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Workplace Learning a sensitive matter?

Employees ideas on workplace learning in The Netherlands

(First analyses and thoughts)

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Groningen, 26 August 2010

*In association with the Research network: Competence Development as
 Workplace Learning of the Asia-Europe Meeting (ASEM) and Research Hub
 for Lifelong Learning*

Workplace Learning a sensitive matter?

Theo van Dellen and Linda Greveling

In this report the Dutch outcomes of a comparative study done by the research network 'Competence Development as Workplace Learning' of the Asia-Europe Meeting (ASEM) Education and the Research Hub for Lifelong Learning are presented. The idea behind the study can be found on the website of the ASEM-network where the following questions have been formulated: 1. what do people interpret to be 'voluntary' and 'compulsory' with respect to workplace learning, 2. what does their company or organization offer in terms of formal and non-formal work-related learning, 3. which of these are 'voluntary' and which 'compulsory' and 4. how do objective opportunities and subjective perceptions influence employees' motivation to learn at work and their satisfaction with the learning they have undertaken? (visited the 4th of August 2010: <http://www.dpu.dk/site.aspx?p=10345>).

Introduction

This Dutch part of the study focuses on a research effort directed at identifying characteristic of the workplace as experienced by the employees that are connected with their motivation to learn in the workplace on a voluntary or compulsory basis and their perceptions of benefits and effects of workplace learning. Motivation to learn is considered crucial for the participation in and impact of developmental activities, like formal training programs and (non-) formal work(place) related learning behavior (Colquitt, LePine & Noe, 2000). According to Ford (1992) motivation (to learn) is a sensible concept with attributes like emotions, beliefs and personal goals. This means that in the context of work and organization both employers and employees as well as scientist and practitioners (in lifelong learning) are interested in understanding and enhancing the motivational aspects of learning in organizations.

The Dutch participation in the network research is triggered by the issue of compulsory versus voluntary learning that came to the attention of the network members. Adult learning theory tells us that adults learn in freedom (Knowles, Holton

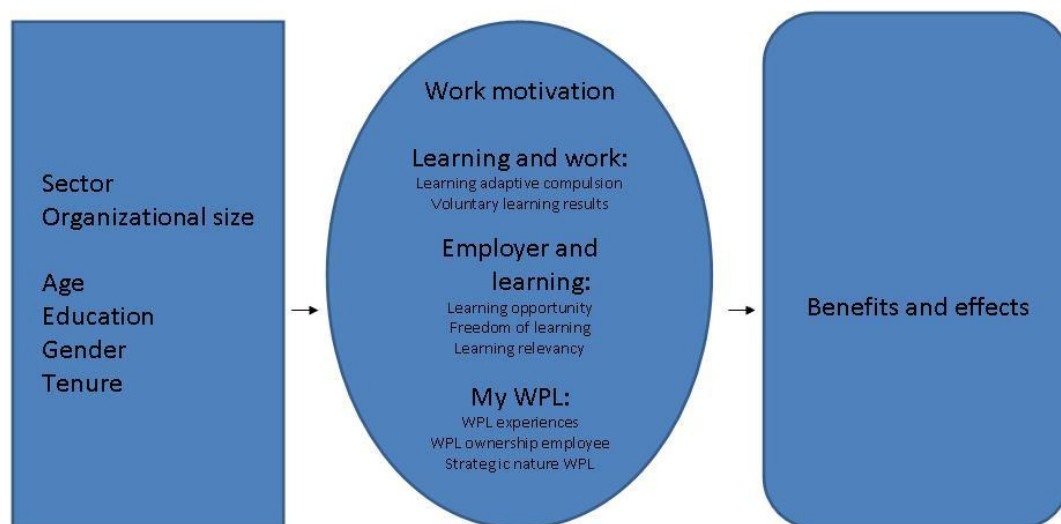
III & Swanson, 2005; Jarvis, 2006; Illeris, 2007). Their drive to learn is in an existential way 'needed' (Jarvis, 2006), or concerns their personal lifespan development needs (Illeris, 2007), or is related to their need to know, and the intrinsic value and the personal benefits of it (Knowles et. al., 2005). This can hardly be the whole truth; it seems to be the truth because people like to hear it as the truth. Eraut (2000) differentiates between learning in a deliberate mode after a situation of change and learning in a reactive mode after an error. Both modes of learning have compulsory and voluntary aspects. It seems that learning in both modes involves an adaptive process as a reaction to a situation which can be coped with by more or less self-regulated engagement in (learning) activities (Van der Wiel, Szegedi & Weggeman, 2004). The question whether workplace learning is compulsory or voluntary is comparable to the question whether people are intrinsic or extrinsic motivated. The answer is: it depends on the circumstances and moreover intrinsic and extrinsic are not the ends of an unidimensional concept. Another additional remark in the context of the question is that both 'high' voluntary learning and 'high' intrinsic motivation are not good or bad in itself. The reason for this is that the context relatedness and adaptability of all human behavior in general and learning behavior in particular are important for both. Therefore, it is interesting to understand how people experience work-related learning activities in (various) organizational contexts.

In this Dutch part of the network research the idea prevailed that different branches or sectors of work have impact on the practices of workplace learning activities as well as on the experiences of employees with it. Van Dellen & Hauwen, (2007) and Bolt & Van Dellen (2006) investigated HRD policy, activities and content in the healthcare and metal. These studies showed differences in policy, activities and content of HRD in these branches. The differences can be summed up by the different focus in each sector, namely 'organizational development' in the metal sector, and 'professional development' in the healthcare. These different focuses indeed have implications for the way configurations of HRD are formed in these sectors (Van Dellen, 2003) and probably also for the experiences of the employees within them. The latter are under study in this research.

The Theoretical Motivational Model. The theoretical motivational model with hypothesized causal paths is illustrated in Figure 1. In the left part of the model some general contextual determinants of the workplace are presented (e.g. sector, age). The

central part of the figure illustrates the areas of the organizational structure and culture that are related to learning, and which possibly have influence on the experienced benefits and outcomes of the workplace related learning. A significant number of these areas come from Ashton (2004) who based his own model about the influence on the learning process on the work of Eraut, Alderton, Cole and Senker (1998), Engestrom (2001), Fuller and Unwin (2002) and Billett (2001). Finally, the right side of the model contains the benefits and effects of workplace learning experienced by the employees.

Figure 1. Hypothesized Motivational Model and Relationship



Relationships Between the Different Determinants of Workplace Learning.

To account for different experiences, benefits and effects of workplace learning, three areas of experience with workplace learning, two aspects of the organizational context and four personal aspects of the employees were included in the model (figure 1). To include organizational and personal aspects is quite common for research in the field of determinants of formal and non-formal learning in and around the workplace. The three areas of experience with workplace learning are a combination of Ashton’s model (see above) and motivational determinants of learning (e.g emotions, and context beliefs (Ford (1992))).

Method

This section describes the method of the study.

Context. This study was executed in the Department of Lifelong Learning located within the discipline of Educational Sciences of the Faculty of Behavioral and Social Sciences, University of Groningen. Due to prior research projects and student activities within various organizations, the authors of this study were well acquainted and on good terms with members of organizations mainly in the sectors of Public Services, Healthcare and Welfare, IT and Metal and Technical Installations. Consequently, for reasons of convenience, these people were contacted personally to ask for their participation in the study. The intention was to reach at least 5 individuals in each organization. The people were contacted either by direct visit of organizations, by phone or by email. They were informed about the study's goals with respect to workplace learning and the international aspect of the research. Most respondents were able and willing to use the online questionnaire. Others, however, preferred the paper and pencil application.

Table 1. *Number of respondents working in the different sectors*

Sector	Respondents ($n = 168$)	
	Number (Organizations)	Percentage
Public Services	37 (11)	22.0
Health and Welfare	58 (19)	34.5
Technical Installations	28 (11)	16.7
Commercial Services	34 (14)	20.2
Various	11 (9)	6.5
Total	168	100.0

Sample. For obtaining a reasonable sample within a reasonable time frame 212 people were asked to participate in this study. Of these, 176 employees (83

percent) participated. However, after accounting for the missing data, the final sample size was 168 (79.2 percent). The number for each sector are presented in Table 1. The sector Health and Welfare was well represented with 58 employees from 19 organizations. In obtaining a good sample for the IT sector it became clear that within this sector individuals as well as organizational representatives were afraid to participate in the research mainly for reasons of ‘the competitive struggle’. The Technical Installation sector (a typical Dutch sector) was represented by 28 participants from 11 organizations. Public Services and Commercial Services (included with some IT people) participated with 37 and 34 respondents from 11 respectively 14 organizations. Finally, the ‘various’ sector contained 11 participants from 9 organizations mainly working in education. The size of organizations was classified into three categories (see Table 2). More than half of the respondents came from large (100+) organizations.

Table 2. *Number of employees in the whole organization (organization size)*

Number of employees (in categories)	Respondents (<i>n</i> = 162)	
	Number	Percentage
1-20	37	22.8
20-100	39	24.1
100+	86	53.1
Total	162	100.0

In the sample both men and women are well represented: 47 percent male and 53 percent female. Unfortunately, due to a ‘bug in the questionnaire only a differentiation between non-higher and higher education could be made. The respondents were well educated; 52.7 percent of the respondents has finished higher education (higher vocational education or university) and 47.3 percent finished non-higher education (e.g. secondary education).

Variables. It is important to emphasize that the study was descriptive on one hand and explorative in nature on the other hand. In the next paragraphs, psychometric properties of the scales for the assessment of some of the study’s

constructs are described. All items in this study used 5-point response scales (Lickert), ranging from 1 (strongly agree) to 5 (strongly disagree), which were coded the other way around for reasons of clear interpretation of the figures (so in our further presentation of the data 1 means ‘strongly disagree’ and 5 means ‘strongly agree’). For the constructs we focused on no prior scales existed. Therefore, a literature review of the motivational and attitudinal aspects around work and learning was the first step to take. This led to the model presented. Moreover the researchers from Asia and Europe of the international network discussed the practices of ‘workplace learning’ and the content of the items concerning constructs like motivation to work, and experiencing (lifelong)learning at workplaces.

Motivation to work. An explorative factor analysis with the five motivational items indicated two factors. The first factor contained the three *extrinsic motivation* items: ‘I work only for reason that my work provides the means to survive’, and ‘I have more financial satisfaction than personal satisfaction from my work’ and a reverse version of the last item addition. The second factor concerned the emotional bonds with work through the two items ‘The work I’m doing makes me feel good’ and ‘I feel appreciated for the work I’m doing’. We labeled these items together as *emotive (intrinsic) motivation*. The Cronbach alpha’s of these scales were .65 (*extrinsic*) respectively .62 (*intrinsic*).

Learning (and work): what is the opinion of employees about it. In the questionnaire there were sixteen general questions on (workplace) learning. An explorative factor analysis indicated five meaningful factors. The first factor, *learning adaptive compulsion* (adaptive pressure), consisted of four items (see Table 3). The Cronbach’s alpha of .58 is rather low but acceptable because there are only four items and it concerns opinions about possible and rather different backgrounds of pressures from the context. The second factor indicated that our respondents answer items about autonomy (freedom) in learning and the results of learning in a consistent way (see also Table 3). The factor *voluntary learning results* consists of three items which all pay attention to the freedom in learning and the outcomes of it. The Cronbach’s alpha of .47 is low again. We will come back to this issue later on. The third factor is called *workplace learning need* and combines three items on learning and work. The content of this factor focuses in micro perspective on the need for (formalizing) learning in the context of working life (see Table 3; alpha = .48). Finally, two items were

identified as separate factors by themselves. Both concerned learning dilemma's around workplace learning (see Table 3).

Table 3. The 'learning and work' items and scales constructed in this study

<i>Learning adaptive compulsion (macro) ($\alpha = .58$)</i>
Everyone has to keep on learning because society expects it.
Everyone has to keep on learning because otherwise they risk becoming unemployed.
Most employees insist that their employees follow training courses at regular interval.
People who do not keep up their learning should be punished by their employer (e.g. no merit payments or bonus, no promotion, be fired).
<i>Voluntary learning results ($\alpha = .47$)</i>
People have to be able to choose freely what, how and when they want to learn, otherwise they will not want to participate in work-related education and training.
The more you force people to learn, the less they will want to learn and the worse the results will be.
When people can decide for themselves about learning, they learn more and get better results.
<i>Workplace learning need (micro) ($\alpha = .48$)</i>
People learn best whilst they are just doing their jobs – they don't have to take courses to learn more and do their jobs well (recoded item).
There is no need to carry on learning once you have finished your initial education and training (recoded item).
The trouble with work-based learning is that it's not really something people want to do, but something they ought to do (recoded item).
<i>Learning dilemma 1 (necessity versus free choice)</i>
Learning is always necessary, but it might not always be what you might chose to do yourself.
<i>Learning dilemma 2 (general versus job-related content)</i>
If employers would support more general education (and not just for their jobs) for their employees more people would want to improve their knowledge and skills.

Employer and learning. In the questionnaire fourteen items were directed at the employers (organizational) position and behavior with respect to workplace related learning. The explorative factor analysis of the items showed a clear and

understandable four factor structure. The four factors are described in Table 4. The Cronbach's alpha's of each of these scales are remarkable high (see in the table between brackets).

Table 4. The employers and learning items in this study

<i>Learning opportunity ($\alpha = .76$)</i>
My employer offers such attractive learning opportunities that most of us want to take them up.
In my organization everyone expects you to take courses sometimes.
My employer offers a lot of learning opportunities compared with other similar employers in my kind of work.
My employer offers me more learning opportunities compared with employees at lower levels of the organization/company.
My employer tries to make sure that there's enough time and space to learn in working times.
<i>Freedom in learning given by employer ($\alpha = .64$)</i>
My employer never agrees to my participation in work related courses (recoded item).
My employer is open to all sorts of proposals for work related learning.
My employer only lets me participate when the course is required by the organization (recoded item).
<i>Learning relevance by the employer wanted ($\alpha = .81$)</i>
If work related learning takes place in working hours, my employer wants to see its relevancy for my job.
If work related learning costs a lot, my employer expects me to show why it is important for my job.
<i>Qualification needed for getting support</i>
My employer is willing to support work related learning, but only when it leads to a recognized qualification.

My WPL. Twelve items in the questionnaire considered the respondents experienced features of workplace learning in their organization. In this case the explorative factor analysis of the items again showed a clear and understandable four factor structure. The four factors are described in Table 5.

Workplace learning: how, preferences, benefits and effects. The questionnaire contained an extensive number of qualitative items about what the respondents motivates to learn in the workplace, what kind of workplace learning activities employers provide, what kind of activities employees like, and what kind of reasons employers give and employees use to stress the need to learn in and around work.

And finally questions were asked about the benefits and effects of workplace learning. It concerned the following questions: do you have benefit from learning in the workplace with respect to salary, employability, personal growth etc. and did learning in the workplace have a positive impact on knowledge and skills (KS) with respect to fourteen aspects of work and eight aspects of quality of life (QL). The sum of these impact items were used as workplace learning outcome total scores: KS-impact, QL-impact and the sum of both in the case of organized workplace learning in courses as well as learning at the workplace itself (see Table 10).

Table 5. Workplace learning in my organization in this study

<i>WPL experience ($\alpha = .72$)</i>
In my organization workplace learning activities are mostly enjoyed by participants.
In my organization workplace learning activities receive strong support and engagement from employees.
In my organization workplace learning activities help employees to do their jobs better.
In my organization workplace learning activities reflect the fact that individual exchange of knowledge and experience is important.
<i>WPL employees ownership ($\alpha = .65$)</i>
In my organization workplace learning activities are mainly set up by employees themselves.
In my organization workplace learning activities enable employees to come up with good ideas to improve their work.
In my organization workplace learning activities are something emotionally important for the participant.
<i>Strategic nature of WPL ($\alpha = .51$)</i>
In my organization workplace learning activities are mostly strategic in nature.
In my organization workplace learning activities are imposed on everyone by the management.
In my organization workplace learning activities are set up in a top-down way.
<i>WPL for knowledge and skills not behavior</i>
In my organization workplace learning activities focus on knowledge and skills, not how employees behave.

Procedure. Data were collected with an online Lime-survey questionnaire in a period of three to four months. Respondents that preferred the pen and paper got the

questionnaire by post and returned it for free. If respondents didn't react they were reminded one to three times to do so. Participation was voluntary. The participants were guaranteed that data were used only for research purpose, so confidentiality was assured.

Analysis. The collected data were analyzed by means of SPSS, using explorative factor analyses, multiple-regression (least squares method for organizations) and different forms of analyses of variance.

Results

In this paragraph the results of the study are presented.

Descriptives. Table 6 (p. 12) shows the descriptive statistics and inter-correlations for the constructed used study variables. The descriptive statistics show means in the range of 2.57 - 3.97. It begins with the 2.57 for experienced ownership of (workplace) learning by the employees ('WPL employees ownership') and ends with the mean score 3.97 for 'emotive (intrinsic) motivation'. With the exception of 'extrinsic motivation', 'learning adaptive compulsion' and the 'strategic nature of WPL' the mean scores are significantly different from the value 3 (the in between score). This indicates, for instance, that overall respondents do not agree nor disagree with the propositions about the strategic nature of workplace learning in their organization.

Table 6. Descriptive statistics and inter-correlations for the constructed and used variables

Constructed scale or item	N	M	SD	1. Extrinsic motivation	2. Emotive motivation	3. Learning adaptive compulsion	4. Voluntary learning results	5. Workplace learning need	6. Learning dilemma 1	7. Learning dilemma 2	8. Learning opportunity	9. Freedom given by employer	10. Learning relevance employer	11. Qualification for employer	12. WPL experience	13. WPL employees commitment	14. WPL strategic nature	15. WPL KS not behavior	
1. Extrinsic motivation	166	2.96	0.82																
2. Emotive motivation	165	3.97	0.82	-.32**															
3. Learning adaptive compulsion	166	3.09	0.69																
4. Voluntary learning results	168	3.56	0.72																
5. Workplace learning need	168	3.56	0.74																
6. Learning dilemma 1	167	3.81	1.13																
7. Learning dilemma 2	167	4.12	0.98																
8. Learning opportunity	160	2.85	0.88			.35**													
9. Freedom given by employer	162	3.64	0.87									.27**							
10. Learning relevance employer	160	3.95	1.02			.28**						.19*							
11. Qualification for employer	164	2.79	1.15									.17*							
12. WPL experience (valued)	153	3.45	0.75	-.18*	.28**							.48**	.38**	.19*	.18*				
13. WPL employees commitment	155	2.57	0.89	-.22**								.39**	.24**	.52**					
14. WPL strategic nature	151	3.12	0.78									.30**							
15. WPL KS not behavior	159	3.52	1.16									.18*				.21*			

* $p < .05$ (two-tailed); ** $p < .01$ (two-tailed)

In the following two tables the background characteristics of the respondents are described. In Table 7 the number of respondents in the four classified age categories are presented.

Table 7. *Age categories*

Age categories	Respondents (<i>n</i> = 164)	
	Number	Percentage
20-30 years	48	29.3
30-40 years	41	25.0
40-50 years	40	24.4
50+ years	35	21.3
Total	164	100.0

Table 8 shows the tenure (period of employment) of the respondents in their organizations.

Table 8. *Period of employment in the current organization (tenure)*

Period of employment (tenure)	Respondents (<i>n</i> = 163)	
	Number	Percentage
0-8 years	93	57.1
8-15 years	37	22.7
15 years or more	33	20.2
Total	163	100.0

With reference to the hypothesized Motivational Model and Relationship (see Figure 1) it seems to be a good start to present the outcomes of the effect variables. The respondents had the possibility to indicate whether learning in the workplace had an effect in the case of fourteen knowledge and skills categories and eight quality of life categories for organized courses as well as workplace learning. In the following

table (no. 9) the outcomes of the ‘not applicable’ categories are presented in relative mean effect scores (x 100 is the percentage). The differences between the sectors are striking but may be logical and understandable for the knowledge and skills indicators considering the content of the work in the different sectors, however, may be less understandable for the quality of life issues. In the next paragraph these outcomes will be related to the background characteristics.

Table 9. Mean relative effect scores ‘not applicable’

		Courses	Workplace Learning	Total (n)
	Sector	Mean relative effect (n)	Mean relative effect (n)	
Knowledge and Skills	Public Services	.27 (30)	.26 (30)	.27 (30)
	Health Care and Welfare	.31 (52)	.26 (51)	.28 (51)
	Technical Installation	.54 (24)	.47 (25)	.51 (24)
	Commercial Services	.39 (21)	.36 (23)	.38 (21)
	Various	.33 (8)	.31 (8)	.32 (8)
	Total	.36 (135)	.32 (137)	.34 (134)
Quality of Life	Public Services	.34 (30)	.33 (30)	.33 (30)
	Health Care and Welfare	.33 (51)	.20 (51)	.25 (50)
	Technical Installation	.55 (24)	.47 (25)	.50 (24)
	Commercial Services	.60 (22)	.53 (23)	.56 (22)
	Various	.34 (8)	.36 (8)	.35 (8)
	Total	.41 (135)	.34 (137)	.37 (134)
Total (n)	Public Services	.31 (30)	.29 (30)	.30 (30)
	Health Care and Welfare	.32 (51)	.23 (51)	.27 (50)
	Technical Installation	.54 (24)	.47 (25)	.50 (24)
	Commercial Services	.50 (21)	.45 (23)	.48 (21)
	Various	.33 (8)	.34 (8)	.34 (8)
	Total	.39 (134)	.33 (137)	.36 (133)

Next it is of interest whether the sectors differ with respect to the positive effects of learning in the workplace (number of ‘yes’ against number of ‘yes’ added with number of ‘no’; Table 10). The scores show that between sectors there are no differences when it concerns the total relative number of experienced effects for the 14 respectively 8 categories. The same holds for the other main characteristics of the response group (organizational size, age, education, gender and tenure). As can be

seen in Table 10 as well is that the mean relative positive effect scores are significant higher for WPL than for courses ($t=3.49$, $p<.00$).

Table 10. Relative positive effect scores (n yes / n yes + n no)

		Courses	Workplace Learning	Total (n)
	Sector	Mean Effect Score (n)	Mean Effect Score (n)	
Knowledge and Skills	Public Services	.74 (30)	.78 (30)	.76 (30)
	Health Care and Welfare	.74 (49)	.81 (51)	.77 (49)
	Technical Installation	.76 (20)	.85 (23)	.78 (19)
	Commercial Services	.68 (19)	.81 (21)	.74 (19)
	Various	.66 (8)	.77 (8)	.72 (8)
	Total	.73 (126)	.80 (133)	.76 (125)
Quality of Life	Public Services	.49 (29)	.53 (28)	.52 (28)
	Health Care and Welfare	.56 (46)	.63 (50)	.60 (46)
	Technical Installation	.51 (20)	.71 (21)	.59 (18)
	Commercial Services	.50 (16)	.61 (18)	.53 (16)
	Various	.58 (8)	.65 (8)	.61 (8)
	Total	.53 (119)	.62 (125)	.57 (116)
Total (n)	Public Services	.62 (29)	.65 (28)	.64 (28)
	Health Care and Welfare	.64 (46)	.72 (50)	.68 (46)
	Technical Installation	.60 (18)	.78 (20)	.67 (16)
	Commercial Services	.57 (15)	.71 (18)	.63 (15)
	Various	.62 (8)	.71 (8)	.67 (8)
	Total	.62 (116)	.71 (124)	.66 (113)

Table 11. Benefits of workplace learning

		Sector					
	Public Services (n)	Health Care and Welfare (n)	Technical Installations (n)	Commercial Services (n)	Various (n)	Total (n)	
1	Personal growth and self-identity (24)	Personal growth and self-identity (39)	Doing my job better (14)	Personal growth and self-identity (17)	Personal growth and self-identity (8)	Personal growth and self-identity (101)	
2	Sense of autonomy and judgement (13)	Sense of autonomy and judgement (32)	Personal growth and self-identity (13)	Sense of autonomy and judgement (13)	Sense of autonomy and judgement (6)	Sense of autonomy and judgement (74)	
3	Doing my job better (13)	Doing my job better (21)	Sense of autonomy and judgement (10)	Doing my job better (10)	Doing my job better (3)	Doing my job better (61)	
4	Confidence and self-respect (10)	Confidence and self-respect (18)	Confidence and self-respect (9)	Confidence and self-respect (6)	Confidence and self-respect (3)	Confidence and self-respect (46)	
5	Work and career motivation (7)	Sense of belonging to the organization (11)	Job security (6)	Salary rise (6)	Work and career motivation (2)	Work and career motivation (24)	
6	Job security (6)	Job security (9)	Salary rise (5)	Work and career motivation (5)	Sense of belonging to the organization (1)	Job security (24)	
7	Appreciation and recognition of colleagues (3)	Work and career motivation (5)	Work and career motivation (5)	Appreciation and recognition of colleagues (4)	Appreciation and recognition of colleagues (0)	Sense of belonging to the organization (20)	
8	Sense of belonging to the organization (2)	Appreciation and recognition of colleagues (5)	Sense of belonging to the organization (4)	Job security (3)	Salary rise (0)	Appreciation and recognition of colleagues (14)	
9	Salary rise (2)	Promotion (4)	Appreciation and recognition of colleagues (2)	Sense of belonging to the organization (2)	Job security (0)	Salary rise (14)	
10	Promotion (2)	Salary rise (1)	Promotion (0)	Promotion (2)	Promotion (0)	Promotion (4)	

With respect to the effects of learning there was also an open question to indicate what respondents choose as their primary three benefits of learning in the workplace. In Table 11 the top priorities are presented for the different sectors. There is a clear top four of benefits for all sectors, namely ‘personal growth and self-identity’, ‘sense of autonomy and judgement’, ‘doing my job better’ and ‘confidence and self-respect’. All four benefits have an intrinsic nature. The more extrinsic benefits, like ‘salary rise’, ‘promotion’ and to a minor extent ‘job security’ have lower numbers, while the more social benefits (‘sense of belonging to the organization’ and ‘appreciation and recognition of colleagues’) show intermediate numbers. These results are in agreement with the mean scores for *extrinsic motivation* and *emotive motivation* as well. Finally, in the case of benefits of workplace learning the Technical Installation sector shows a striking but understandable difference with the other sectors. Technical Installation workers give highest priority to ‘doing my job better’ in contrast to the other sectors in which this benefit is in position three. In another direction the Health and Welfare sector give in mean a higher priority to ‘sense of belonging to the organization’.

Table 12. Differences between sectors for some intermediate characteristics

Sector	Characteristics		
	Extrinsic motivation	Learning adaptive compulsion	WPL owned by employees
Public Services	3.04 (37)	3.22 (37)	2.32 (36)
Health and Welfare	2.68 (57)	3.25 (57)	2.87 (54)
Technical Installations	3.06 (28)	2.76 (27)	2.49 (25)
Commercial Services	3.37 (34)	3.04 (34)	2.30 (31)
Various	2.67 (10)	2.86 (11)	2.93 (9)
Total	2.96 (166)	3.09 (166)	2.57 (155)

Next the descriptives for the intermediate context variables (see Figure 1 and Table 6) are presented for each sector as far as they show a significant difference

between sectors. The characteristics 'extrinsic motivation' ($F= 4.76, p<.00$), 'learning adaptive compulsion' ($F=3.08, p<.05$) and 'WPL owned by employees' ($F=3.60, p<.00$) differ between the sectors (see Table 12).

The respondents were asked to indicate their preferred ways of learning. In Appendix I the outcomes of this question are tabulated. There are no significant differences between sectors. The results show that 'when doing things together with colleagues' and 'when observing and analyzing situations' were selected by almost half of the respondents as preferred way of learning. Next 'when you hear something that draws your interest and you start looking for more information about it', 'when something unexpected is happening and you try to manage things by trying things out', 'when coming in contact with people who have different skills, backgrounds and experiences', and 'when doing things you are not familiar with' were chosen by a third of the respondents. At last, less than fifteen percent of the respondents selected ways of learning like 'when you are given a goal to achieve at work', 'when leading other people and telling/teaching them what to do', 'just by looking at how people do things and imitating them' and 'when you remember mistakes you have made in the past and you try not to repeat them'.

The final descriptive presented here concerns aspects of the context that make respondents 'feel motivated to learn'. Table 13 indicates that contextual motivators for learning differ between the sectors. Overall almost half of the respondents indicate that 'concrete benefits for work, like promotion, salary etc.' and 'the employers courses provided are useful for work' are motivators to learn at the workplace. 'Simply because I enjoy learning' comes in the third place (overall selected by a third of the respondents), however, this motivator shows quite some differences in position between the sectors: from position 1 in Public Services to position 5 in Technical Installations. Overall the motivators that promote workplace learning in itself take the in-between positions. And, at last, the motivators connected with the colleagues, the boss or the trainer/teachers are selected only by a few respondents.

Table 13. Motivators for learning in the workplace (I feel motivated to learn ...)

	Sector					Total (n)
	Public Services (n)	Health Care and Welfare (n)	Technical Installations (n)	Commercial Services (n)	Various (n)	
1	Simply because I enjoy learning (18)	When the courses my employer provides are useful for my work (35)	Because I know it will bring me concrete benefits (14)	Because I know it will bring me concrete benefits (20)	When the teachers/trainers on the course are good (7)	Because I know it will bring me concrete benefits (78)
2	Because I know it will bring me concrete benefits (17)	Because I know it will bring me concrete benefits (24)	Because is it easy to learn and work at the same time (14)	When the courses my employer provides are useful for my work (15)	When my colleagues give me ideas and advice (4)	When the courses my employer provides are useful for my work (78)
3	When the courses my employer provides are useful for my work (17)	Simply because I enjoy learning (21)	Because this is the best place to improve job-related knowledge and skills (8)	When my colleagues give me ideas and advice (11)	When the courses my employer provides are useful for my work (4)	Simply because I enjoy learning (58)
4	Because this is the best place to improve job-related knowledge and skills (13)	Because this is the best place to improve job-related knowledge and skills (19)	When the courses my employer provides are useful for my work (7)	Simply because I enjoy learning (11)	Because I know it will bring me concrete benefits (3)	Because this is the best place to improve job-related knowledge and skills (53)
5	Because is it easy to learn and work at the same time (11)	When the teachers/trainers on the course are good (14)	Simply because I enjoy learning (6)	Because this is the best place to improve job-related knowledge and skills (11)	Simply because I enjoy learning (2)	Because is it easy to learn and work at the same time (45)
6	When the teachers/trainers on the course are good (8)	Because is it easy to learn and work at the same time (11)	When my colleagues give me ideas and advice (5)	Because is it easy to learn and work at the same time (7)	Because this is the best place to improve job-related knowledge and skills (2)	When my colleagues give me ideas and advice (35)
7	When my colleagues give me ideas and advice (6)	When my colleagues give me ideas and advice (9)	When my boss gives me ideas and advice (4)	When the teachers/trainers on the course are good (4)	Because is it easy to learn and work at the same time (2)	When the teachers/trainers on the course are good (34)
8	When my boss gives me ideas and advice (3)	When my boss gives me ideas and advice (1)	When the teachers/trainers on the course are good (1)	When my boss gives me ideas and advice (2)	When my boss gives me ideas and advice (1)	When my boss gives me ideas and advice (11)
9	To be honest, I don't feel encouraged to learn at work (0)	To be honest, I don't feel encouraged to learn at work (0)	To be honest, I don't feel encouraged to learn at work (1)	To be honest, I don't feel encouraged to learn at work (1)	To be honest, I don't feel encouraged to learn at work (0)	To be honest, I don't feel encouraged to learn at work (2)

Relationships. Of more interest are the results between the total effect indicators and the other motivational variables. The multiple regression (least squares weighted by organizations) showed that the total of experienced effects of learning in the workplace (courses and WPL categories added as well as knowledge and skills and quality of life categories) for the ‘not applicable’ categories is related to the sectors and to learning opportunities and positive WPL experience (see Table 14). The number of the ‘not applicable’ categories are positively influenced by the sectors Technical Installation and Commercial Services. Moreover, the number of ‘not applicable’ categories are negatively influenced by experienced learning opportunities as well as positive experiences with WPL (see also Table 14).

Table 14. Multiple regression analyses between the dependent mean effect ‘not applicable’ and the independent predictors (see Table 9)

	Mean effect ‘not applicable’		
	B	SE B	β
Sector Commercial Services	.27	.07	.32**
Sector Technical Installations	.20	.05	.30**
Learning opportunity	-.05	.03	-.11
Positive experiences with WPL	-.12	.04	-.28**
R ²			.36
R ² _{adj}			.33

Weighted (by Organization) Least Squares Regression; * $p < .05$ and ** $p < .01$, two-tailed

On the contrary, the total mean relative effect of learning around work shows no significant relationship with sectors, but 19.8% of the variance (adjusted 17.1%) is explained by the characteristics ‘WPL owned by the employee’, ‘learning adaptive compulsion’ and ‘positive emotions in work’ (see Table 15).

Table 15. Multiple regression analyses between the dependent mean relative effect and the independent predictors (see Table 10).

	Mean relative effect		
	B	SE B	B
WPL employees	.07	.03	.26**
Learning adaptive compulsion	.09	.04	.21*
Positive emotive motivation	.07	.03	.23*
R ²			.20
R ² _{adj}			.17

Weighted (by Organization) Least Squares Regression; * $p < .05$, two-tailed; ** $p < .01$, two-tailed

The intermediate variables ‘learning opportunity’ and ‘positive experiences with WPL’ are related with the relative numbers of ‘not applicable’ effects (in addition to the sectors Technical Installation and Commercial Services), while the intermediates ‘WPL owned by employees’, ‘learning adaptive compulsion’ and ‘positive emotive motivation’ (the intrinsic rewards of work) relate to the mean relative effect of learning in relation to work (totals). Therefore, to understand workplace learning better it is of interest to go further in the interrelatedness of the intermediate variables itself. In Table 6 (p. 12) this interrelatedness is already shown with the inter-correlations between a number of the constructed scales and items. As can be seen in this table the highest correlation is .52 between ‘positive experience with WPL’ and ‘WPL employees ownership’. Factor analyses indicated that these two constructs have independent factor loadings and reasonable reliabilities as well. The goal of the next regression analyses is to understand the interrelatedness of the intermediate constructs further.

In the forthcoming multiple regressions the only difference is the dependent variable ‘positive experiences with WPL’ respectively ‘WPL owned by employees’. Further, all the intermediates and descriptives are used in the regression formula.

Table 16. Multiple regression analyses between the dependent positive experience with WPL and the independent predictors (see Table 9 and Figure 1)

	Positive experiences with WPL		
	B	SE B	β
Sector Commercial Services	-.06	.12	-.04
Sector Public Services	-.13	.12	-.07
WPL owned by employees	.40	.06	.47**
Freedom of learning	.27	.05	.32**
Qualification needed	.14	.04	.22**
Voluntary learning result	-.15	.06	-.14*
R ²			.56
R ² _{adj}			.54

Weighted (by Organization) Least Squares Regression; * $p < .05$ and ** $p < .01$, two-tailed

Table 17. Multiple regression analyses between the dependent WPL owned by employees and the independent predictors (see Table 9 and Figure 1)

	WPL owned by employees		
	B	SE B	β
Sector Commercial Services	-.51	.14	-.25**
Sector Public Services	-.31	.15	-.14*
Size organization 1-20	-.24	.15	-.11
Freedom of learning	.27	.05	.32**
Positive experiences with WPL	.44	.09	.38**
Learning opportunities	.35	.08	.34**
R ²			.52
R ² _{adj}			.50

Weighted (by Organization) Least Squares Regression; * $p < .05$ and ** $p < .01$, two-tailed

Discussion

This section describes the discussion of the study.

Research on the compulsion and voluntariness of workplace learning has long and often been called for. Following Ashton (2004) and others a model was developed from theory and the relationships in the model were empirically tested. The flawed

data stock and several other limitations of the study (will be mentioned later on) should be taken into consideration when conclusions are brought too simplistic and speculative in this discussion. Moreover, the explorative character of the research is also emphasized at the beginning of this discussion.

Supporting the idea that experiencing compulsion and/or voluntariness depends from all sorts of individual and contextual circumstances, beliefs, and motivations the results show that respondents experience a mean 'learning adaptive compulsion' ($m=3.09$) and a stronger 'workplace learning need' ($m=3.56$) as well as 'freedom given by the employer' ($m=3.64$). However, they admit also that 'learning relevancy' is important for their employer ($m=3.95$). The conclusion is that (even) to the Dutch respondents this kind of compulsion for learning is not a problem; they don't indicate that they 'feel' it as such and understand it because they give credentials to the employers learning relevancy claims in this respect and experience 'workplace learning need' respectively 'freedom given by the employer' at the same time.

So, although learning in the workplace seems not to be voluntary in itself the Dutch results indicate also that they experience the workplace learning positively ($m=3.45$), because they enjoy the activities, give support and engagement to it, it helps to do their jobs better and reflects the fact that individual exchange of knowledge and experience is important. This is the case despite the relative low mean of employees WPL ownership ($m=2.57$). WPL activities are not mainly set up by the employees themselves, do not enable employees to come up with good ideas to improve their work and are not something emotionally important for the participants.

But what about the benefits and effects of workplace learning? It is problematic to value the outcomes of benefits and effects in itself. Therefore in this study the hypothesized model is used to go into the interrelatedness of effects with contextual and individual characteristics. The results of this exercise are interesting and the theoretical considerations are valuable.

At first, positive experience with WPL significantly predicted the relative number of 'not applicable' effect categories in a negative direction. Secondly, 'ownership of WPL' (with a relative low mean in itself as discussed above), 'learning adaptive compulsion' and 'emotive (work) motivation' significantly predicted the mean relative number of effect categories. Thirdly, the benefits of WPL the respondents in particular choose (three out of ten) are rather 'personal' in nature, like

‘personal growth and self-identity’ and ‘sense of autonomy and judgement’. However, these benefits of WPL are not suggested by the respondents. It is questionable whether they would have come up with such personal development categories by themselves. These results together are indicative for a kind of primary conclusion that in particular emotive and motivational aspects of learning in the workplace are important. These results also gain an insight into the complicated issue of compulsion and voluntariness. Workplace learning is indeed a sensitive matter to the psychological and relational processes between the employer and the employee with as the Dutch results suggest the first one in the leading position, while the employee is adapting in enjoyable and volitional manner with the illusion of autonomy?

The Dutch research perspective to use different sectors in the study showed indeed some striking differences between sectors (see the Tables 9-12). The sectors Technical Installation and Commercial Services are in some instances different from the other sectors. The question is whether the variability is caused by the different content of the work of the employees in the one hand or by the different accent on profitability in the various sectors on the other hand. This is something to look for in further research.

Implications for Theory and Practice. So far, several individual (such as ‘positive experience with WPL’) and organizational (such as ‘learning opportunity’ and ‘freedom of learning’) variables have been found to have an relatedness with the benefits and effects of workplace learning. The reported analyses did not show up with results that explicitly indicate that the compulsion or voluntariness of WPL add to our understanding of the motivational aspects of WPL itself. Future theory-building on compulsion or voluntariness of WPL can focus on the issue of decision-making (see Holton III & Naquin, 2005) and the impact of it on the psychological and relational processes between employee and direct management. Compulsion or voluntariness seems to be not the issue to the employees and the employers for the reason that learning is a continuing secondary necessity in the context of employment, work and organization. And moreover the contract between employer and employee is powered by economic dependence in the first place and psychologically relatedness in the second place.

Limitations and Perspectives for Future Research. Several limitations of the study should be taken into consideration. First, the use of data from a limited number of individuals within a limited number of organizations. From some organizations only one person contributed to the research; therefore the multiple least squares regressions were weighted by organizations to control for outliers. Second, due to the explorative character of the study the validity and reliability of a number of intermediate constructed variables were rather low. Although all variables were putted in the regression analyses the significant and relevant results concerned mainly variables with relative high reliabilities, like positive experience with WPL and WPL owned by the employees etc.

Despite these limitations, the present study is a rich starting point for further research and a stimulation for research into the crucial aspects of the psychological contract between employee and employer that influence the configurations and outcomes of learning in the workplace.

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Appendix I. Preferred ways of learning

		Sector					
	Public Services (n)	Health Care and Welfare (n)	Technical Installations (n)	Commercial Services (n)	Various (n)	Total (n)	
1	When doing things together with colleagues (18)	When you hear something that draws your interest and you start looking for more information about it (28)	When observing and analyzing situations (18)	When observing and analyzing situations (18)	When doing things together with colleagues (7)	When doing things together with colleagues (83)	
2	When observing and analyzing situations (17)	When doing things together with colleagues (26)	When doing things together with colleagues (14)	When doing things together with colleagues (18)	When something unexpected is happening and you try to manage things by trying things out (5)	When observing and analyzing situations (82)	
3	When coming in contact with people who have different skills/backgrounds/experiences (17)	When something unexpected is happening and you try to manage things by trying things out (25)	When you hear something that draws your interest and you start looking for more information about it (11)	When coming in contact with people who have different skills/backgrounds/experiences (12)	When you hear something that draws your interest and you start looking for more information about it (5)	When you hear something that draws your interest and you start looking for more information about it (65)	
4	When something unexpected is happening and you try to manage things by trying things out (16)	When observing and analyzing situations (25)	When something unexpected is happening and you try to manage things by trying things out (7)	When something unexpected is happening and you try to manage things by trying things out (11)	When observing and analyzing situations (4)	When something unexpected is happening and you try to manage things by trying things out (64)	
5	When doing things you are not familiar with (14)	When coming in contact with people who have different skills/backgrounds/experiences (19)	When leading other people and telling/teaching them what to do (6)	When you hear something that draws your interest and you start looking for more information about it (11)	When doing things you are not familiar with (3)	When coming in contact with people who have different skills/backgrounds/experiences (54)	
6	When you hear something that draws your interest and you start looking for more	When doing things you are not familiar with (18)	When doing things you are not familiar with (5)	When doing things you are not familiar with (10)	When leading other people and telling/teaching them what to do (3)	When doing things you are not familiar with (50)	

	information about it (10)					
7	When you are given a goal to achieve at work (7)	When you are given a goal to achieve at work (10)	Just by looking at how people do things and imitating them (5)	When leading other people and telling/teaching them what to do (5)	When coming in contact with people who have different skills/backgrounds/experiences (1)	When you are given a goal to achieve at work (27)
8	When leading other people and telling/teaching them what to do (5)	When leading other people and telling/teaching them what to do (6)	When coming in contact with people who have different skills/backgrounds/experiences (5)	When you are given a goal to achieve at work (5)	When you are given a goal to achieve at work (1)	When leading other people and telling/teaching them what to do (25)
9	Just by looking at how people do things and imitating them (4)	When you remember mistakes you have made in the past and you try not to repeat them (5)	When you are given a goal to achieve at work (4)	Just by looking at how people do things and imitating them (4)	Just by looking at how people do things and imitating them (0)	Just by looking at how people do things and imitating them (17)
10	When you remember mistakes you have made in the past and you try not to repeat them (3)	Just by looking at how people do things and imitating them (4)	When you remember mistakes you have made in the past and you try not to repeat them (4)	When you remember mistakes you have made in the past and you try not to repeat them (0)	When you remember mistakes you have made in the past and you try not to repeat them (0)	When you remember mistakes you have made in the past and you try not to repeat them (12)
11	I don't really know how I learn (0)	I don't really know how I learn (0)	I don't really know how I learn (0)	I don't really know how I learn (0)	I don't really know how I learn (0)	I don't really know how I learn (0)