

Developmental space for groups working on innovation

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The starting point for our research is a model of developmental space designed by Coenders. Developmental space in this model is a social space arising from interaction between people. Coenders states that this developmental space is conditional for the probability of success for groups working on innovation. This model is relevant and useful because it is increasingly common for groups in organizations to work on innovation. Human Resource Development (HRD) professionals, involved in organizational development, often facilitate these groups as a process consultant. The model of Coenders is not complete yet, and for analysing and influencing the developmental space, the model is too complex. In a developmental research, we refine and adjust the model of the developmental space. The goal of our study is to develop a model of the developmental space as a starting point for groups and HRD professionals to analyse and influence that space.

Keywords: innovation; collaboration; learning; developmental space

Introduction

Several authors write that currently organizations need to change and innovate rapidly (Drucker 2001; Harrison and Kessels 2004; Kessels 2004; Senge et al. 1999; Wierdsma 2007). According to Kessels (2004) and Gratton (2007), innovation requires new knowledge and new combinations of experience and knowledge. Most authors also focus on the process needed for innovation: cooperation between individuals in a group (Gratton 2007; Vroemen 2009). Innovation requires new knowledge, or new combinations of knowledge, and a work environment in which individuals work together. This research concerns the work environment of groups needed for innovation.

We assume that a working environment should be stimulating and challenging in order to facilitate innovation. This is based on three insights. First, the idea of Coenders (2008) and Wenger (1998) that learning cannot be designed. You can design to stimulate, challenge or entice learning, but still the learners learn themselves and they only learn what they want to or can learn. The second idea for the importance of creating a stimulating work environment is endorsed by research showing that workers learn mainly in an informal way (Borghans Golsteyn, and de Grip 2007; Cross 2007; Hager and Halliday 2009; Ruijters 2007). These authors

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claim that informal learning itself cannot be designed, but a stimulating and challenging environment to support informal learning can be designed. Last but not least, according to Arets and Heijnen (2008), in most cases, environmental factors, and not a lack of competencies, cause performance problems.

In this study, we take a model of Coenders (2008) as the point of departure. Coenders states that developmental space in groups is a condition for successful innovation. He describes developmental space as a social space created by the interaction in the group. Space is a dynamic notion and it is related to what people do and do not do (Coenders 2008). Often Human Resource Development (HRD) professionals, in a role as facilitators, support these groups as process consultants. When group members and HRD professionals have insight into the dimensions of the developmental space, this may help them to improve it. We think, however, that the model is not complete yet and too complex for groups and HRD professionals to give them the required insight.

Our research question is, What is a model of developmental space that groups and HRD professionals can use to analyse their developmental space (descriptive) and influence that space (prescriptive)? In phase 1, our aim is to evaluate the Coenders' model. The conclusion is that the model is too complex and not complete yet. In phases 2 and 3, our aim is to design a useful model of the developmental space. Step by step this leads to model 3.0 of developmental space.

In the Netherlands, the role of the designer is a common role for an HRD professional. According to Plomp et al. (1992), designing is creating solutions for 'make problems' in a systematic way. As designing is a part of the HRD profession, this study, as a developmental research, bridges research and practice (Derksen 2011). When we speak of facilitator, we mean an HRD professional in the role of facilitator supporting groups in the role of process consultant.

This article begins with defining the three main concepts that we use: innovation, group and developmental space. Next, the model of developmental space of Coenders (2008) including its strengths and weaknesses is explained, followed by a description of the research method and findings, including a new model of the developmental space. The article ends with conclusions and discussion.

Key concepts

Innovation

In this article, we define innovation as developing a new product, process or service for a problem in practice for which existing solutions are insufficient (Kessels 2004). It refers to new knowledge or new combinations of existing knowledge, with the inclusion of the social process (Clegg, Kornberger, and Pitsis 2005). It is both the outcome of the process as the process itself. The driving force behind an innovation is not always the same. Two considerations are highlighted: the roles of different stakeholders and the fact that innovation does not happen in a vacuum (Clegg, Kornberger, and Pitsis 2005). An influential 'school of thought' on innovation comes from Mintzberg (2007). He places innovation and innovation strategies on a continuum from planned to emergent, and he relates this to organization types. Mintzberg describes the adhocracy type as, 'teams of experts working on projects to produce novel outputs, generally in highly dynamic settings' (p. 340). This kind of groups is similar to the groups in our research. The suitable innovation strategy according to Mintzberg for the adhocracy is a learning process. For innovations

thus complex that the direction and results cannot completely be foreseen, Boonstra (2004) also recommends a learning process. Gratton (2007) and Kessels (2004) confirm that these innovations can only be realized by creating new knowledge or by new combinations of knowledge and experience. Kahane (2010) also stresses that these kinds of processes for innovation are an ongoing process of taking steps. The paradox of innovation is that the new is already known and established, but disguised in new clothes, or if it is really new, it is unrecognizable and beyond the ken of our understanding (Clegg, Kornberger, and Pitsis 2005). Pascale (1999) introduced four new principles that can frame the innovation process: (1) equilibrium equals death: innovation pushes away from equilibrium (stability) and increases the necessary variety; (2) self-organization is important: it is a break with the past; (3) you need some foolishness to go in a foolish direction and (4) innovation can be disturbed, but not directed. We build upon these principles.

Group

In this article, a group can be a project team, a regular team, a network or a community of practice. The crucial aspect for our research is that the group is working on an innovation. The group size in our research varies from 3 to 20 persons. Diversity between group members is important for innovation (Gratton 2007; Homan 2005; Kahane 2010; Wenger, McDermott, and Snyder, 2002). Diversity seems valuable, but at the same time it is difficult to make diversity productive. Edmondson (1999) showed that psychological safety in groups is related to their team learning and their effectiveness. 'Team psychological safety involves but goes beyond interpersonal trust; it describes a team climate characterized by interpersonal trust and mutual respect in which people are comfortable being themselves' (Edmondson 1999, 354). Gratton (2007) and Kahane (2010) also stress the importance of trust and good relationships between group members. In that case, people can listen to one another with an open mind and can respect each others' ideas, in contrast to 'groupthink' of Janis (1972) that is counterproductive and can be harmful as Janis underpins with cases.

Developmental space

The developmental space is a social and mental space arising from interaction between people (Coenders 2008; Homan 2005). Thrift (2006) speaks of a dynamic place concerned with movement, interactivity and continuous birth. This space can vary from very limited to almost unlimited. According to Coenders (2008), this space can be substantial and is makable. Developmental space is not absolute, it is bound to a certain situation and moment. The developmental space in our research is about the collectively experienced developmental space in the group. The group makes this developmental space itself; it is partially influenced by the environment of the group. A sponsor or other stakeholders outside the group can exert positive or negative influences on the space experienced by the group members. In our research and in this article, the concept of the developmental space is a core concept. We first define the concept according to Coenders (2008) and then we will redefine it on the basis of our findings. We will support the statement that developmental space is needed in order to be able to innovate.

Coenders' model of developmental space and the reason for this study

Coenders' (2008) model of developmental space consists of four dimensions: synchronicity, reflexivity, regulativity and finality. These four dimensions together define the developmental space (see Figure 1).

Synchronicity refers to the coincidence of people and ideas in the creating process. Reflexivity means developing from different perspectives and taking a helicopter view. Regulativity is about communication and alignment. Finality means focusing on the result. According to Coenders (2008), the essence is finding a balance between these four dimensions. The model has two learning orientations: giving meaning and a revenue orientation. They are assumed to be naturally conflicting.

Coenders' (2008) typifies his research as a theory-guided bricolage. He designed the model during four successive case studies (Figure 2). The cases are situated in the service industry. Participants are highly educated professionals. Coenders acts as facilitator in the cases.

A few things in Coenders' (2008) research trigger further research. It is increasingly common for groups in organizations to work on innovation and for HRD professionals to facilitate such groups. The idea that these groups need developmental space and that they create this space during interaction seems logical. The relative simplicity of the model, with four dimensions, is appealing. It might provide an aid for groups to become aware of and to analyse and influence their developmental space. The Coenders' (2008) model seems promising. But the background of the concepts is complex and the terminology is uncommon. To us, the

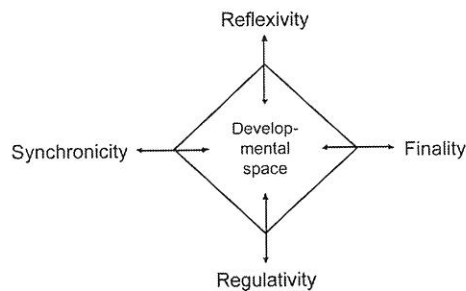


Figure 1. Coenders' model of developmental space (2008, p. 140).

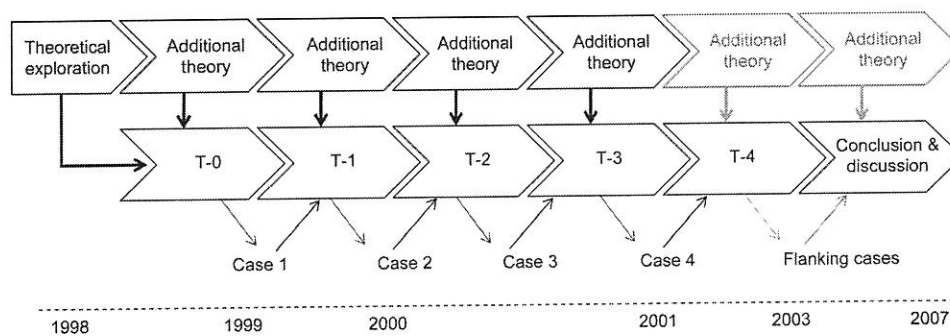


Figure 2. Research method of Coenders (2008, p. 27).

model seems attractive but not easy to use, neither for analysing nor for influencing the developmental space. Both the attraction of, and critique on, the model of Coenders (2008) forms the starting point for our research.

Research method and findings

Further development of a theoretical model is the main objective of this research, and it can best be characterized as developmental research (Gravemeijer 1998). According to Gravemeijer (1998), in developmental research, theory is developed gradually in an iterative and cumulative way. The theory grows out of the process of designing and testing. It is not research taking the shape of a formative evaluation. 'Instead, developmental research is seen as a form of basic research that lays the foundation for the work of professional developers' (Gravemeijer 1994, 277). According to Gravemeijer (1998), this is a part of theory-guided bricolage. A bricoleur uses as much as possible materials that happen to be available and combines different methods in his research (Denzin and Lincoln 2000). That characterizes our research. Figure 3 shows the steps taken in this research. For each phase, the research method and findings are described.

Phase 1: Evaluating the model of Coenders

Method of phase 1

The research method in phase 1 consists of an interview with Coenders and a Delphi study with seven experienced facilitators of innovating groups. The interview with Coenders is an open interview. The dimensions and the concepts behind the dimensions are explored thoroughly. Questions such as 'what do you mean with...?', are frequently asked, analysing each of the concepts one by one. Another question is: 'what do you think of the applicability of the model?'

Phase	Research steps	Results
1		Model is incomplete and too complex
2		Model 2.0
3		Model 3.0

Figure 3. Research steps and results.

In the Delphi study, seven facilitators ($n=7$) receive an e-mail with the instruction: 'While answering the questions keep a group in mind that had, in your opinion, a lot of developmental space'. Developmental space is defined for these facilitators as: 'A social space existing in the experience of individuals in a group (and the shared experience). This developmental space is needed to realize an innovation with each other in a group'. The questions posed are

- (1) What kind of a group is it?
- (2) What is your role in the group (group member, facilitator or other)?
- (3) What is the innovation they work on?
- (4) What does developmental space mean to you?
- (5) Which factors affect the developmental space?
- (6) What gives the idea of developmental space?
- (7) What do the group (and you as facilitator) do to influence this developmental space?

Three respondents answer as group members (self-managing groups) and four as facilitators of a group. Groups vary from a new management team working on becoming a team for organizational change to an innovating project team working as a think tank for inventing new hospital care concepts.

Results of phase 1

Coenders' most important statement: 'The model is not ready to use yet, but I was ready with it.' He chose for a new terminology, because with common terms people easily think that they understand what is meant and give their own meaning. Afterwards, Coenders thinks this and the absence of instruments may have inhibited the applicability.

There are no differences between the answers given by respondents as group members and facilitators. The answers to questions 3 to 6 are compared to the model of Coenders (2008). Words and sentences or parts of sentences are classified into the dimensions of the model and the concepts behind every dimension. The distinction between the dimensions is not very clear to the respondents. Every answer can be classified into one of the four dimensions, but not for every concept behind the dimensions in which answers are found. Thus, the four dimensions seem to be important, but that is not the case for all the concepts behind the dimensions. The interaction with the environment seems to be important and is missing in the model. None of the respondents uses the terminology of the dimensions. We conclude that the model is promising but too complex and not yet complete.

Phase 2: First redesign of the model of developmental space

Method of phase 2

The adjustments to the model of Coenders start with 'rapid prototyping' (Visscher-Voerman 1999), in which literature study and interviews mingle. Five researchers in related research fields such as knowledge productivity, networked learning and learning and power are interviewed, as well as Coenders for a second time. In each of

the interviews, a new model is presented to the interviewee, taking the previous interviews into account. The main questions are:

- What do you recognize in this model and what not?
- From your research, what ideas can you give to improve it?
- Which elements do you recognize, or would you not use, or would you complement?
- What literature can you recommend?
- At the end of this phase, three observations are conducted to observe the new model in practice. The research questions are:
 - Which observations confirm the model?
 - Which challenge it?
 - What cannot be placed in the model?

Three groups ($n = 3$) in a government agency are observed. Every group consists of six human resource management professionals innovating their own work. Their innovation goal is to deliver better work with less people. The observations are written down in a scheme with the dimensions: synchronizing, creating future, reflecting, organizing, communicating and interacting with the environment.

Results of phase 2

The first change in the model refers to the addition of a new factor: interaction with the environment and to the extension of the dimension ‘creating future’ by adding value creation to this dimension. In this way, the model develops step by step with each interview and by studying the recommended literature. The first interview is conducted with a cloud model (Figure 4), as a result of phase 1. In a cloud model,

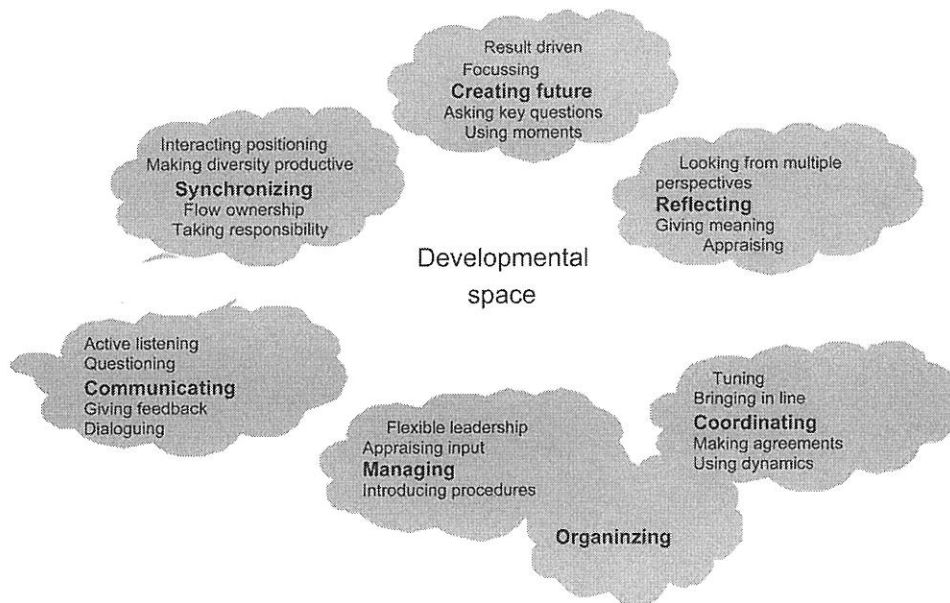


Figure 4. Cloud model of the developmental space.

every text cloud is a representation of words that seem important and seem to be linked to each other. The bold words seem most important. The advantage of starting with a cloud model is that it gives room, because it is clear that it is not ready yet. From this first model, the model developed step by step during the interviews towards model 2.0, as is presented in Figure 5.

The results of the observations of the three groups are as follows. Every group produces a solution within 5 min for a problem that has existed for years. After finding the solution, they start to plan realization in practice. They hardly ever ask a question and do not look at the problem or solution from different perspectives. Thus, they are focused on creating future and organizing, and they neglect reflecting, communicating and the environment. The groups recognize this when it is fed back to them. They confirm that their results will be better if they reflect more, communicate better and focus on the environment. One group member says: 'In this way we do not really come up with new ideas that may work'.

These three steps together, literature study, the interviews and observations, lead to a new model of the developmental space: model 2.0 (Figure 5).

Phase 3: Redesign leading to model 3.0 of the developmental space

Method of phase 3

The purpose of this third phase is to test and refine model 2.0 (Figure 5). Research questions in this phase are

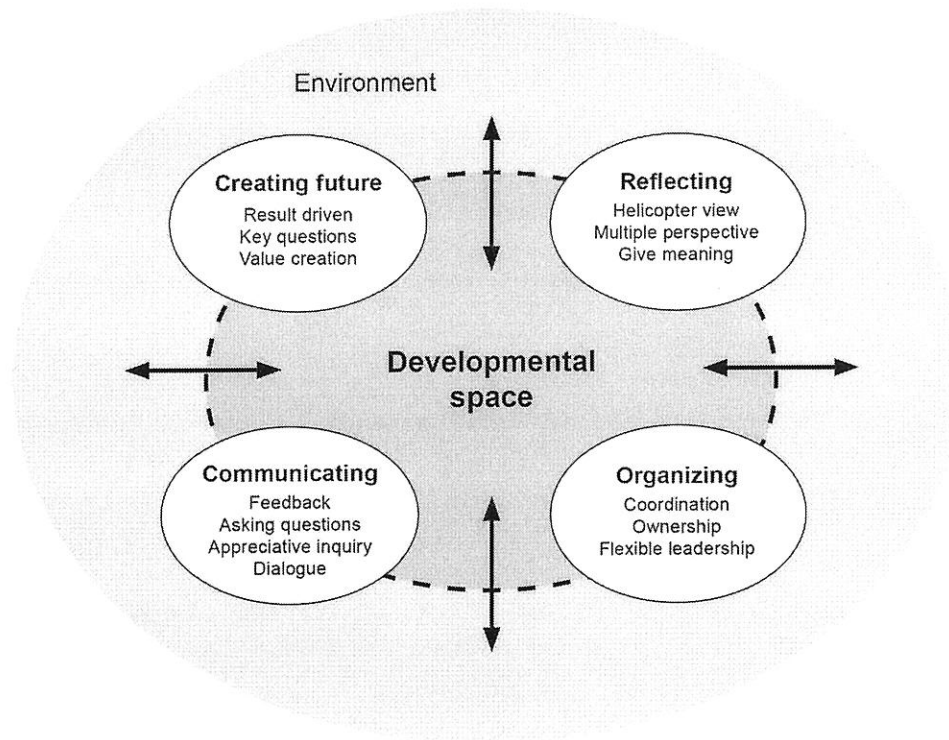


Figure 5. Model 2.0 of the developmental space.

- Are these the right dimensions of the developmental space for groups working on innovation?
- How clear and meaningful are the dimensions?
- What do colleagues think of the model?
- How does the model relate to similar models in the literature?

We execute a second Delphi study with 18 participants, five interviews and a further literature study. In the Delphi study, the seven experts from the first round and 11 new experts participated. This time, we compare extremes (Brinkerhoff 2002). The instruction for respondents is: 'Answer all the questions twice'. Once with a group in mind that was in your opinion successful in its innovation and once with a group in mind that in your opinion was not successful in its innovation. This results in 17 successful and 17 unsuccessful groups, because one respondent only answers for a successful group and another respondent only answers for an unsuccessful group. The questions are

- (1) Describe the group and its assignment.
- (2) Were you a group member or a facilitator?
- (3) What do you recognize of the dimensions, creating future, reflecting, organizing, communicating and interaction with the environment?
- (4) Which other dimensions do you think determine the developmental space?
- (5) What do you think of this model?
- (6) Are there other reactions you would like to give?

The answers to every dimension of the groups are categorized in: '+' for groups that pay attention to a dimension, with or without help of a facilitator and '-' for groups that hardly pay attention to a dimension. Finally, '±' is given whenever a group is in the middle. The following example illustrates the way of scoring the answers for the dimension 'reflecting':

- Score +: 'It was a continuous process of taking a step back, looking from multiple perspectives and giving meaning together'.
- Score -: 'This did not work well. The group members did not tell and ask much. The leader was talking most of the time and not giving room to others'.
- Score ±: 'The group reflected well during coaching sessions when they were invited to reflect. But whenever daily tensions and emotions were at hand the group did not reflect at all'.

The Delphi study is followed by an interview with 5 of the 18 respondents. They are interviewed because of their personal questions or questions arising from their answers. Another trigger for an interview was, for instance, a respondent asking: 'How is it possible that my unsuccessful group is far better in two of the five dimensions than my successful group?'

Results of phase 3

All successful groups pay attention to all the dimensions. At the beginning, they often pay less attention to one or two dimensions, and with the help of a facilitator,

they develop this during their assignment. The unsuccessful groups have at least two dimensions that hardly get any attention (see Table 1). So the combination of the five dimensions of the model seems to be important.

We gather the following comments. The dimension 'communicating' can be made more precise, the respondents indicate as crucial: asking questions, dialoguing and appreciative inquiry. The impact of the space given by a principal is mentioned a few times as a missing dimension. Furthermore, the facilitators facilitate most on the reflecting and communicating dimensions.

The reactions on the model by the facilitators are diverse. Some facilitators would like to use the model immediately. Others are looking for an alternative purpose. Others mention, 'At last a model that gives support and language to what I do in practice'.

The five additional interviews are used to look closer at some dilemmas. For instance, the dimension creating future is paid attention to in not only all the successful groups, but also in a lot of unsuccessful groups (see Table 1). The difference is that the successful groups seem to have a shared and realistic view on the future, whereas the unsuccessful groups often have a more fragmented and unrealistic view on the future. One important result from the interviews is that there is a need for better specifications of the dimensions.

This Delphi study and interviews lead to model 3.0 (Figure 6). The new model 3.0 is compared with three relevant similar theories, namely: 'the hot spots' of Gratton (2007), 'Theory U' of Scharmer (2007) and 'power and love' of Kahane (2010). We use three headings for comparison: dimensions, results and principles. The four models all have the same starting point: complex problems and innovations can best be realized collectively. Comparing the four models makes clear that hot spots and power and love come close to the developmental space. The process and the principles of Theory U are a bit further away. A more precise comparison is given in Table 2.

Model 3.0 of developmental space

The research steps lead to model 3.0 of the developmental space as presented in Figure 5. The model consists of four dimensions: creating future, reflecting, organizing and dialoguing. These dimensions are undertaken during interaction in the group; therefore, they are verbs. Groups that pay attention to all four dimensions create an environment that increases their chance to be successful in their innovation, as can be concluded from Table 1. This corresponds with the results of Coenders' (2008) study. Besides the four dimensions, there is one other factor influencing the developmental space, interacting with the environment. This factor differs from the other dimensions, because it is not only undertaken within the group. Think of pressure from stakeholders, limitations from the sponsor or conflicting political interests. To be successful, the group must interact with their environment. If the group is not, it is for instance almost impossible to create value.

The model consists of two orientations, which Coenders (2008) already mentioned: revenue and meaning-giving orientation. The revenue orientation, with creating future and organizing, limits the space. While the meaning-giving orientation, with reflecting and dialoguing, stretches the space.

Table 1. Results of Delphi study 2.

<i>Successful groups</i>																		
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant/facilitator	F	P	F	P	F	F	P	F	F	P	F	P	F	P	F	F	F	P
Creating future	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Reflecting	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Organizing	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Communicating	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
Interacting with environment	+	+	+	+	+	+	+	+	+		+	+	+	+	+	+	+	+
<i>Unsuccessful groups</i>																		
Respondent	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Participant/facilitator	F	P	F	P	P	P	F		F	P	F	F	F	F	P	P	P	F
Creating future	±	+	±	-	+	-	-	±	+	+	±	-	±	+	+	+	+	±
Reflecting	-	-	±	-	-	-	±	-	-	-	±	-	-	-	-	-	-	-
Organizing	+	-	-	-	-	-	-	-	-	+	-	-	+	-	±	+	+	±
Communicating	+	-	±	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-
Interacting with environment	+	+	-	-	-	+	-	-	-	-	-	-	-	±	-	-	±	-

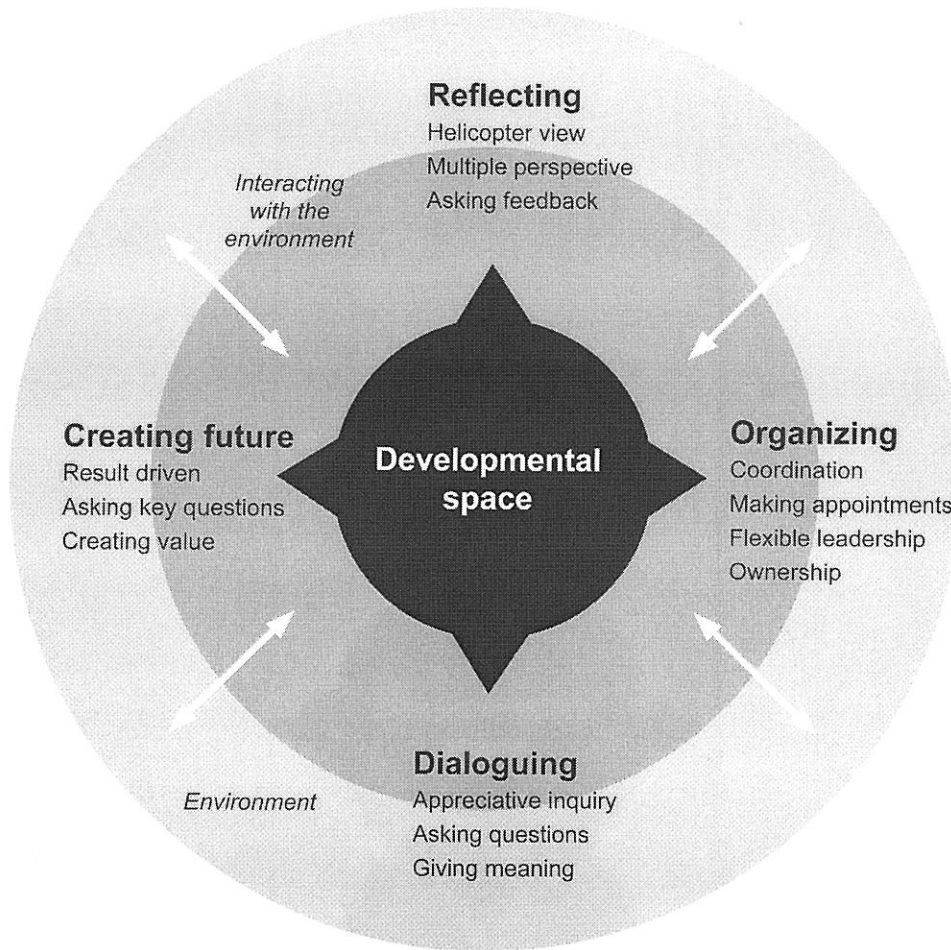


Figure 6. Model 3.0 of the developmental space.

The dimensions of the developmental space

In the second Delphi study, it becomes clear that the dimensions need a more specific description. The descriptions given hereafter are based on:

- the outcomes of this research, including the literature study;
- the earlier research by Coenders (2008);
- our definition of innovation.

Dialoguing

As Kessels, Boers, and Mostert (2002) state, a dialogue has three characteristics: (1) searching for reasons, views, beliefs and standards; (2) postponing solutions and decisions; and (3) being open to and appreciating the differences of others. Dialoguing is a space-creating way of communicating. It creates room for others to

Table 2. Model of developmental space 3.0 compared to three other 'models'.

Developmental space 3.0	Hot spots	Power and love	Theory U
<i>Dimensions of the developmental space compared</i>			
Creating future	Catching goal; igniting purpose	Power	Co-creating
Organizing	Productive capacity; boundary spanning	Power	Co-creating and co-evolving
Dialoguing	Cooperation aimed thinking	Love	Co-initiating and co-sensing
Reflecting	Crossing borders; cooperative mindset	Love	Co-presencing
Interacting with environment	Crossing borders	Power and love	Co-sensing and co-evolving
<i>Results compared</i>			
Bigger chance on success in innovation	Flow	One step further; step by step	Emerging future
<i>Principles compared</i>			
Strive for balance	First attention for the relation, later for productivity	Strive for balance by reinforcing the weaker side	Steps that follow one another during time
The group creates	The group creates	The group creates	Facilitator can play an important role
Group arises naturally or is put together	Group arises naturally or is put together	Group arises naturally or is put together	Group arises naturally or put together.
No separate room to experiment	No separate room to experiment	'Container/Ba' (as room to experiment)	'Ba' (as room to experiment)

tell their stories, their motives, beliefs and room for oneself, by postponing one's own opinions and judgments. In dialogue, groups create shared meaning and this is crucial for innovation (Bolhuis 2009; Boonstra and de Caluwé 2007; Boonstra and Smid 2003; Homan 2005). The starting point for the dialogue to innovate is looking for what there already is: in other words appreciative inquiry (Cooperrider, Whitney, and Stavros 2008). Dialoguing asks for vulnerability and learning behaviour and is not common. Nowadays, discussion is more common. According to Bolhuis (2009), a high tolerance for uncertainty is related to dialogue.

Reflecting

A common description for reflection is coming to a halt and examining why something was started and what was intended (Kessels, Boers, and Mostert 2002; Leijen 2008; Schön 1983). For the developmental space needed for innovation and thus creating knowledge, reflection is also about connecting theory and practice by judging concepts in practice (determinative judgement) and testing one's experience on concepts (reflective judgement). Joint reflection is needed for making implicit knowledge and experience explicit (van Woerkom 2004) and to decrease the chance of misconceptions and prejudice (Marsick and Watkins 1990). Finally, it also means

searching for alternatives. According to van Es (2008), this is crucial for innovation. It is not easy, because it asks for a process of deconstruction and construction and not getting attached to results (Bolhuis and Simons 1999; Coenders 2008; Kahane 2010).

Creating future

Working on a complex innovation with no clear direction and goal from the beginning still asks for focus. This can be given by an inspiring opinion (Gratton 2007) or an urgent and intriguing question (Verdonschot 2009) or a described output result, leaving room for interpretation (Vandendriessche and Clement 2006). Tolerance of uncertainty (Bolhuis 2009) may be crucial to what kind of start a group prefers. It is crucial for the sponsor and the group members to find just the right challenge (see Vermunt 1996; Vygotsky 1978). An innovation in organizations needs to be valuable for the organization, individuals or the society. So the dimension 'creating future' automatically leads to interaction with the environment. The group needs to know what the environment is waiting for. Gratton (2007) and Wenger, McDermott, and Snyder (2002) make clear that group members will be more motivated when their work also creates value for themselves, for instance, because the group members extend their own experience and knowledge.

Organizing

Groups working on innovation want to realize a result within limited time and resources. This requires organizing the cooperation and starts with making agreements about who joins the group, who is doing what, when, and in which way, etc. (Vroemen 2009). Sometimes this leads to a project plan. According to Mintzberg (2007), in an adhocracy plans should be flexible and leading to strategic learning. Innovating groups tend to look like an adhocracy (Coenders 2008) 'teams of experts working on projects to produce novel outputs' (Mintzberg 2007, 342). Organizing also requires leadership. For the developmental space, a leader should be able to pay attention to all the dimensions, in this framework, distributed leadership fits best. Taking the lead can be done by doing a proposal or giving a résumé, etc. Schweigert (2007) writes: 'followers freely choose their leaders . . . , and a shift in consciousness among those gathered can quickly turn an official leader into a follower struggling to keep up' (p. 326). Finally, whoever takes the lead, the dimension of organizing is also about feeling responsible for, and taking ownership of, the intended innovation as a group member.

Conclusions and discussion

Answering the research questions

At first, an answer to the descriptive part of the research question: what is a model of developmental space that groups and HRD professionals can use to analyse that space? The answer is: model 3.0 of the developmental space. This model still comes close to the model of Coenders (2008). We changed the terminology into more common language, simplified the interpretation of the dimensions by bringing them back to their essence and added the interaction with the environment. The model is now recognized and understood by many groups and HRD professionals. We doubt,

however, if this is enough for analysing the developmental space by groups and HRD professionals in their facilitator role. A question for further research is: 'What instrument can groups and HRD professionals help to analyse the developmental space of model 3.0?' Analysing the developmental space may imply measuring the dimensions, but this is problematic. For instance dialoguing: When do you need to dialogue, at what time in the process, how much and with what quality, etc.? It is also difficult to measure because it concerns an experienced space. An experiment in groups, using statements for every dimension and a 5-point Likert scale, already shows that individuals in a group value the dimensions differently. But when they discuss their scores, they come up with the same examples to underpin their scores and subsequently they easily reach a shared idea about the developmental space of the group. Analysing in this way especially appeals to the dimensions: reflecting and dialoguing. Analysing the developmental space as a group requires developmental space! So maybe an instrument should incorporate all the dimensions.

The second part of the research question: what is a model of developmental space that groups and facilitators can use to influence their space? The current findings from the second Delphi study imply that groups at least need to pay attention to all the dimensions to be successful. This matches the idea of Coenders (2008) that the four dimensions need to be in balance. This looks like Kahane's (2010) balance between 'power and love', and de Caluwé and Vermaak (2003) stating that innovating groups need to focus on the product and process at the same time. Bringing the dimensions into balance is difficult. People are used to think in contradictions or in choosing between alternatives, but here we have to avoid thinking in good or bad or in either ... or ... It is having both (Kahane 2010; Quinn 2005); too much of one side leads to a problem on the other side (see Ofman 2001). Balance also seems to indicate that one can measure the dimensions and the group needs a shared idea about the developmental space; the difficulty with both is already discussed. Finally, it is difficult because looking at the dimensions separately contradicts the idea of balance, by means of which you look at the dimensions as a whole.

The way a group handles the tensions between the dimensions may give a better insight into how they handle the balance. This is similar to coping with dilemmas. An articulated dilemma consists of two contradictory statements, each of which is defensible and good. Coping with dilemmas asks for recognizing the dilemma, considering the advantages and disadvantages of choosing one position and choosing actions for each context or case based on the considerations. The dilemma is always present and aware (see Hoebeke 2004; de Caluwé 2007). Balance means that the creation of tensions and the creation of variety in order to move. It is opposite to the term: equilibrium, which implies a stable, non-moving state, in which every part fits into other parts like a puzzle (see Pascale 1999). A fundamental dilemma of the developmental space is limiting or amplifying the space at the same time or reciprocally. Homan (2005) states that an unlimited space leads to uncertainty and losing one's way and the disappearance of change energy. On the other hand, too limited a space will frustrate the group and also lead to a low level of energy. It is a challenge to create the 'optimal' space as a group or as an HRD professional. Interesting questions for future research are as follows: 'how successful and unsuccessful groups cope with the dilemmas between the revenue and meaning-giving orientation' and 'what is the optimal space for an innovating group?'

Discussing the model of developmental space 3.0

Reflecting and dialoguing seem to be similar concepts. Bolhuis (2009) stated that dialogue is needed for reflection. Still, for the developmental space, dialogue and reflection are distinguished, because they are both crucial for this space. Reflecting stands for 'what', looking from a distance and from multiple perspectives. Dialoguing gives more the 'how', the method for acting by asking questions in an appreciative, inquiring way. Creating future is also more about the 'what', a key question, opinion or result and organizing is more the 'how', coordination and distributed leadership. Model 3.0, as is Coenders' (2008) model, consists of four dimensions and two orientations. A question comes up: does the model really consist of four dimensions or only of two? Looking at the definition of dimension, 'one of the parameters describing a space' (Encyclo 2nd WWW n.d.), we still speak of four dimensions. The model may not suggest the idea of two axes. Finally, a few more questions remain unanswered. 'How can the interaction with the environment be embedded in the model?' We think that the group also needs to balance the four dimensions in their interaction with the environment. Probably power plays a role in the interaction with the environment. So, a question may be: 'how does power inside and outside the group influence the developmental space?' A final question for HRD may be: 'how can HRD professionals facilitate groups in analysing and influencing their developmental space?'

Discussing the methodology

Our methodology, a developmental research, as part of theory-guided bricolage, suits the goal: creating an applicable model of developmental space for innovating groups and HRD professionals. It is consistent with the earlier research of Coenders (2008). With a goal to innovate the model of developmental space, we need developmental space ourselves. Consistent with this, we used interviews and Delphi studies as knowledge-creating methods. This may have been stronger if we also used group interventions.

Group members and facilitators who work on innovation play a key role in the research, because the model is meant to help them. In our research, participants are all highly educated and experienced facilitators. In Coenders' (2008) research, all participants are also highly educated. In the following research, less-educated group members should be involved, who lack facilitating experience.

In the second Delphi study, the questions are suggestive, 'what do you recognize of the dimension...?' This has been chosen because we searched for specific feedback on the redesigned model and it seems justifiable because of all the earlier research: Coenders' thorough research in combination with our research steps. We try to avoid a blind spot by also asking whether there are other dimensions determining the developmental space, what the respondents think of the model and whether there are other reactions they would like to give. This minimizes the risk of getting only desired answers.

In the second Delphi study, the respondents select a successful and an unsuccessful group. They do this without specific criteria. So it is their subjective opinion, certainly taking into account that, by judging the developmental space of a group, they are judging themselves too in a way. Still, the respondents give answers for a successful and an unsuccessful group. In the answers for unsuccessful groups, the answers given by facilitators (F) are just a little more positive compared with the

answers given by group members (P). Future research will gain strength by defining success.

Implications for HRD

The outcome of this study, in line with the study by Coenders (2008), makes it clear that HRD professionals as facilitators of innovating groups should take care that all the dimensions of the developmental space get attention. This means that HRD professionals should be able to recognize the dimensions during the process and to help the group pay attention to all the dimensions. How much and at what moments exactly is still unanswered. In the cases studied, all the groups almost automatically pay attention to the dimensions – creating future and organizing. Maybe this is inherent to our action-oriented organization culture (Quinn 2005). The facilitators in the second Delphi study answer that they facilitate most of the time on the dimensions of dialoguing and reflecting. So HRD professionals should at least be good in that.

References

- Arets, J., and V. Heijnen. 2008. *Kostbaar misverstand Van training naar business improvement*. [Costly misunderstanding: From training to business improvement.] Den Haag, The Netherlands: Academic Service.
- Bolhuis, S. 2009. *Leren en veranderen* [Learning and change]. 3rd ed. Bussum, The Netherlands: Coutinho.
- Bolhuis, S.M., and P.R.J. Simons. 1999. *Leren en werken* [Learning and working]. Deventer, The Netherlands: Kluwer.
- Boonstra, J., and L. de Caluwé. 2007. *Intervening and changing. Looking for meanings in interactions*. Chichester, West Sussex: John Wiley & Sons.
- Boonstra, J.J. 2004. *Dynamics of organizational change and learning*. Chichester, West Sussex: John Wiley & Sons.
- Boonstra, J.J., and G.A. Smid. 2003. Nieuwe eisen aan leiders [New requirements for leaders]. *Tijdschrift Voor Management Development* 11, no. 3: 21–4.
- Borghans, L., B. Golsteyn, and A. de Grip. 2007. Wat leert onderzoek ons over informeel leren? [What does research learn us about informal learning?]. *Handboek Effectief Opleiden* 44/65, no. 8.6-1: 1–20.
- Brinkerhoff, R.O. 2002. *The success case method. Find out quickly what's working and what's not*. San Francisco, CA: Berrett-Koehler.
- Clegg, S., M. Kornberger, and T. Pitsis. 2005. *Managing and organizations. An introduction to theory and practice*. London, England: Sage.
- Coenders, M. 2008. *Leerarchitectuur. Een exploratief onderzoek naar de relatie tussen ruimte en leren in werksituaties en het ontwerpen voor leren dichtbij de praktijk* [Learning architecture. An explorative research for the relation between space and learning in work situations and the design of learning near practice]. Delft, The Netherlands: Eburon.
- Cooperrider, D.L., D. Whitney, and J.M. Stavros. 2008. *Appreciative inquiry handbook for leaders of change*, 2nd ed. San Francisco, CA: Berrett-Koehler.
- Cross, J. 2007. *Informal learning. Rediscovering the natural pathways that inspire innovation and performance*. San Francisco, CA: Pfeiffer.
- de Caluwé, L. 2007. Using simulation gaming for change of organizations and for change of corporate culture. In *Planspiele für die Organisationsentwicklung*, ed. W. Kriz, 41–62. Berlin: Wissenschaftlicher Verlag.
- de Caluwé, L., and H. Vermaak. 2003. *Learning to change. A handbook for the organizational change agent*. Thousand Oaks, CA: Sage.
- Denzin, N.K., and Y.S. Lincoln. 2000. *Handbook of qualitative research*. London, England: Sage.
- Derksen, K. 2011. Interactie praktijk en wetenschap [Interaction between practice and science]. *Tijdschrift voor Ontwikkeling in Organisaties*, 1: 58–64.

- Drucker, P. 2001. A century of social transformation. Emergence of knowledge society. In *The essential Drucker*, ed. P.F. Drucker, 299–320. New York: Harper Business.
- Edmondson, A. 1999. Psychological safety and learning behavior in work teams. *Administrative Science Quarterly* 44, no. 2: 350–83.
- Encyclo online encyclopedia 2nd WWW. (n.d.). <http://www.encyclo.nl/begrip/dimensie> (accessed February 25, 2011).
- Gratton, L. 2007. *Hot spots. Why some teams, workplaces and organizations buzz with energy – And others don't*. San Francisco, CA: Berrett-Koehler.
- Gravemeijer, K. 1994. Educational development and developmental research in mathematics education. *Journal for Research in Mathematics Education* 25, no. 5: 443–71.
- Gravemeijer, K. 1998. Developmental research as a research method. In *Mathematic education as a research domain: A search for identity*, eds. A. Sierpiska and J. Kilpatrick, 277–98. Dordrecht, The Netherlands: Kluwer Academic.
- Hager, P., and J. Halliday. 2009. *Recovering informal learning. Wisdom, judgement and community*. Dordrecht, The Netherlands: Springer.
- Harrison, R., and J. Kessels. 2004. Human resource development in a knowledge economy. *An organizational view*. Hampshire: Palgrave MacMillan.
- Hoebeke, L. 2004. Dilemmas and paradoxes in organizing change processes: A critical reflection. In *Dynamics of organizational change and learning*, ed. J. Boonstra, 149–71. Chichester. West Sussex: John Wiley & Sons.
- Homan, T. 2005. *Organisatiedynamica. Theorie en praktijk van organisatieverandering* [Organization dynamics. Theory and practice of organizational change]. The Hague, The Netherlands: SDU.
- Janis, I.L. 1972. *Victims of groupthink: A psychological study of foreign-policy decisions and fiascoes*. Boston, MA: Houghton Mifflin.
- Kahane, A. 2010. *Power and love. A theory and practice of social change*. San Francisco, CA: Berrett-Koehler.
- Kessels, J.W.M. 2004. The knowledge revolution and the knowledge economy. The challenge for HRD. In *New frontiers in HRD*, eds. J. Woodall, M. Lee, and J. Stewart, 165–79. London, England: Routledge.
- Kessels, J., E. Boers, and P. Mostert. 2002. *Vrije ruimteFilosoferen in organisaties* [Free space. Philosophize in organizations]. Amsterdam, The Netherlands: Boom.
- Leijen, Å. 2008. The reflective dancer: ICT support for practical training. PhD diss., Utrecht University.
- Marsick, V.J., and K.E. Watkins. 1990. *Informal and incidental learning at the workplace*. London, England: Routledge.
- Mintzberg, H. 2007. *Tracking strategies. Toward a general theory*. New York: Oxford University Press.
- Ofman, D.D. 2001. *Core qualities. A gateway to human resources*. Schiedam, The Netherlands: Scriptum.
- Pascale, R. 1999. Surfing the Edge of Chaos. *Sloan Management Review* 40, no. 3: 83–94.
- Plomp, Tj, A. Feteris, J.M. Pieters, and W. Tomic. 1992. *Ontwerpen van onderwijs en training* [Designing education and training]. Heerlen, The Netherlands: Lemma.
- Quinn, R.E. 2005. *Building the bridge as you walk on it. A guide for leading change*. Trans. L. Belt. The Hague, The Netherlands: Academic Service. (Original work published: 2004).
- Ruijters, M. 2007. 'Goh, het lijkt net werk...' Het organiseren van informeel leren ['Gosh, it looks just like work.' Organizing informal learning]. In: *Leren in Organisaties*, 12: 14–18.
- Scharmer, C.O. 2007. *Theory U: Leading from the future as it emerges: The social technology of presencing*. Cambridge: Society for Organizational Learning.
- Schön, D. 1983. *The reflective practitioner*. New York: Basic Books.
- Schweigert, F.J. 2007. Learning to lead: Strengthening the practice of community leadership. *Leadership* 3: 325–42.
- Senge, P., A. Kleiner, C. Roberts, R. Ross, G. Roth, and B. Smith. 1999. *The dance of change. The challenges to sustaining momentum in learning organizations*. New York: Doubleday.
- Thrift, N. 2006. *Re-animating the place of thought: Transformations of spatial and temporal description in the twenty-first century*. Paper presented at the DIME conference for Communities of Practice, Durham, United Kingdom.

- van Es, R. 2008. *Veranderdiagnose. De onderstroom organiseren* [Change diagnoses. To organize the undercurrent]. Deventer, The Netherlands: Kluwer.
- van Woerkom, M. 2004. The concept of critical reflection and its implications for human resource development. *Developing Human Resources* 6, no. 2: 178–92.
- Vandendriessche, F., and J. Clement. 2006. *Leidinggeven zonder bevelen. De outputmanager. Een praktijkboek over leidinggeven vanuit visie* [Managing without demands. The output manager. A practical guide about managing out of vision.]. Tiel, Belgium: Lannoo.
- Verdonschot, S. 2009. Learning to innovate. A series of studies to explore and enable learning in innovation practices. PhD diss., Twente University.
- Vermunt, J.D. 1996. Metacognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis. *Higher Education* 31: 25–50.
- Visscher-Voerman, J.I.A. 1999. Design approaches in training and education: A reconstructive study. PhD diss., Twente University.
- Vroemen, M. 2009. *Team op vleugels. Gids voor geïnspireerd samenwerken* [Team on wings. Guide for inspired cooperation]. Deventer, The Netherlands: Kluwer.
- Vygotsky, L.S. 1978. *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wenger, E. 1998. *Communities of practice: Learning, meaning and identity*. Cambridge, UK: Cambridge University Press.
- Wenger, E., McDermott R., and W.M. Snyder. 2002. *Cultivating communities of practice*. Boston, MA: Harvard Business School Press.
- Wierdsma, A. 2007. A methodology for increasing collective competence: A context for co-creative change. In *Intervening and changing. Looking for meanings in interactions*, eds. J. Boonstra and L. de Caluwé. Chichester, West Sussex: John Wiley & Sons.