

Professionals' conceptions of learning, development, change and innovation

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Learning, change, development and innovation are key terms in disciplines such as psychology and sociology and in professions such as consultancy, training and management. In various disciplines and professions they may be used differently. Although they are closely related, there are differences too. In this paper we propose that all four concepts could be defined at two levels: individual and organizational. Furthermore, we think that they all can be conscious and unconscious, planned and unplanned. The differences pertain, in our view to the time period they cover and to the kinds of outcomes expected (knowledge and skills, new product, organizational change, etc). Starting from this conceptual framework defining five dimensions distinguishing the four, an empirical study was done. 32 professionals were asked to answer 6 written questions, to define the terms and to react to the dimensions. The results show that the professionals see much overlap between learning and change and development, but paradoxically not between change and development. Learning development and change can be individual and organizational, conscious and unconscious, unplanned and planned. Learning can be both short- and long-term processes, but change and development refer more to the longer- term. The differences pertain especially to the kinds of outcomes. Innovation is seen as conscious and planned and relevant at the organizational level only . There are some differences between consultants and trainers.

Introduction

'How change is conceptualized is inextricably linked to distinctions that can be made about knowing and learning. And learning, whatever form it takes, changes who we are by changing our ability to participate, to belong and to negotiate meaning' With this exclamation Ison, High, Blackmore and Cerf, 2003 end their article on learning based approaches to change in Agricultures. This close relationship is also expressed by De Caluwé (1996): 'Change and learning are concepts which are closely related', and by Senge (1999): 'In profound change there is learning'.

Learning and change, but also development and innovation are key-concepts daily used in the profession of consultants, trainers, teachers and so fort. That they are closely related might be clear. But what are their relationships? In our search for their meaning we noticed that they were seldom used in restricted and clear meaning. They almost seemed interchangeable and interwoven.

We wondered if there was any underlying agreement as to their meaning. We found that studies of learning conceptions executed thus far, focused on conceptions of learning by students and / or teachers. Conceptions of professionals were not studied as far as we know. Moreover, the studies focused on learning conceptions and did not include conceptions of concurring and competing concepts like development, change and innovation. The study reported here looks for differences in conceptions of these terms and their demarcation lines with professionals in educational and organizational change. First we will propose our definitions and differences between the four terms mentioned. Then we will discuss some possible differences of opinion.

Defining learning, development, change and innovation

Learning, in our view (see Bolhuis & Simons, (1999) for the argumentation), refers to implicit or explicit mental and / or overt activities and processes leading to changes in knowledge, skills or attitudes or the ability to learn of individuals, groups or organizations. These can under certain conditions also lead to changes in work processes or work outcomes of individuals, groups or organizations.

This means that we have a rather broad definition of learning, encompassing both the individual and the team levels, both implicit and explicit learning and having various kinds of outcomes. Thus learning can be both implicit and explicit, consisting of mental or overt activities and /or processes, at the group, team or organizational level. This distinction between activities and processes comes from Willems (1987). He convincingly argued that learning is sometimes organized (by persons them-selves or by outsiders) and sometimes not at all. Then it is “just happening as a side product of working, playing or problem solving”. We can only conclude afterwards that these learning processes must have taken place from changes we notice.

Sometimes learning can lead to changes in work processes and outcomes. Outcomes of learning can be knowledge, skills or attitudes, but also the ability to learn can be an important result of learning.

All of this can occur at three levels: individual, team and organization.

In professional practice, it is not only learning, but also development, change and innovation, which are relevant. When the focus is on *long term* learning processes (mostly implicit) we can also call this learning “development”. Other differences between development and learning in a restricted sense refer to aspects such as direction (development is mostly in a positive direction and learning can also be negatively directed) and relation to personality (development is more closely related to holistic changes in personality, that are more difficult to reach and take a long time) as well as to competencies (one speaks of competence development and not of competence learning). When the focus is on attitudes or changes *in work processes or work outcomes*, the term “change” is, in our view, to be preferred. The term innovation we reserve for intended changes of work processes and products. Because we have defined learning at three levels, there can thus also be group development, change and innovation as well as organizational development change and innovation. This is, by the way, how the terms are used in organizational sciences. We thus use the term learning in a broad sense encompassing development, change and innovation. In a more restricted sense learning focuses on changes in skills, knowledge, and learning abilities. Table 1 and Figure 1 summarizes what we mean.

Table 1 The various ways and levels of learning and their outcomes (within the cells)

Levels of learning	individual	team	organization
Ways of learning (broad sense)			
learning (restricted sense)	Skills, knowledge, learning abilities of individual	Skills, knowledge, learning abilities of group	Skills, knowledge, learning abilities of organization

development	long term skills, competences, personality changes, learning abilities of individual	long term skills, competences, climate changes, , learning abilities of group	Cultural and or structural changes, learning abilities of an organization
change	Attitudes, work processes or work outcomes of individual	Attitudes, work processes or work outcomes of group	Attitudes, work processes or work outcomes of organization
Innovation	Intended new ways of working or new products of person	Intended new ways of working or new products of team	Intended new ways of working or new products of organization

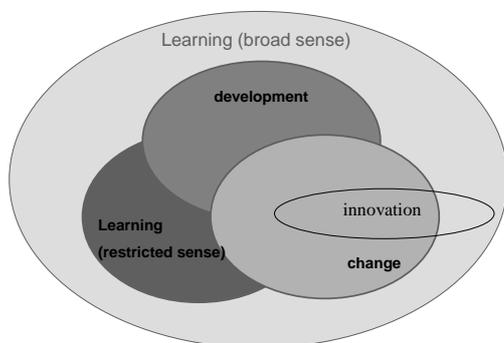


Figure 1: The various ways of learning and their interrelationships

Different definitions, different demarcation lines

In our professional practice as teacher, educational scientist, manager and organizational consultant, we found that not all our colleagues share our ideas about the concepts learning, development, change and innovation. Some believe that we use a too broad concept of learning. They reason that if learning is this broadly defined, everything becomes learning and that the term then becomes empty and useless. Our answer to this objection is, however, that learning is a perspective on activities. Not all activities are learning, but they can be or can become learning. Learning can be everywhere, but need not be.

Some think that development is much more connected to stages of growth that are independent of learning. We received for instance as feedback from an anonymous reviewer of the Journal Human Resources Development International on a manuscript we sent in (Simons and Ruijters, 2001), that our approach to development was different from common practice, because everybody knew that development denotes growth and maturation, occurring independently from human interventions.

Some believe that change is a term that is reserved for organizations only. Recently, we met a scientist who claimed that organizations can change, and individuals can learn. Some believe that only individuals can learn and organizations and teams cannot. They, for instance, claim that learning is a process in the head of an individual

and that teams and organizations, thus cannot learn. They find it useless to use the term learning in relation to groups (in spite of the vast literature about team learning, organizational learning and learning organizations).

Some believe that some terms are reserved for conscious preplanned processes (learning) and the other for more unconscious unplanned processes (development). Some believe that there are differences in the time period to which a concept refers (short-term (learning) vs long term (development and change))

We have the impression that these differences may be connected to disciplines and professional practice. It seems plausible, for instance, that organizational scientists / consultants and educational scientists / consultants differ in the demarcation lines between learning and change. In our experience, organizational consultants reserve a much smaller place for learning than educationalists and the other way around.

Our proposal above proposes that

- a) all four terms can be both individual and organizational
- b) all four terms can be both conscious and unconscious; planned and unplanned
- c) learning in a narrow sense is more for the short term and change, development and innovation refer to longer-term processes. Learning can be long term too, when used in the broader sense described above.
- d) The main differences pertain to the outcomes of the four processes: knowledge and skills for learning in a narrow sense. The outcomes of change are attitude, behavior, and organizational change. The outcomes of development are mainly competencies, personality change, and organizational change. Finally the outcomes of innovation are new products and organizational change.

The study reported below focuses on the conceptions of learning, development, change and innovation of educationalists and consultants. Specifically, we were interested in the following questions:

1. Do people think that there is a lot of overlap between the four terms or that they are relatively separated?
2. Which of the terms is considered to be broader and which smaller?
3. Are all four terms considered to be usable for organizations and individuals?
4. Are they all considered to refer to conscious and unconscious, planned and unplanned processes?
5. Are there differences in the time period the terms cover (short term, middle long term, long term)?
6. What are the outcomes that are considered to be possible (knowledge, skills, attitudes, behavior, competences, new products, personality change, organizational change)?
7. Are there differences in the answers to questions 1-6 for consultants and trainers?

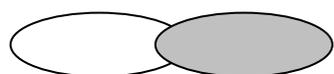
Method

Subjects

Thus far we received 32 questionnaires back from our colleagues, 19 educationalists and 13 organizationalists. There were quite a lot missing scores. Thus the number of responses may differ in the analyses.

Materials

An excel sheet questionnaire was developed consisting of 10 questions. These were directed at the amount of overlap between the concepts learning, change, development and innovation. Furthermore, we asked whether the respondents thought the one term (e.g. learning) encompassing the other (for instance change), or the other way around (change encompassing learning). Moreover, we asked people to state whether they thought the four terms meaningful in connection to distinctions individual – organization, conscious – unconscious, planned – unplanned, short and long term. We also asked what the possible outcomes of the four processes could be: knowledge and skills, attitude, behavior, competencies, personality change and organizational change. We used drawings such as the following to help people to visualize the differences between the concepts



Little overlap



Much overlap



One encompasses the other



Other encompasses the one

The questions could be answered on the computer and sent back over e-mail.

Procedure

We asked colleagues in our institutes, using an e-mail invitation letter, to answer the questions. The institutes are: the department of education IVLOS of Utrecht University and Twynsta Gudde Management consultants (TG). Both institutes host consultants (consultants) and trainers. IVLOS is focusing on the context of (higher) education and TG is a consultancy bureau focusing on all kinds of organizations.

Results

First we looked at the amount of overlap people see between the four terms. Table 1 presents the means and standard deviations on the overlap items. In general, the respondents saw a lot of overlap between learning on the one side and change and development on the other. They saw less overlap between learning and innovation and between change, development and innovation. A scale was constructed consisting of the 6 “overlap” items, measuring the tendency to see all concepts as overlapping or independent (higher scores denote higher overlap). This scale had an acceptable alpha of ,63.

Table 1: Means, Standard deviations and item rest correlations of the overlap items

	Mean	Sd	Item rest correlation
Overlap Learning -change	1,89	,32	,49
Overlap Learning - development	1,79	,42	,11
Overlap Learning - innovation	1,46	,51	,43
Overlap change - development	1,50	,51	,39
Overlap change -innovation	1,46	,51	,49
Overlap innovation - development	1,50	,51	,33

Alpha = ,63

As can be seen in table 2, there were no differences between consultants and trainers in the amount of overlap seen. The only tendency was in the direction of a difference on the learning – development overlap, where consultants saw more overlap.

Table 2: Percentage of respondents who replied with high amount of overlap on the 4 concepts

	Total percentage	Consultants	Trainers
Overlap learning - change	90	91	88
Overlap learning development	79	74	56
Overlap learning - innovation	47	48	44
Overlap change - development	48	50	44
Overlap change - innovation	45	50	33
Overlap innovation - development	50	50	50

Next, we looked at the question which of the terms was seen as broader than other. Specifically, we looked whether people saw learning as encompassing change, development and innovation or the other way around. Table 3 presents the data. Learning is not seen as encompassing the other concepts. Change, however, is seen as encompassing learning, development and innovation. There are two significant differences between trainers and consultants. Trainers do see learning as encompassing change, whereas consultants see it the other way around. Moreover, consultants see change encompassing innovation, whereas trainers see innovation encompassing change.

Table 3: Percentage of respondents who find that the first term encompasses the second one

	Total percentage	Consultants	Trainers
Learning encompasses change*	29	11*	67*
Learning encompasses development	32	26	44
Learning encompasses innovation	50	55	38
Change encompasses development	68	75	50
Change encompasses innovation **	63	79**	25**
Development encompasses innovation	74	74	75

* significant difference between consultants and trainers; Fisher exact probability = ,005

** significant difference between consultants and trainers; Fisher exact probability = ,025

Then, we looked for differences in the contents of the concepts. Which distinctions are meaningful for which of the concepts? What do people see as possible outcomes of learning, change, development and innovation? Will they follow our proposals described above? Table 4 presents the percentages of the respondents who found a certain combination meaningful.

All four concepts are seen to be meaningful in both an organizational sense and in an individual sense. There is one exception: individual innovation is seen as less meaningful.

All four concepts are also seen as both conscious and unconscious and both planned and unplanned. Here again innovation forms an exception: it is seen as only conscious and planned.

As to the duration of the processes, learning is seen as the most short-term process, the other three are seen as middle long or long-term processes.

There were some differences between the four concepts in terms of outcomes.

Remarkably, organizational change is not seen as an outcome of learning (whereas learning was seen above as a meaningful term in an organizational context).

Knowledge and skills and products are not seen as outcomes of change. All kinds of outcomes can be the result of development. Products and organizational changes are the most meaningful outcomes of innovation.

There were only three significant differences between consultants and trainers: consultants found change less meaningful in relation to knowledge and skills, and to personality change, but more meaningful in relation to organizational change.

Table 4: Percentages meaningful on the dimensions

	Learning	Change	Development	Innovation
Organization	75	94	91	100
Individual	100	81	94	28
Conscious	100	91	94	94
Unconscious	91	88	88	19
Planned	91	75	75	91
Unplanned	81	89	77	15

Short term	84	56	34	41
Middle long term	88	78	87	84
Long term	84	84	84	59
Knowledge and skills	94	48*	74	58
Attitudes	84	77	84	29
Behavior	87	94	77	36
Competencies	88	68	88	48
Personality change	77	71*	81	3
Product	23	39	65	90
Change of organization	52	87*	68	61

* significant difference between consultants and trainers

We tried to make four scales measuring the broadness of the concepts learning, change, development and innovation. These scales denote how many of the dimensions and distinctions are meaningful in the eyes of the respondents and whether they are seen as broader than the other terms (items from Table 3). Only the items with enough variation and relatively high item-rest correlations were taken in the scale. This resulted in four homogeneous scales (see the number of items and the alpha's in Table 5).

Table 5: coefficients alpha for the four broadness scales

Scale	Number of items	alpha
Broadness of learning	13	,72
Broadness of change	13	,62
Broadness of development	11	,80
Broadness of innovation	9	,67

Next, we tested, using Oneway Anova's, whether there were differences between trainers and consultants. There was only one significant difference: Consultants (M=23,5; Sd 1,57) had a broader concept of learning than trainers (M=21,14; Sd=3,18 (F=4,61; p=,047).

Table 6 presents the correlations between the four concepts as well as the correlations with age and experience. There were significant correlations between the broadness of learning, change and development, but not of innovation. Age and experience correlated negatively with the broadness of the innovation concept.

Table 6: Correlations between the five broadness scales and with age and experience

	Overlap	Learning	Change	Development	Innovation	Experience	Age
Overlap	-						
Learning	-,11	-					
Change	-,26	,46*	-				
Development	-,13	,45*	,52**	-			
Innovation	-,10	,44*	,21	,13	-		

Experience	-,21	-,10	-,08	-,17	-,39*	-	
Age	-,26	-,24	-,15	-,17	-,41*	,87	-

* Correlation is significant at the 0.10* level (2-tailed).

Finally, we looked at the definitions people gave of the four concepts. The main answers appear in Table 7. Remarkably, in many cases, one or more of the other terms appear in the definitions, underlining that people believe that there is a lot of overlap between the four terms. Learning seems to be used in a rather narrow sense: acquisition of knowledge and skills, or constructing meaning. The change definitions are rather vague: “difference”, “unlike before”. For development the terms growth, gradually and step by step appear several times. For innovation, especially the planned, goal-directed character is dominant.

Table 7: Definitions of learning, change, development and innovation

Learning	Acquisition of knowledge, skills and or insights or application (12x) Meaning, new insights (5x) Growth, development (2x) Change (2x)
Change	Difference, unlike before (7x) Change of knowledge, skills, attitudes, behavior (5x) New things, new direction (4x) Adaptation (2x) Learning Growth Experience Change of form, properties, quality, appearance
Development	Progress / gradually / step by step (8x) Change (in a direction) (5x) Growth (4x) Creating meaning, new attitudes, competences, behavior (3x) Building on, extending (2x) Becoming a professional Dialogue Application New concepts / insights Gradually finding one’s strength
Innovation	Planned change in a certain direction (9x) New products (5x) Renewing, new things (5x) Adaptation to new situation, alternatives (4x) Improvement /stepwise development (3x) Innovation Bigger groups only Need for change of system

Discussion

The main conclusion of this small-scale study can be formulated as follows:

- a) Most of the professionals in both organizations tend to see a lot of overlap between the terms learning, change, development and innovation. Learning is seen to overlap with both change and development. But paradoxically change, and development overlap less among each other.
- b) Change is considered to encompass development, learning and innovation, but there are differences of opinion.
- c) Learning, change and development is used for organizations and individuals, but innovation is only reserved for organizations.
- d) Learning, change and development are all both conscious and unconscious and planned and preplanned, but innovation is only reserved for conscious and planned processes.
- e) Learning can be both short and long term, but the other three concepts are mainly seen as middle long or long term and less for the short term.
- f) The outcomes distinguished the four terms the best: products and changes of organizations were excluded for learning, knowledge and skills and products were excluded for change. Development can have all the outcomes distinguished and innovation has products and changes of organizations as main outcomes.
- g) The qualitative analysis of the definitions of the four terms, supports the conclusions from the dimensional analyses. Innovation is defined as a planned process directed at new products and changes of organizations. Development and change are defined rather vaguely and intermingled. Learning, however is in these definitions used in the rather narrow sense of focusing on the acquisition of knowledge and skills.
- h) There were some differences between consultants and the other respondents. Specifically, more consultants see change encompassing learning and development. Moreover surprisingly, they had a broader conception of learning. Finally, there were some differences with respect to the possible outcomes of change processes.

How are these findings related to the proposals we did above?

In general the professionals agree that the main differences between the concepts are in terms of the kinds of outcomes strived for. Learning is seen in our narrow sense in the definitions, but in the more broad sense in the dimensional analysis. We believe that it is useful to use learning in a broad *and* a narrow sense. Most consultants, however, see change as a broader term than learning, whereas training professionals are more in line with the idea that the broad concept of learning is broader than change. When we would agree that there are narrow and broad concepts of learning, these differences could be united: change encompasses narrow learning, but broad learning encompasses change.

On two other points, there are deviations from our proposals: a) innovation is seen to be confined to organizations and to planned processes. We adopt this point of view into our scheme of differences and definitions. b) learning is seen as both short and long term. This agrees with our broad concept, but not with our narrow concept of learning.

We did not find some of the tendencies described above: learning is not confined to individuals and change is not confined to organizations. Development is not reserved for unplanned and unconscious processes. This is especially the case when we asked these things directly, but appears less clearly in the definitions.

It is our firm belief that it is important to create more conceptual clarity around the key terms in our professional and theoretical fields. We cannot permit ourselves to use such important concepts in so different ways and to have discipline or profession specific use of terms that are used everywhere. How can we communicate among disciplines and professions and with clients if we use the same words for different things and different words for the same?

Further research should, in our view, distinguish broad and narrow conceptions of learning, as well as perhaps of the other terms. Apart from open questions to define the terms, we should also ask the respondents to define the differences and agreements. Moreover, it would be good to present definitions and differences and ask people to react to these, because spontaneous definitions seem not to be well reflected.

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