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# **Pre-training evaluation of civil servants: A first step to determine the transfer of competencies in the Belgian civil sector**

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## **ABSTRACT**

This paper examines the learning level of the four-level model of Kirkpatrick. Determining what has been learned in an educational programme is important to measure the application of the newly achieved knowledge and skills on the workplace afterwards (i.e. the transfer level). First the paper describes the Public Management Programme, an intensive one-year programme for civil servants, organized by the Public Management Institute, in collaboration with the Université Libre de Bruxelles and the Educational Institute of the Federal Government. Second, it gives a brief overview of the literature about transfer and the measurement of transfer. Third, results of measurements on the second level of Kirkpatrick are presented and discussed. The results reveal that participants perceive their knowledge before the programme significantly lower than after the programme. Finally, general conclusions are made.

## **1. INTRODUCTION**

The Public Management Programme, existing since 2001, is an intensive one-year programme for civil servants from the Belgian federal administration. Its main goal is to enhance leadership skills and managerial knowledge and competencies. Though the programme is expensive and somewhat controversial, the transfer of the competencies achieved during this programme within the workplace has rarely been questioned by the public sector itself. However, demonstrating that an educational programme is effective and that the level of transfer is sufficiently high, becomes more and more important.

Transfer can be defined as “the effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in the training-both on and off the job” (Broad & Newstrom: 1992). It can, according to Kirkpatrick (1994), only be measured at the third level of his four-level model. In sum, the first level measures the satisfaction, the second level the achieved competencies and the fourth level the return on investment. The first and second levels are both necessary to determine the transfer level of an educational program

This paper will focus on the second level. Empirical research about the perceptions of the participants on their pre-training managerial knowledge and competencies will be presented and discussed. Those perceptions are interesting for three reasons: (1) they are required to determine what the participants have already learned to compare with the results of a post-training evaluation (the second level), (2) they are essential to study transfer afterwards and (3) the results can be used to adjust the content of the educational programme, by putting more or less emphasis on certain topics.

## **2. THE PUBLIC MANAGEMENT PROGRAMME**

### **2.1 History**

The Public Management Programme<sup>1</sup> was created in the period after the Copernic Reform was launched. It was soon obvious that this major reform of the Belgian federal administration, which started in 1999 and which wanted to create a more effective and efficient administration, needed educated civil servants who were able to support and provide useful input to the reform.

Two universities, the Public Management Institute (Katholieke Universiteit Leuven) and the Ecole de Commerce Solvay (Université Libre de Bruxelles), at the invitation of the Cabinet of the Minister of the Civil Service, created the Public Management Programme (PUMP). This is an intensive one-year management programme for civil servants. The first intake was in 2001 and it has continued since then. After the first two years the Institute of Education of the Federal Government has also been involved in the organization of the programme.

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<sup>1</sup> For more information: <http://www.pump.be>

## 2.2 Target group & educational goals

Since Belgium contains two major lingual groups, 20 Dutch speaking and 20 French speaking civil servants from what is called “level A”<sup>2</sup> are selected each year to participate in the programme. In 2005 and 2007 the group was expanded to 25 participants of each lingual group.

The selection procedure, which has changed over the years, contains two parts:

- a) Selection by file. All candidates must fill in a personal file, which is a detailed *curriculum vitae* with added comments on their career and their motivation to enter the programme. Managerial support and support from the HRM-department are obligatory: both must officially give permission for the candidate to participate and to combine the programme with their job, which is an investment for the organization. In the beginning, all files were sent to both universities who made the first screening. Later, the universities only received the files of the candidates who were selected by the federal government itself. In other words: the federal government now makes a first selection of the potential candidates.
- b) An interview. The second step is an interview to test the candidates’ knowledge about the public sector, public policy and public management, and their social skills. Until 2007, the candidates discussed a scientific article in the field of public management and were asked to link the theory to their work experience. They had a debate about the article with a jury of the university and were asked several questions about their motivation to enroll in the programme. Their social skills were also assessed. Since 2007, the interview is the complete responsibility of the federal institutions. It is obvious that there are several disadvantages to this adjustment: the lack of transparency (the universities don’t receive any information about the selection procedure) and the possibility of favoritism. Further, the organizations may use different selection criteria to the universities, who mainly use criteria of cognitive capacity.

The main educational goal of the PUMP is to contribute to the reform of the federal administration and enable it to become a modern, good performing and highly qualitative administration by giving groups of civil servants the necessary knowledge, competencies, skills and attitudes to support this modernization process. At the same time, the PUMP wants to create an inter- and intradepartmental network within the federal government. Since the beginning a “pump-network” was established, which already contains 250 civil servants who have completed the programme. Those alumni are invited several times a year to meet each other and sometimes to contribute to the programme, for example by giving lectures.

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<sup>2</sup> “Level A” contains all the civil servants with a university degree or civil servants doing a job on that level.

### 2.3 Content and structure of the programme

The programme, which has had some modifications over the years, contains several sections as indicated in Table 1.

**Table 1: structure and content of the Public Management Programme**

<b>Section</b>	<b>Content</b>	<b>Period</b>
<b>1. Unfreezing</b>	The goal of the unfreezing is to create a “group”, by doing teambuilding exercises. Presentation skills and management skills are also part of this section.	January
<b>2. Theory</b>	Section 2 is the theoretical part of the programme. Several topics in the field of public management and policy are presented by academics and practitioners. Intensive theoretical and interactive lectures on the following topics are provided: <ul style="list-style-type: none"> <li>- Public sector management and public policy</li> <li>- Public sector organization (liberalization, organizational structures,...)</li> <li>- HRM, financial Public Management, eGovernment and quality management</li> <li>- Europeanization</li> </ul>	February-March
<b>3. Training period</b>	Each participant must do a training period in a private or public organization, for at least one week, maximum four weeks, abroad or in Belgium. The goal of the training period is to look for best practices in other organizations and, if possible, in other cultures. The topics of the training period are diverse. Most of the participants choose a topic that is linked to their own work, though it is also possible to take the opportunity to study something completely new. The trainees must draw lessons from the training period for their own organization or for the federal administration in general. Their findings must be reported in a paper and presented in a workshop.	April-May
<b>4. Integration exercise</b>	The goal of the integration exercise is to apply all the new knowledge achieved by studying a real case and formulating advice to deal with the problem. In the past, the reform of the Flemish government has been studied by the Dutch-speaking participants. This group exercise has recently been changed into an individual “organization analysis” in which the participants must analyze their organization in a certain field, for example HRM, formulate problems and give advice to remedy those problems. A major advantage of this exercise is the bigger return on investment to their own organization.	June-September
<b>5. Consultancy task</b>	Section 5 requires the participants to perform, in a bilingual group, as a consultancy for a public organization. All organizations of the federal government are asked to provide a list of tasks where they need consultancy. A selection is made by the universities and small groups are formed to do the task.	June-November

The French speaking and the Dutch speaking participants receive most of the programme in separate groups. The ULB is responsible for the French speaking group and the K.U.Leuven for the Dutch speaking group. However, the programme is almost identical for the two groups and they meet each other several times during the year e.g. at the beginning for a team-building day, at the middle for the presentations of the results of the training period and the organization analysis, and at the end for the consultancy task, which they do in mixed groups.

### **3 TRANSFER OF COMPETENCIES**

#### **3.1 The concept of transfer and its link to educational effectiveness**

In general, transfer is a contribution of formerly achieved knowledge and skills to the learning of new skills and knowledge (Smans: 2005). But within a professional context the following definition is often given to the concept:

“Transfer of training is the effective and continuing application, by trainees to their jobs, of the knowledge and skills gained in the training-both on and off the job” (Broad & Newstrom: 1992).

In this definition, time (continuing application) seems to be characterizing transfer. Furthermore, the fact that the definition makes a distinction between training on the job and training off the job, makes it obvious that the possibility to compare the learning situation to the work situation has an influence on transfer. The bigger the resemblance, the easier transfer will be achieved. But of course, perfect similarity will rarely be the case, which makes translation of the knowledge to the work situation always necessary. It is in this context that Marini and Genereux (1995) make an important distinction between *cross-task transfer* and *cross-context transfer*, which is transfer of the knowledge to a different task or to a different context.

Though the link between transfer and educational effectiveness isn't always clear, the two concepts are related to each other: educational effectiveness is the achievement of educational goals, but this differs from the perspective: a training can be effective for the individual, but not for the organization, because of a difference in goals. As the main goal of an educational programme is an increase in performance, transfer of knowledge is necessary. So, transfer can be seen as an indicator of educational effectiveness. It is important to emphasize the difference between the two concepts, because it is possible to achieve transfer but not effectiveness.

There is also a difference between a learning effect and a transfer effect. The learning effect determines what the trainee has learned. This can easily be measured by tests. Transfer effect on the other hand is the amount of new knowledge/skills transferred to the work place by the trainee.

#### **3.2 Measuring transfer**

A lot of research has been done about transfer and the variables that influence transfer. One of the first theoretical models was the transfer model of Baldwin & Ford (1988). Their point of view was that transfer is influenced by three basic variables: the trainee,

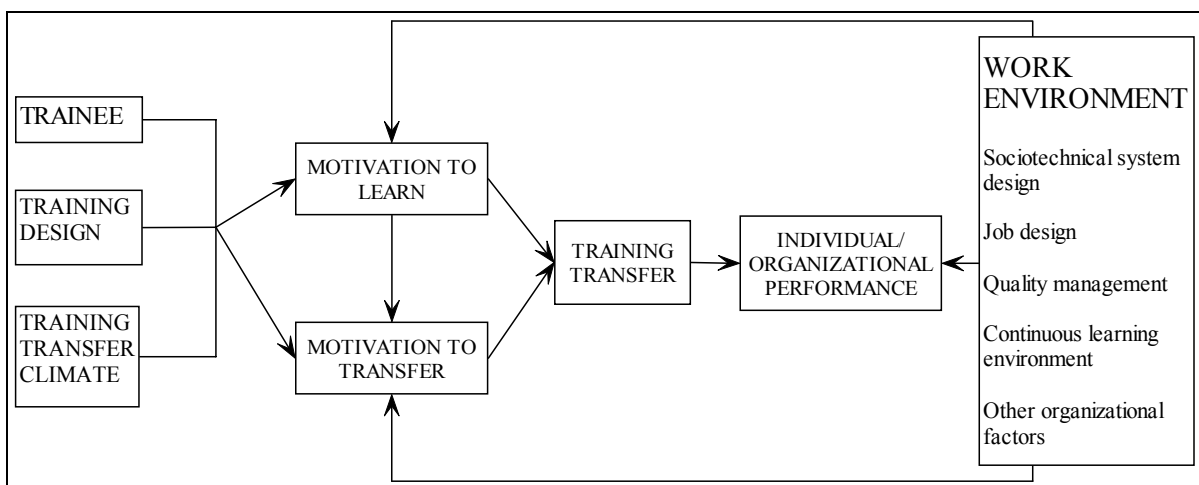
the educational programme and the work environment. Other models, based upon Baldwin & Ford have been developed since. One model is the systemic model of learning transfer of Kontoghiorghes (2004). Based on a literature research he concludes that most variables with an influence on transfer (self-efficacy, hierarchical support, intrinsic and extrinsic rewards, usefulness of the educational programme) are clustered in the three standard variables of Baldwin and Ford. His point is that the variable ‘work environment’ refers to the transfer climate, or the climate that makes transfer possible. He suggests that there is a difference between transfer climate and the general organizational context that has an influence on the learning process too. His holistic approach to learning effectiveness shows also that performance is the link between transfer and work environment:

“The more the work environment is conducive to high performance, the more the trainee will believe that his or her learning efforts will result in an attainable and desirable outcome. This in turn will translate into higher levels of motivation to learn during training and motivation to transfer learning back to the job” (Kontoghiorghes: 2004, 213).

The model can be found in Figure 1 below. Empirical support has been found for the division between work context and transfer climate. When it comes to transfer climate, 5 different climates can be distinguished (Kirkpatrick: 1994):

- *Preventing*: transfer of what has been learned is prohibited;
- *Discouraging*: transfer is discouraged;
- *Neutral*: Transfer is tolerated, but when negative influences occur, the preventing and discouraging climate will become dominant;
- *Encouraging*: transfer is encouraged;
- *Requiring*: transfer is required.

**Fig 1. Systemic model of learning transfer**



The effectiveness of educational programmes is, as already suggested, more than determining its transfer effect. The transfer is only a part of the evaluation of the training programme. To measure the whole effectiveness of an educational programme the typology of the four levels of Kirkpatrick (1994) is frequently used. Though this model has been criticized, it remains generally accepted (Alliger et al: 1997). The four levels are:

- *Reaction level:* How satisfied are trainees about the educational programme? This is important to know, because if they are not satisfied, motivation to transfer can be minimal.
- *Learning level:* Learning is a process in which the level of competencies of individuals and/or the amount of knowledge of a group/organization is adapted with durable results (Baert et al: 2000). The aim of an educational programme is to adapt the skills or the attitudes of the trainee. Evaluating the learning level can be done by tests.
- *Behavior level:* of course it is important to know if behavioral change has occurred, even if the trainee is satisfied and has learned a lot. But there are more influencing variables than that: one must know how to change his behavior, he must be willing to change it and he must be working in a supportive environment.
- *Result level:* this level focuses on the effects occurred on the organizational level. For example: an increased production, an improved work quality, a reduction in costs. This level can be seen between the training transfer and the work environment of Kontoghiorghes' model.

As already stated, the four level model of Kirkpatrick has been criticized for several aspects (Bates: 2004; Holton: 1996)). The major positive and negative elements can be found in the Table 2 below.

**Table 2: Main positive and negative elements of the Kirkpatrick model**

<b>Positive</b>	<b>Negative</b>
The model helps to understand educational programmes in a systematic way. It gives insight into the types of information that a programme can provide to study the educational process and its consequences.	It has never been proved that there is a direct link between the different levels, as Kirkpatrick assumes, though there is a moderating effect between the reaction level and the learning level: if one is satisfied about the programme he will more easily learn and if he learns a lot, he will more easily be satisfied.
Because of the importance of the fourth level, the model makes clear that it is absolutely necessary to link educational results with organizational benefits.	
The model structures in a simple way the complex process of educational evaluation.	Kirkpatrick assumes that each level provides more information than the former.

Even when considering the elements above, it is obvious that, if the only aim is to measure transfer, level 3 is the most important level (Smans: 2005). However, even if the trainee has learned a lot and even if he is satisfied, it is still possible that there is no transfer. Or there can be transfer, even if he is not satisfied about the programme.

Transfer occurs at level 3 and the effect on the organizational performance can be measured at level 4. The relation between transfer and performance has also been shown in the model of Kontoghiorghes (Pidd: 2004). The second level will be further examined in this paper.

## **4 PUMP: RESULTS FROM THE LEARNING LEVEL**

### **4.1 Describing the educational goals**

It was soon clear that the first step of this part of the research was to describe in detail the educational goals of the programme: if one wants to measure what the participants have learned, it is important to know exactly what kind of knowledge the programme wants the participants to achieve. The two universities made a detailed list of the topics and the educational goals of the programme. The educational institute of the Federal government was also involved in this process.

Though this process was difficult, because of the complexity of writing down precisely the educational goals and because of the several institutions involved, the result was highly satisfying. There was a consensus between the two universities about more than 90% of the educational goals and the topics of the programme. Because each university has its own specialties within the broad topics of the programme (for example, one could think that within HRM, the K.U.Leuven focuses on competency management, and the ULB on integrity), there was a risk that major discrepancies would be highlighted when the educational goals were written down. But this was, fortunately, not the case.

The major advantage of this exercise was that it would be a starting point to create the same measurement instrument for both groups. As such a high consensus was achieved, the two groups could be seen as one.

### **4.2 The measurement instrument**

The second level of Kirkpatrick can only be measured by doing two different tests: a zero-test, to find out what the participants know about the topics of the programme before entering the programme, and a final test where the newly achieved knowledge of the programme is tested. Comparison of the results from the zero-test with the results from the final test, indicates what the participants have really learned during the year. The difference between the two tests is the measurement of the learning level. Though there is no proof of a direct link between the learning level and the transfer level, its effect is important. How could one claim that there is transfer for example, if there is no certainty about the fact that participants have learned something? Or, how could one explain the lack of transfer, if there is no certainty about the fact that participants have learned nothing? Every conclusion about transfer would be highly hypothetical. Theoretically it is impossible to transfer an educational programme if nothing is learned from it. And that is why measurements on the second level are important.

Initially, the goal was to prepare two tests for the participants of PUMP: one at the beginning of the programme, and one at the end. Since the two universities and the educational institute of the Federal government had a consensus about the goals, a test

could be elaborated. Normally participants would have made a test at the end of the programme, because it was part of the assessment to accomplish, in order to receive the certificate of the programme. Therefore the participants could easily be persuaded to do an extra test, in this case, the zero-test, as this could be seen as a preparation exercise for the final one. However, the Cabinet of the Minister of the Civil Service decided that the participants of this programme should not do such a test, because they are already tested enough during the year (they have to do several presentations, make a dissertation about their practical period, fulfill a consultancy task, etc.).

It was clear that this was a problem for the research project:

- 1) It is impossible to test the achieved knowledge by the tasks the participants are fulfilling during the year. Besides, the zero test must resemble the final test, which in this case is impossible.
- 2) Creating two tests anyway and requiring participants to do them on a voluntary basis was not a valid alternative. Why would a participant do two tests (and spend two times 4 hours), with the risk that his results are bad? Creating two tests would require a large amount of work and with such a high risk of low response, it was not reasonable.
- 3) Requiring the participants to participate in the research project was rejected too.

Because of those contextual difficulties, it was decided to measure not the real knowledge, but the perception of the participants of their knowledge. Such a measurement instrument demands less time to complete and gives an idea of what the participants think they know before entering the programme. At the end they are asked to complete the same survey to compare those results with the initial, in order to compare changes in perception.

To have some kind of control we asked the participants of last year (2006) to complete the same questionnaire, so we could make a comparison between what new participants think they know before entering and what former participants think they know after the programme. A significant difference between the two groups would be some kind of evidence that the programme has at least changed the perception of their knowledge about public management and public policy.

### **4.3 Results**

In this section the results of the pre-training evaluation of the group of 2007 will be presented. Those results will be compared with the perception of the participants of the group of 2006 who had just finished the programme.

The results are the perceptions of the participants of their knowledge in the different sections of the programme: social and communication skills, public sector organization and public policy, Europe and eGovernment, strategic management and the functional management sections (HRM, financial management, etc.) and general competencies.

The statistics are purely descriptive: it is not the purpose of this paper to test any theoretical model. The main goal is to have a clear picture of pre-training and post-training perceptions.

#### 4.3.1 *Pre-training evaluation of 2007*

*Response rate.* In 2007 49 participants were selected to participate to the programme: 25 Dutch speaking and 24 French speaking civil servants. 48 participants filled in the auto-evaluation to determine their perception of their knowledge before entering the programme. The response rate was 98%. Only one participant did not fill in the form on time, i.e. before the programme started. Because this cannot be a valid zero-test, this survey was omitted from the analysis.

In the response group the gender proportion was almost equal- 50% male and female- and the majority of the participants were between 29 and 40.

*Reliability of the scales.* In Table 3 below the number of items for each variable is given, with its cronbach's  $\alpha$ , to determine the reliability of the scale. It is important to know that the variability has been calculated on the total response: the participants of 2006 were included, which means 70 completed surveys in total.

The table contains several subjects. The first subject is part of the unfreezing phase, as described earlier. As can be seen, the variables have a high reliability rate ( $>.70$ ). The variables measure the perception of the participants on their presentation skills, their capacity to contribute to teamwork and their leaderships skills.

The second, third and fourth subjects are the most important measurements of the second level: they measure the participants' perceptions of their knowledge. It is this knowledge that the programme tries to enhance in the first place, and it is this knowledge that can be transferred to the workplace. The reliability scores are very high ( $>.80$ ), which makes it reasonable to further analyse the data.

**Table 3. Validity of subject I-IV of the survey**

<b>Subject</b>	<b>Variable</b>	<b># Items</b>	<b>Cronbach's <math>\alpha</math></b>
I. Presentation and social skills	Presentation skills	5	.835
	Teamwork skills	3	.704
	Leadership skills	4	.703
II. Public Sector organization and public policy	Public Management	5	.916
	Public Management Reform	3	.908
	Copernic Reform	4	.900
	Public Policy	4	.948
	Public Policy Evaluation	3	.950
	Micro-organizational structure	5	.888
	Autonomy	3	.955
	Result Management	2	.954
	Privatisation	2	.960

III. Europe and eGovernment	Europa	11	.977
	EGovernment	9	.945
IV. Strategic management and the functional management sections	Strategic management	4	.869
	HRM	7	.930
	Financial management	7	.890
	BSC	2	.970
	Performance management	5	.962
	Quality management	5	.932
	Communication	5	.937
	Change management	5	.943

Table 4 presents the reliability results of the measured perceptions of the competencies of the participants. Those competencies are not explicit educational goals of the programme, but they must be present to perform in level A and to enrol in the PUMP. But of course, they can be further enhanced by the programme, for instance by the training period or the integration exercise. For this reason it is interesting to look at the perceived evolution of the competencies. If no evolution is found, then it is possible that the enhancement of competencies by the educational programme is minimal or even zero. However, this is also hypothetical, because the link between the competencies and the programme is probably indirect and vague. Furthermore, transfer will more easily be observed from the achieved knowledge than from the competencies. For example, how can one transfer, in a way that it is observable, the competency ‘innovating’, i.e. the way in which he thinks and act in an innovating way? The reliability is in 5 cases below .70. They will be omitted from further analysis.

**Table 4: Validity of the competencies scale**

Competencies	Description	# items	Cronbach's $\alpha$
Organizational insight	To understand and to have insight in the organizational functioning	5	.777
Network capacity	To identify the right partners for the organization and to elaborate strategic alliances	6	.774
Organizational vision	To develop a global mission, vision and strategy for the organization	2	.552
Auto developing capacities	To be open and flexible to changes, and to be willing to learn new competencies, skills, knowledge in function of the professional needs	4	.646
Innovating	To come up with new and creative ideas	5	.818
Collaborating	To share knowledge and information within the team and the organization, in order to achieve the expected results	10	.831
Deciding	To make the right decisions on time and to initiate the necessary actions for those decisions.	5	.775
Integrating	To be able to integrate data, considerate alternatives and make conclusions	3	.768
Teambuilding	To develop a real team, to handle conflicts and to consult team members	8	.828

Stress resistance	To have enough self-confidence to cope with stress and to respond positively to critique	7	.809
Capacity to analyse	To be able to reduce a certain topic to its constructing parts and to judge each part separately on its own value	2	.324
Entrepreneurial	To develop a strategic plan, organizational processes and structures, and to recognize and take opportunities to optimize results	2	.487
Conceptual thinking	To think in a conceptual way and to translate concepts to the workplace	2	.764
Organizational commitment	To have the commitment to reach the expected organizational goals	2	.394

*Results of the unfreezing and theoretical part.* Within the group of 2007 there is no significant difference between men and women, and between Dutch and French speaking participants for their perception of their knowledge, before entrance to the programme. This means that the whole group can be analyzed as one, because of the fact that differences between men and women, and between Dutch and French speaking are only due to hazard.

A summary of the scores can be found in the Table 5 below. For each subject the mean of the different scores of each subject related item was calculated on a scale from 0 to 5, where 0 means 'I have no knowledge at all on the subject' and 5 means 'I am an expert on the subject', it is obvious that the participants do not perceive their knowledge highly. The highest mean is 2.45 for the knowledge on strategic management. The percentiles are confirming the low perception of the participants. Except for the knowledge about Europe, 75% of the participants perceive their knowledge not higher than 3 for each subject of the programme. This makes it possible to conclude that the participants think themselves that they have a lot to learn, and that they do not overestimate their knowledge. In contrast, they perceive their presentation, teamwork and leadership skills rather high.

**Table 5. Mean scores and percentiles for the unfreezing and theoretical parts of PUMP**

	Mean	Perc. 05	Perc. 25	Perc. 50	Perc. 75
Presentation skills	3.24	2.00	2.58	3.20	3.60
Teamwork skills	3.59	2.68	3.40	3.60	4.00
Leadership skills	3.15	2.11	2.75	3.25	3.69
New Public Management	1.43	.00	1.00	1.40	1.80
Public Management Reform	1.69	.12	1.00	1.67	2.33
Copernic Reform	1.89	.75	1.25	1.75	2.50
Policy Analysis	1.60	.00	1.00	1.50	2.25
Policy Analysis Evaluation	1.36	.00	.67	1.00	2.00
Micro-organizational structures	1.66	.29	1.00	1.60	2.40
Autonomy	1.17	.00	.67	1.00	1.67

Result management	1.34	.00	.50	1.00	2.00
Privatisation	1.90	.00	1.00	2.00	3.00
Europe	2.39	.30	1.70	2.27	3.48
Egovernment	1.71	.05	1.00	1.56	2.31
Strategic management	2.45	.85	2.00	2.50	3.00
HRM	2.11	.91	1.71	2.21	2.43
Financial management	2.19	.66	1.64	2.00	2.93
Balanced Scorecard	1.69	.00	.00	2.00	2.50
Performance management	2.03	.00	1.00	2.00	2.80
Quality management	1.56	.26	.80	1.40	2.10
Communication	2.29	.47	1.80	2.30	3.00
Change management	1.84	.20	1.00	1.80	2.60

*Results of the perception on the competencies.* As for the other results, there is no significant difference in gender or lingual group for the competencies, except for ‘conceptual thinking’: there seems to be a significant relationship ( $< 0.05$ ) between the perception on conceptual thinking and gender, though the relationship is small ( $r = -.431$ ). Men seem to perceive this competency higher than women. A summary of the results can be found in the Table 6 below. For each subject the mean of the different scores of each subject related item was calculated. On a scale from 0 to 5, where 0 means that the respondent don’t estimate his competency highly and 5 means that he does, it is clear that the new participants, before entering the programme, do estimate their competencies highly. Almost every mean is higher than 3. When looking to the percentiles, this trend is confirmed: 75% of the participants gave themselves 3 or more in the majority of cases; 50% gave themselves more than 3, except for ‘conceptual thinking’.

**Table 6. Mean scores and percentiles of the competencies**

Competency	Mean	Perc. 05	Perc. 25	Perc. 50	Perc. 75
Organizational insight	3.30	1.94	2.95	3.40	3.80
Networking	3.16	1.63	2.83	3.17	3.63
Innovating	3.12	1.60	2.60	3.20	3.60
Collaborating	3.47	2.70	3.10	3.50	3.90
Deciding	3.37	1.87	3.00	3.40	4.00
Integrating	3.36	2.08	3.00	3.33	3.67
Teambuilding	3.46	2.63	3.13	3.44	3.75
Stress resistance	3.25	1.87	2.93	3.29	3.71
Conceptual thinking	2.61	1.00	2.00	2.50	3.50

#### 4.3.2 *Comparison with post-training evaluation of 2006*

*Introduction.* The purpose of comparing the perception of the 2006-group with the perception of the new group is to find out if there is a difference in perception. A difference makes it possible to assume that there has been progress in the learning level. Of course, a complete comparison between the two groups is not possible, because they consist of completely different people. However, there are also several similarities: they come from the same organization (federal administration), have received the same knowledge the new participants will receive, have a similar gender rate, have a comparable age profile.

*Response rate.* In comparison to the easily achieved high response rate of the new group, it was very difficult to obtain a decent response rate from the group of participants who had just finished the programme in 2006. Several times they were asked to fill in the survey: twice by e-mail, once by letter and once by phone. The response rate was 54% with only 22 persons completing the auto-evaluation to determine their perception of their knowledge after they had just finished the programme.

*Significance level and results for the unfreezing and theory.* Significance was tested for all the different topics from the programme. The Chi<sup>2</sup>-value was always below 0.05, which means that the chance that the difference is due to hazard, is very small. However, three topics did not achieve significance: Teamwork skills, Europe and eGovernment. There seems to be no significant difference between the perception of the group of 2006 and the group of 2007 for the knowledge about Europe and eGovernment. Significance levels were respectively 0.071, 0.543 and 0.161. Now we know that there is significance, it is interesting to compare the values of the two groups on the several topics of the programme. The list can be found in the Table 7 below.

It is clear that the group who had just finished the programme, have higher means. On the same scale from 0 to 5, they never have a mean lower than 3.05. In some cases they achieve a mean of 3.8 or 3.9. It is obvious that they do not exaggerate the level of their perceived knowledge. This means that they do not judge themselves as perfect experts in the several topics.

**Table 7. Comparison of the mean scores of the unfreezing and theoretical part, 2006 vs. 2007**

Topic	2006	2007	Chi <sup>2</sup>
	Mean	Mean	
Presentation skills	3.82	3.24	0.036
Teamwork skills	4.13	3.59	0.071
Leadership skills	3.70	3.15	0.024
New Public Management	3.16	1.43	0.000
Public Management Reform	3.37	1.69	0.001
Copernic Reform	3.80	1.89	0.000
Policy Analysis	3.27	1.60	0.004
Policy Analysis Evaluation	3.05	1.36	0.001

Micro-organizational structures	3.33	1.66	0.004
Autonomy	3.11	1.17	0.000
Result management	3.23	1.34	0.000
Privatization	3.18	1.90	0.001
Europe	2.88	2.39	0.543
eGovernment	3.22	1.71	0.161
Strategic management	3.85	2.45	0.003
HRM	3.80	2.11	0.001
Financial management	3.29	2.24	0.050
Balance Score Card	3.98	1.69	0.000
Performance management	3.92	2.03	0.009
Quality management	3.44	1.56	0.006
Communication management	3.85	2.29	0.002
Change management	3.81	1.84	0.001

*Significance levels and results for the competencies.* In Table 8 it can be seen that there is a significant difference between the new participants and the participants of last year in only one competency: ‘collaborating’. This means that, in general, participants estimate their competencies before entrance and after finishing the programme equally, still taking into account that the two groups are not identical. For the competency ‘collaborating’ it seems that the participants of last year estimate their competency higher than the new participants. The question is whether this is due to the educational programme, or simply to a difference in personality traits?

**Table 8. Comparison of the mean scores of the competencies, 2006 vs. 2007**

Competency	2006	2007	Chi <sup>2</sup>
	Mean	Mean	
Organizational insight	3.85	3.30	.161
Networking	3.71	3.16	.381
Innovating	3.76	3.12	.290
Collaborating	3.97	3.47	.007
Deciding	3.90	3.37	.204
Integrating	3.77	3.36	.422
Teambuilding	3.92	3.46	.102
Stress resistance	3.86	3.25	.065
Conceptual thinking	3.36	2.61	.079

#### 4.3.3 Conclusion

The results presented above make it possible to formulate some important conclusions. First, the fact that there is a significant difference in perception about knowledge between a group that has already finished an educational programme and a group that has just started, is relevant. The group of 2007 has the feeling that they can learn several things from the programme, and the group of 2006 has the feeling that they learned from the

programme. This is positive for the programme itself, because it makes it clear that the programme has a positive influence on the perception of people about the knowledge they have. In other words the programme seems to make a difference.

Second, if one thinks he learned something, it can probably be assumed that he actually has. Of course, this is only the case if he did not overestimate his own capacities in the first instance. The survey made it possible to add qualitative information to the scores. Several times the participants of 2006 responded that they had the feeling that the programme actually had taught them a lot.

Third, if it can be assumed that they have learned something, then it can be assumed that transfer can occur. In this stage of the research this is extremely important. If it could not be assumed, it would make it difficult to start looking for data about transfer.

Fourth: The results should not be overestimated. The data doesn't support a difference in perceptions towards the competencies, and, the data shows that both groups give themselves high scores on those competencies. This might be for several reasons:

- It is very difficult to estimate your own competencies. For example: how can one score himself on 'organizational insight'? It is clear that all participants must have this competency, otherwise they would not enrol in a management programme. The question is, how good is your insight? The participant will probably only be confronted with his pre-programme competency after he has followed the programme. Only then will it be clear that he has made progress, because of the programme. But this is vague at the beginning. So, there may be a difference between the groups, but this is not observable in the data.
- The link between an educational programme and competency is probably indirect and complex. Can a competency be enhanced by the programme, or is it because of an enhancement in knowledge? If this is the case, then the participant must learn something first to enhance his competencies. In other words: a competency cannot be enhanced without new theoretical knowledge. This seems logical, but it is important to know.
- It is possible that the programme only enhances knowledge. The participants receive the tools to strengthen their competencies, but perhaps it is too early to notice this already.

## **5 CONCLUSION**

The purpose of this survey was to discover the perceptions of new participants on PUMP about their knowledge before entrance to the programme. The same survey will be presented when they finish the programme, in order to find out whether there is a change in their perception. It seems that change can be expected for the unfreezing and the knowledge part, but not for the competency part.

Though the measurement of the second level of Kirkpatrick was a reduced form of the planned measurement the results are important: an expected change is positive for the research project, because it makes it more likely that transfer can be present after the programme.

Besides these interesting results several other aspects have become clear in this research project:

1. The political involvement in the testing of the participants makes it clear that the context in which this programme is organized is specific: PUMP is an expensive programme, supported by the Cabinet of the Minister and by the Educational Institute of the Federal Government. The latter tries to achieve consensus between the opinion of the Cabinet and of the different HRM-departments of the administration. The problem is that the two sometimes have different opinions about the programme. This was the case in the discussion about the testing of the participants. Finally, it was the Cabinet that decided what should or should not be done. And of course, this had an influence on the programme and on this research project. Besides the difference in opinions, another problem is that not all HRM-departments believe in the added value of the programme, which is fully supported by the Cabinet. But this support is crucial to recruit candidates.
2. The unexpected low response rate from the group that had just finished an intensive and expensive educational programme was disappointing. In the next stage of the research it will be important to encourage participation and to devise a way of increasing the response.
3. The consensus between the universities about the educational goals was surprisingly high. However, if the goals had been agreed from the beginning, the risk of a low consensus would not have existed.

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