question comes from the original purpose DISCOUNT was designed for. The categories were selected and developed by Pilkington (1999) herself to identify learning conditions. Therefore, the authors of this paper viewed the current DISCOUNT categories and listed the categories that were felt to encapsulate each critical success factor, if they were present. Owing to this subjective process, we invite other authors to view the scheme and locate the codes that are felt to relate to the critical success factors. Numerous conditions have been identified for most of the critical success factors except for four. Therefore, these additions need to be added to the scheme in a style similar to the other codes DISCOUNT contains. The additions we feel will apply to each of the four categories are listed as:

Table III.
The structure of learning organization conditions

Learning organization condition	Supporting literature	Vision	Critical success factors
(Learning is a) continuous process	<p>Among many people at all levels the aspiration to become a learning organization is accepted increasingly as more and more companies and institutions see conscious learning as central to both their survival and development (Garratt, 1999, p. 203)</p> <p>As our world becomes more complex and uncertain it is crucial that the capability of both individuals and organizations to learn regularly and rigorously from their work is encouraged so that they may adapt rapidly and continuously to their changing environments (Garratt, 1999, p. 203)</p> <p>It is also about the ability of an organization to learn from itself, its mistakes, its inefficiency and its employees (Appelbaum and Gallagher, 2000, p. 46)</p> <p>A company has to consider what it wants to be and what resources it has (strategy). It needs to share the strategy with employees (communicate). It must define progress and success (measurements); then look for gaps between their current reality and future reality (feedback). Finally, it must strive to narrow the human resource gaps (hire, train and develop). The process is never complete and, once started on the path, the sequence disappears (Appelbaum and Gallagher, 2000, p. 48)</p> <p>New knowledge is attained through learning, learning generates change which can lead to change and can again lead to learning, etc. Organizational learning can lead to continuous improvement in an organization ... (Savolainen, 2000, p. 196)</p>	<p>Continuous learning is essential for an organization to remain in existence. Therefore, continuous learning takes place the more the environment becomes complex. The more learning that takes place the more mistakes and successes are generated which are in turn learnt from. The continuous learning process never reaches a conclusion, however, measurements are constantly taken to find out if improvements have been made or not. These improvements define the gap(s) that does or does not exist which influences the current strategy (for the entire organization or a current project). These gaps are communicated to the appropriate individuals (communication) with the perceived gap (either positive or negative) acting as a feedback mechanism. Once feedback has been obtained and the strategy communicated the human resource gap can be identified (training and development)</p>	<p>Acknowledgement of change Small trial and error experiments that have been conducted in an attempt to move the process forward (e.g. models built, role-plays undertaken) A way to measure the current process Defining a gap between the current state and the desired state The communication of the perceived gap The allocation of resources to carry out the process</p>

(continued)

Learning organization condition	Supporting literature	Vision	Critical success factors
People development	<p>A learning company approach implies that the organization:</p> <ul style="list-style-type: none"> - Takes controlled risks in terms of new ideas by trying them out in pilot form before full commitment - Measures, monitors and obtains feedback to check whether any plan is working and receives early signs of warning if it is not - Is regularly conducting small-scale experimentation in many parts of the business (Pedler <i>et al.</i>, 1997, p. 68) <p>Informal learning is often not acknowledged as learning within organizations. It is typically regarded as being part of the 'job' or a mechanism for 'doing the job properly' and is thus rendered invisible as 'learning' (Boud and Middleton, 2003, p. 195)</p> <p>It creates sustainable knowledge assets through the development of its people thus enriching society both economically and socially. It makes organizations more humane places in which to work. It increases productivity and profitability in the short and long terms (Garratt, 1999, p. 206)</p> <p>It is generally agreed that the primary focus of a learning organization should be the way in which it values, manages and enhances the individual development of its employees in order to ensure its continuous transformation</p> <p>(Matlay, 2000, p. 203)</p> <p>Organizational factors, such as working conditions, management styles and employee relations play an important role in shaping learning and knowledge management processes specific to each business entity (Matlay, 2000, p. 204)</p>	<p>People development can occur where individuals are viewed to be working in conditions that allow them to question processes so that they can become more active in developing these processes. This questioning allows creative tension to form, which can provide a vision to work towards. The continuous outcome relates to enriching all individuals within the company, while providing a means for the company to continue trading</p>	<p>The demonstration of questioning processes which allows creative tension to form</p> <p>The outcome of these questions allows individuals to influence and be involved in developing the process</p> <p>Resources are made available that individuals can use (e.g. time, money)</p> <p>An inquiry and reflection process that can provide the same principles that an apprenticeship is viewed to have</p> <p>Individuals create shared visions</p> <p>The development of mental models</p>

(continued)

Table III.

Table III.

Learning organization condition	Supporting literature	Vision	Critical success factors
	<p>We are not suggesting that organizations abandon input work, but rather that employees be encouraged to use their own questions to drive more active agenda for learning at work (Teare and Neil, 2002, p. 344)</p> <p>The flexibility that we desire as the ultimate outcome of the learning organization requires a decentralised, flat and team-based structure. It also requires learning of how to perform the work tasks of the other team members, along with some learning through formal courses. However, much of the learning takes place on-the-job as a result of employees receiving feedback on their work (Ortenblad, 2004, p. 135)</p> <p>Personal mastery: discipline of personal growth and learning (Senge, 1990, p. 141)</p> <p>The essence of personal mastery is learning how to generate and sustain creative tension in our lives (Senge, 1990, p. 142)</p> <p>Vision ↔ Current Reality</p> <p>These gaps can make a vision seem unrealistic or fanciful. They can disadvantage us or make us feel helpless. But the gap between vision and current reality is also a source of energy. If there were no gap, there would be no need for any action to move toward the vision (Senge, 1990, p. 150)</p> <p>Managers engage in 'enactive liaisoning' activities with functional departments. Members of cross-functional development, search for and share new values and thoughts, and share and try to understand management visions and values through communications with fellow members of the organization (Nonaka <i>et al.</i>, 2001, p. 18)</p> <p>Ba is a place where information is interpreted to become knowledge (Nonaka <i>et al.</i>, 2001, p. 22)</p>		

(continued)

Learning organization condition	Supporting literature	Vision	Critical success factors
Listening to customers	<p>The concept of ba seemingly has some similarities to the concept of 'communities of practice' (Lave and Wenger, 1991 and Wenger, 1998). Based on the apprenticeship model, the concept of communities of practice argues that members of a community learn by participating in the community of practice and gradually memorising jobs (Nonaka <i>et al.</i>, 2001, p. 23)</p> <p>More specifically, new insights fail to get put into practice because they conflict with deeply held internal images of how the world works, images that limit us to familiar ways of thinking and acting. That is why the discipline of managing mental models – surfacing, testing and improving our internal pictures of how the world works – promises to be a major break through for building learning organizations (Senge, 1990, p. 174)</p> <p>In order to respond positively to the rapid changing environment and to perform effectively in spite of uncertainty, firms need to devote much of their time and effort in listening carefully to their customers, while at the same time participating in the development of their organizations so that they are able to effectively respond to the changing business environment (Choueke and Armstrong, 1998, p. 129)</p> <p>The individuals in the organization learn from the environment – especially from the customers. Further, they must continually learn in order to solve the problems of the customers. Thus, the learning processes are means, not ends (Ortenblad, 2002, p. 219)</p> <p>Another instrument that is used to create originating ba is 'burabura shain' (walking-around employees), whose task is to wander about the stores and socialise with customers to acquire new knowledge in the field (Nonaka <i>et al.</i>, 2001, p. 26)</p>	<p>Listening to customers allows a model of the current environment to be built that is operating outside of the organization. Through listening to customers, learning can be achieved through the solution of problems. Once customers problems have been solved this is not the end of the process, as the learning that has been developed must be placed back into the organization. The organization is open to customer contact while customers find it easy to contact the organization to discuss any current problems or concerns</p>	<p>A process that allows organizations to obtain knowledge about their customers</p> <p>Allowing customers easy access in contacting an organization</p> <p>Solving customers problem</p> <p>The communication of solved problems is placed back into the organization to other individuals</p> <p>The problems identified are used to test the current business environment</p>

Table III.

Table IV.
Conditions within the DISCOUNT scheme that are already present to identify the learning organization condition

Learning organization condition (Learning is a) continuous process	Critical success factors	DISCOUNT categories
People development	<p>Acknowledgement of change</p> <p>Small trial and error experiments that have been conducted in an attempt to move the process forward (e.g. models built, role-plays undertaken)</p> <p>A way to measure the current process</p> <p>Defining a gap between the current state and the desired state</p> <p>The communication of the perceived gap</p> <p>The allocation of resources to carry out the process</p> <p>The demonstration of questioning processes which allows creative tension to form</p> <p>The outcome of these questions allows individuals to influence and be involved in developing the process</p> <p>Resources are made available that individuals can use (e.g. time, money)</p> <p>An inquiry and reflection process, which can provide the same principles that, an apprenticeship is viewed to have</p> <p>Individuals create shared visions</p> <p>The development of mental models</p>	<p>[[*Observe]] [[*Probe]] [[*Contradict]] [[*Reflect]] [[*Support]] [[*QIdentify]] [[*QTrend]]</p> <p>[[*Prepare]] [[*Observe]] [[*Plan]] [[*Debrief]]</p> <p>[[*Monitor]] [[*Reflect]] [[*Support]] [[*Goal *Solution *Instrument</p> <p>[[*Encourage]] [[*Monitor]] *Trend *Instrument *Collect</p> <p>[[*Support]] [[*Probe]] { *Inform } *Sum *Condition *Support *Identify *Trend</p> <p>[[*Reason]] { *Inform } { *Narrate } *Compare *Goal *No categories identified</p> <p>[[*Probe]] [[*Challenge]] { *Open } *Open-bid *Discourse *QIdentify *QCompare *QContrast *QEvaluate *QClarify</p> <p>[[*Prepare]] [[*Plan]] [[*Challenge]] *Goal *Solution *No categories identified</p>
Listening to customers	<p>A process that allows organizations to obtain knowledge about their customers</p> <p>Allowing customers easy access in contacting an organization</p> <p>Solving customers problem</p> <p>The communication of solved problems is placed back into the organization to other individuals</p> <p>The problems identified are used to test the current business environment</p>	<p>[[*Observe]] [[*Support]] [[*Reflect]] [[*Probe]] *Consequence *QIdentify *QCompare *QExplain *Event</p> <p>[[*Observe]] [[*Support]] [[*Monitor]] *Identify *Select</p> <p>[[*Observe]] [[*Reason]] [[*Suggest]] *Goal *Solution</p> <p>No categories identified</p> <p>No categories identified</p> <p>No categories identified</p> <p>[[*Reason]] [[*Probe]] [[*Suggest]] *Identify *Goal *Solution *QProblem</p> <p>[[*Reason]] [[*Instruct]] [[*Tell]] [[*Debrief]]</p> <p>Problem *Cause *Explain *Conclusion</p> <p>[[*Reason]] [[*Support]] [[*Monitor]] [[*Reflect]] [[*Instrument]] [[*Probe]] *Compare *Contrast *Instrument *QIdentify</p>

- (1) The allocation of resources to carry out the process – *Allocation* *Resource* *Obtaining*.
- (2) Resources are made available that individuals can use (e.g. time, money) – *Availability* *Resource* *Use*.
- (3) A process that allows organizations to obtain knowledge about their customers – *Obtaining* *Knowledge* *Customer Focus*.
- (4) Allowing customers easy access in contacting an organization – *Customer Focus* *Contact*.

It is anticipated that the stronger a learning organization condition is present the more DISCOUNT categories can be identified. What identifying a number of a particular condition(s) within one category, while identifying the absence of others, can mean is not certain at this point? Also it is unknown how the overall scheme, with a specific focus upon learning organization conditions, as well as the new additions, will work out in practice. Therefore, the scheme needs to be tested. However, we hope firstly that if the learning organization conditions through the DISCOUNT scheme categories can be identified, it can strengthen the work of other authors who have identified the condition and in turn increase the reliability of the scheme. Secondly, the additions to the scheme can be used in a practical situation to see how well the scheme can operate within a business and not an educational context. Thirdly, it is anticipated that the overall DISCOUNT scheme can be used as a tool towards a framework for organizational learning. However, if the primary conditions are not found then investigations into what conditions were present, and the reasons why can be explored, which can only strengthen the body of work overall.

Discussion

It was noted earlier (Moilanen, 2001) that tools have been developed to identify at what stage an organization is at in the process of becoming a learning organization. Even though these tools are useful they do not show where learning activity functions have taken place. When learning organization conditions are identified through the DISCOUNT scheme, they may be linked to the social learning theory that this work promotes. As it is possible to identify exactly when the conditions appeared, follow-up research could be conducted to identify what other conditions were present. For example, was the individual working alone or within a team? What was the team working on? What setting did the work take place in? These are just some of the questions that if answered and fully understood, could help accelerate learning organization conditions that are found to be successful. Although the tools that Moilanen (2001) reviewed may be used to see where the organization is in trying to become a learning organization, the expanded DISCOUNT scheme should be used to identify the actual learning activities.

Future work

The first author of this paper is concluding developing, in partnership with a manufacturing organization, a customer concern technology, identified as being required through a company audit. The system was designed to be used on a Lotus Notes database and was highlighted as a potential technology that could be used to

leverage learning activities during the process the organization engaged into design and implement the technology. The expanded DISCOUNT scheme will be used to analyse the discourse that takes place using the technology. For the project, the scheme will be used on the discourse taken from interviews, a video of a number of participants in a training session and concluding interviews and the output the ICT is producing. It is using the ICT and the DISCOUNT scheme that Zuboff's (1988) view of technology, as an instrument of change may be able to take account of learning activities and the individual learning process. Therefore, the scheme will operate as intended by Pilkington (1999) but will also take account of the codes derived from the critical success factors highlighted in this paper. The more critical success factors that can be identified the stronger the learning organization condition can be viewed as existing.

It is anticipated that the expanded DISCOUNT scheme will prove successful in helping to identify general learning and learning organization conditions as well providing the individuals within the organization with a better understanding of how to encourage learning organization conditions. It is anticipated that the conditions created in Table II and the critical success factors in Table III and the conditions of the scheme in Table IV will be identified.

One disadvantage this work may possess has been highlighted earlier. Who uses the scheme, how the data are collected or obtained, and who codes and interprets the scheme will be a very important issue and one that will need to be explored further if the scheme is to be more than just a consultancy tool for researchers. Once this aspect of the research is underway, these questions will be able to be answered.

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Appendix. An example of DISCOUNT in use

Marking up a transcript

The application of the above scheme to a dialogue episode is now described. The dialogue analysed comes from a student interacting with the experimenter to complete a medical diagnostic task with the help of a simulation system. The simulation models the response of the human body to various disorders in calcium metabolism. The determination of episode boundaries and roles is not described here but is illustrated in Appendix B in a CMC dialogue context.

Exchange 1

```
(*Student1*){{*Initiating*}}{*Metastatement*} *Self* *Evaluate*
  I really haven't a clue...
  {*Metastatement*} *Self* *Evaluate*
  I just can't get my mind around it.
  [[*Monitor*]]
```

The student initiates, referring to herself using the "I" pronoun. The *Self* metastatement move is recorded as a result. She goes on to comment on her lack of progress on the task. The *Evaluate* predicate reflects this – as does the monitor learning function.

```
(*Experimenter*){{*Reinitiating*}}{*Prompt*} {*Feedback*} *Evaluate*
  Right... OK.
  [[*Encourage*]]
```

The experimenter encourages the student to continue. The rising intonation accompanying "Right..." suggests the role, though this is an instance where respond might be a preferred coding. There is a significant (pregnant pause) which follows the first utterance followed by the OK. Note how the choice of RI or R would change the structure of the remainder of the exchange. It is recommended that such borderline cases be determined at segmentation by a Delphi Method or similar method of arbitration. Difficulty is most likely to occur in determining when a statement following a statement is offered in response to the previous turn or initiates a new exchange. The decision should rest on determination of whether it is new and forward referential or backward referential and, if backward referential, what it is referring back to. This issue is further discussed in Kneser, Treasure-Jones and Pilkington (in preparation).

```
(*Student1*){{*Responding*}}{*Metastatement*} *Self* *Evaluate*
  I don't know, I'm not entirely sure
  {*Metastatement*} *Self* *Issue* *QIdentify* *QProblem*
  what the problem is with the parathyroid
  [[*Monitor*]] [[*Reason*]]
```

Exchange 2

```
(*Student1*){{*Initiating*}}{*Metastatement*} *Self* *Goal* *Evaluate* *Self* *Issue*
*QCause*
```

*I need to know, although, I think it's – I can't work out why
{*Narrate*} *TimeSequence* *Response*
it's still responding.
[[*Monitor*]] [[*Reason*]]*

The student adds the current issue – the rhetorically expressed question that she is deliberating on. This is recorded as an *Issue* metastatement, with the associated inquiry type question predicates *QIdentify* and *QProblem* to indicate that what she is trying to work out is what the problem (diagnosis) is. In this turn there is also a self-evaluatory aspect but the expression is indicative of reasoning as well as monitoring activity.

(*Experimenter*){{*Reinitiating*}}{*Metastatement*} *Sum* *Other* *Equivalent*
Issue *QCause*

*So, one of the things that's puzzling you
{*Narrate*} *Event* *Trend* *TimeSequence* *Trend*
is the fact that it is going up and down -
{*Hint*} *QClarify* *Analogy* *Response*
like it is doing something?
[[*Hint*]]*

In this turn, the experimenter paraphrases the student's earlier reasoning but the re-working is significant enough to give a Hint as to where the student should direct their reasoning or attention.

(*Student1*){{*Responding*}}
{*agree*}
Yeah -

Exchange 3

(*Student1*) {{*Initiating*}} {*Inform*} *Alternative*
*and the other thing is that – partly -
{*Metastatement*} *Group* *Evaluate* *Self* *Evaluate*
is that we really don't know – I don't know -
Issue *Qcause* *QProblem*
any of the diseases that cause the problems.
[[*Monitor*]]*

In this turn the student expresses concern about her lack of domain knowledge.

(*Experimenter*) {{*Re-initiating*}}{*Meta-Statement*} *Sum* *Equivalent* *Other*
Discourse
*but your prediction is that
{*Hint*} *QClarify* *Consequence* *Action*
If you cut down the PTH you are going to cut down the calcium in some way?
[[*Hint*]] [[*Challenge*]]*

Instead of encouraging the student to continue with this line of thought – perhaps by suggesting that the student look up some of the causes of calcium imbalance – the experimenter prompts the student toward reasoning out what will happen if a particular treatment option is chosen. Although the experimenter is, again, paraphrasing (or summing up) an earlier comment of the student's, its re-focusing effect, at this stage in the dialogue, is strong enough to be recorded as a hint as well as a challenge. The challenge is phrased in the form of a clarification question about the consequence of an action.

Source: Pilkington (1999, pp. 27-9), www.education.bham.ac.uk/aboutus/profiles/curped/pilkington/docs/DISCoun99.htm

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