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KNOWLEDGE GAIN AND ATTITUDE CHANGE DURING A DELIBERATIVE POLL: THE DP ON UNEMPLOYMENT IN THE KAPOSVÁR REGION

Introduction[1]

Deliberative Opinion Polling (DP) is a research method licensed by James Fishkin and Robert Luskin of Stanford University. DP tries to generate reasoned public opinion through a two-stepped process of (1) learning and (2) exchanging opinions during a deliberative weekend where expert-panels and small group discussions take place. The emphasis is on participation at all times and on involving ordinary citizens in public affairs[2].

An important premise of the whole method is an understanding that opinions are not given. Since opinions are not predefined, they can be changed, and this is how it is possible that a DP can affect them. The presumption behind the method is that being exposed to information and interaction leads to more coherent and reasoned opinions at an individual level.

The method consists of a general representative survey that is repeated with participants at the end of the weekend. Optionally, a set of questionnaires are recorded at the beginning of the weekend or/and as a follow-up, some time after the deliberation process.

This paper is a case study of the Kaposvár DP on the issues of the labor market and unemployment and the role of the European Union in these policy fields. It presents when and how learning (that is, knowledge gain and opinion change) take place during the deliberative process as measured through comparing answers to a series of questions from three quasi-identical questionnaires[3] recorded at different stages of the deliberation.

The original questionnaire was taken from a regional[4] representative sample in May, 2008. At the end of the questionnaire respondents had to indicate whether they wished to participate in a deliberative event. Those who indicated willingness to participate (or those who did not actively opt out) were invited. Invitations were mailed to 350 potential participants to attend the DP weekend on 21st–22nd June, 2008, out of whom 108 persons attended the event.

Upon arrival at the venue on the morning of 21st June, participants filled out a questionnaire once more (T2) and again at the end of the weekend during the afternoon of the 22nd June (T3).

1 The authors would like to thank for help and valuable comments Mária Székelyi, Antal Örkény, György Lengyel, Bori Göncz, Évi Vépy-Schlemmer, Anikó Gregor and Lilla Vicsek.

2 For a detailed analysis of the methods utility and history, see Herman, Z., Szociológia és politológia, A deliberative közvélemény-kutatás nemzetközi gyakorlata [Sociology and Political Science, The International Practice of Deliberative Opinion Polling], in Örkeny, A, Székelyi, M. eds., 2007, pp. 17-40

3 In the case of the Kaposvár DP, T1 has a section concerning democratic values and T3 has a feedback section; policy and knowledge questions are identical.

4 For an explanation of terms, see next section.

T1, T2 and T3 questionnaires were all interviewer-assisted, self-administered questionnaires. Respondents had about 60 minutes for the task each time. While filling out the questionnaire they were not allowed to use any help (e.g. from the information brochure) or talk to anyone. However, the interviewer (during the first round) and the moderator or the moderator's assistant (during the second and third round) assisted the participants if they needed help in filling out the questionnaires. This permits comparison of answers without having to consider the impact of different questioning methods.

The three identical questionnaires consisted of the following 3 sections:

- a first section about economic insights with a special focus on employment and unemployment issues and labor market policy, including the government's role;
- a few questions about the EU and its role in employment policy, and;
- a section on general factual knowledge.

In the present paper the first and the last sections are analyzed.

The paper focuses on the change in knowledge and opinions of participants between the times that the questionnaires were filled out, and on highlighting what kind of typology can be depicted when viewing these trends. The paper refers to the time between T1 – T2 as the process of information and the time between T2- T3 as the process of deliberation[5].

The paper is constrained to the three questionnaires and does not deal with the follow-up and further effect of the DP, even on a theoretical level, for reasons of brevity.

The authors choose not to analyze socio-demographic variables when presenting change within the limits of the present paper. All typologies are based on the patterns of learning or attitude change.

The structure of the paper is as follows:

First, there is a short presentation of the subject of research, the hypothesis utilized in the paper and methodological considerations, as well as methods used. Then the results on knowledge gain, attitude change (and the two combined) are presented in the next three sections. General findings are summarized in the conclusions section.

HYPOTHESES

As cited above, two major dynamics dominate the process of reasoned opinion forming according to deliberative philosophy: knowledge gain and opinion change. The paper tests a set of hypotheses for each process and a third set of hypotheses is presented regarding the mutual and inseparable effect of the two processes; that Is, knowledge gain and attitude change from one question in the last section.

The three sets of hypotheses about change are presented in this section as well as two general assumptions underlying DP.

The first set of hypotheses is that (a) nearly every participant undergoes knowledge gain and (b) that there is a time structure to this knowledge gain. In this paper the authors test Hansen's conclusions about knowledge gain during a DP. Hansen's detailed analysis of the dataset of the Danish Euro DP suggests that:

> *"about one third of the participants learn before as well as during the DP, whereas a little less then one third only learn before, and a little less than one third during the deliberative poll."(Hansen, 2003, p. 128)*

5 As referred to by Hansen in Hansen et al., 2004

As presented above, the hypothesis is about determining the knowledge gain of the participants. The problem of guessing at answers needs to be mentioned at this point. The question is whether knowledge gain is due to guessing or not. The methodological impact of this question is analyzed in detail in the next chapter.

The second set of hypotheses is about opinion-change and attitudes.

Hypothesis[6] (a) is that a typology of the participants can be constructed regarding how they change through the information and deliberation process; separating people who have stable attitudes from people who change. This hypothesis indicates an underlying belief that that there exist a stable group of people who do not undergo attitude change (because they already have well-formed opinions and their opinions do not change during the information and deliberation process) and there is a group that changes consistently.

Hypothesis (b) is that the time structure of the attitude-change is non-random: it is focused around the deliberative process, meaning that a greater part of the change occurs during the weekend and that participants experience only a small change prior to the weekend.

In the third section, the paper examines how knowledge gain and attitude change cannot be as easily separated as suggested by Fishkin when trying to proximate salience.

> *"The more salient the issue, the more it will tend already to have been deliberated, however imperfectly. {...} Salience can be proxied at the level of the DP by the mean T1 knowledge score or at the level of the policy attitude index by the proportion of respondents giving "no opinion" (NO) responses to the items composing that index."(Fishkin et al, 2007, p. 7)*

Through the notion of salience the relationship of the two main concepts of this paper can be seen. In the paper this inseparable relation is presented through an example in this case study: the question of unemployment is presented as an example of this mix of knowledge level and attitude index.

The third hypothesis is that somehow the processes of knowledge gain and attitude change work together[7] and that the greater, more significant changes takes place in the second phase (that is, during the deliberative event). This assumption is made because the authors suppose that the two mechanisms strengthen each other and work together to promote learning and the emergence of well-formed opinions by the end of the process.

The additional assumptions of the paper about the interpretation of change are the following:

First, while testing the hypothesis and analyzing the data it has to be kept in mind that there was no non-participant control group with which to compare the effect of this socio-psychological experiment. The lack of a control group means that the analysis cannot define what part of the changes are not due to the participation in a DP and what part of the changes could have taken place due to the weekend. Of course, this theoretical problem has a greater practical importance when the DP is about a "hot" issue that is being intensively debated by the general public at the same time. In such a case, during the information process potential participants may be especially motivated to look for information about the issues in the media and to talk about them in their own environments. Yet during the deliberative process the effect of the weekend is viewed as a personal experience between T2 and T3. This means that the effect of other external changes cannot be accounted for. For example, in the present case we cannot estimate the effect of the ubiquitous media-discourse/debate on work-related allowances started by the Mayor of Monok after the first recording had taken place (at one of its peaks in the second half of June - see later in the paper).

6 Based on: Koltai, J., Lippényi, Z.: Beszéljünk róla? {Let's talk about it?} in: Örkeny, A, Székelyi, M. eds, 2007, pp. 105–132

7 As it has also been suggested by Antók, P., Ignácz, Zs. – Csanytelek – egy dél-alföldi falu lakói a Magyar Agorán {Csanytelek –Residents of a South Hungarian Village at the Magyar Agora} in: ed Örkeny, A, Székelyi, M., 2007, pp. 231-258

In DPs the control group is usually a sub-sample of the representative sample (T1) and is statistically as similar to the participants as possible. The T3 questionnaire is recorded with the group at the same time as the DP participants fill it out; that is, at the end of the weekend. Fishkin describes the function of the control group in the New Haven case as follows:

> *"Several previous Deliberative Polls have therefore compared the participants to "quasi control groups" consisting of either reinterviewed "nonparticipants" (members of the initial random sample who declined to participate) or an independent random sample interviewed at roughly the time the Deliberative Poll was ending. These comparisons lend some considerable assurance that the before-after changes do indeed result from something in the Deliberative Polling experience." (Fishkin et al, 2006, p. 4)*

Second, all our hypotheses presume that change is due to the DP, although this assumption is not so straight-forward, as the theoretical introduction to Fishkin's paper "Desegregating Deliberation's Effect" explains:

> *"One question is the extent to which they result from the Deliberative Polling experience at all. The whole public, after all, could be changing at the same time, in the same ways, and to the same degree. That may be generally unlikely but is at least possible for issues sufficiently in the headlines and on people's lips."(Fishkin et al, 2006, p. 4)*

Still, for the present analysis the authors retain this hypothesis (or rather presumption or axiom) during the analytical procedure and do not test it due to a lack of resources, and because they feel that this is not the subject of the present paper.

Method

The sample

In this paper the authors claim that the sample is actually a population which consists of all the participants of the DP weekend that filled out T2 and T3.[8] The following analysis was undertaken with those 108 participants who filled out all three questionnaires. Thus, the paper treats them as a whole population (like participants in an experiment). This is done for several reasons:

- firstly, because previous research has shown that this is by no means a random sample. The underlying assumption of the authors is that there are certain trends that condition actual participation in a DP weekend.[9]
- secondly, because the sample is too small and significance levels would need to be very low for any assumptions to be made about the population of the Kaposvár region. Moreover, this is not an objective of the present paper.
- thirdly, because the authors have no intention of comparing any results of participants with non-participants: there is no intention to draw any conclusions about those who did not participate in the weekend.
- finally, because the method itself is of an experimental nature; through its construction and stated goal of creating more reasoned opinions by increasing the knowledge level and reasoned attitude change of participants.

8 Since all contactable potential invitees have by definition filled out the first questionnaire.

9 For a detailed analysis in another case study see, Gregor, A., Menni vagy nem menni? [To go or not to go?] in ed Örkeny, A, Székelyi, M., 2007, pp. 79-104

An addition to these arguments is the fact that the three questionnaires can be viewed as three sub-samples of the population, each with n=108 and dependent on each other.

Since the 108 people do not constitute a random sample for the above-mentioned reasons their distribution is unknown. From this it follows that statistical tests that operate under normal distribution or any other given known distribution cannot be used in this case. The analysis therefore operates with the use of non-parametric statistics when comparing the three questionnaires. [10]

The advantage of non-parametric statistics is that no assumption of distribution is needed to estimate if two samples can be considered alike. This feature is used to evaluate if the results at the three intervals are dependent or if the obtained results could be due to pure chance.

The non-parametric statistics applied in this paper operates using rank estimation. This means that the method does not calculate with means or another parameter as a parametric counterpart would do, but puts the cases in order according to their values and then works using rank scores and not the actual values of the cases. In this case, the method applied seemed to be the best for deciding whether there are significant differences between the information process, the deliberation process and the overall change, since all other commonly-used methods carry the underlying assumption that the sample being tested is derived from a population with a certain distribution (in most cases a normal distribution). As already mentioned, these circumstances do not apply to the participants of the DP.

Firstly, the question of guessing is discussed from a methodological point of view, as was previously mentioned in the presentation of the hypothesis above. This is a crucial point of reference to all that is said in a paper about learning. When discussing knowledge gain, the authors need to test if the amount of correct answers is due to guessing or rather is accounted for by a conscious answer-giving attitude. In practice, problems occur when trying to focus on this conscious answer-giving attitude since each question presented had four possible answers and a fifth option (do not know) from which one answer could objectively be said to be correct while the other three options were wrong. Thus, respondents had a 25% chance of getting the correct answer, assuming they did not choose to answer "do not know" or leave out the question.

The following solution is proposed to this problem: guessing is determined with the help of a non-parametric test; namely Wilcoxon's paired rank test. With this test the acceptance of the H0 (that the two variables are independent of each other) means that the knowledge gain/loss can be due to pure chance alone and thus be considered random, meaning in practice that there are no conscious answer-giving patterns among the participants. In each case the questions are tested and the results are presented at a significance level of 0.05.

The presented problem does not apply in an identical way to the second type of questions tested in this paper. In the case of opinion change, the question needs to be put in a different way, as the change can be viewed in a more classical statistical light: do two values mean an observed change of opinion – or from a statistical point of view, can they be treated as the same value? But in dealing with a population, no traditional significant benchmark needs to be applied - in a population all values are significant. Instead, the authors concentrate on notable opinion change. The specific benchmarks used are to be discussed in a later Chapter: "Opinion change – attitude differences".

The methods used

As written previously, the aim of the paper is to identify the change in knowledge gain and attitudes that have taken place during the DP.

10 For other application see, Koltai, J., Lippényi, Z.: Beszéljünk róla? [Let's talk about it?] in: ed Örkeny, A, Székelyi, M., 2007, pp. 105 - 132

In order to statistically represent this, the following multivariate analysis methods are used:

- Factor analysis is applied to determine hidden dimensions of how participants viewed different topics, and what kind of categorization structures dominated at the three different times. This method is also used as a guideline for the aggregation of multiple variables.
- Hierarchical cluster analysis: with the help of this method homogeneous groups can be built to typologize the quality and quantity of the change.

Due to lack of space, the questionnaires and the detailed results of cluster and factor analyses are not included here but are available from the authors on request.

KNOWLEDGE GAIN

The first part of the paper examines how learning or knowledge gain takes place during the DP. Knowledge gain in this context is defined as the change in level of respondents' factual knowledge based on the information section of the questionnaires. Knowledge was measured using 9 multiple-choice questions where there was always one correct answer to a question[11]. This chapter uses all questions from the general knowledge block (that is, inf1 to inf9) from all three iterations of the questionnaire.

Knowledge gain is one of the clear objectives of DP on a normative level. DP is about educating citizens; it is a civic education project as conceived by its creators[12]. Learning is perceived as increasing knowledge in practice and working against the reinforcement of prejudice. In the present paper, the normative aspect of the issue will be disregarded as the analysis focuses only on the observed level of change and not on its meaning (direction) and potential effect. However, the authors feel that this is a very interesting issue that definitely deserves further attention as it is at the core of the whole philosophy of the DP method.

To measure knowledge gain, the source of knowledge firstly needs to be defined. The DP method makes certain assumptions about the knowledge-base used by the participants when filling out the questionnaires. At T1 the participants answer using only their previous knowledge; that is their original, non-DP affected competence on the issue in question. Then, during T2, they use information included in the brochure alongside any other information that the potential participants absorbed during the information process as they became more alert to the topic. Hansen, when writing about the Danish DP on the Euro suggests that:

"Before the actual deliberation the participants have an incentive to seek information, which they can use during the deliberation. Accordingly, the participants may follow the media more closely than usual, or intensify their discussion on politics with family, friends, and colleagues." (Hansen, 2003, p. 108)

Finally, during T3 they undergo knowledge gain from the DP weekend, which includes the involvement of expert panels and small group discussions[13]. Hansen explains why there is knowledge gain during the deliberation process in the following way:

> *"The potential the deliberation increases the information is confronted by arguments suggesting selective learning patterns and, in a worst-case-scenario, even reinforcement of prejudice." (Hansen, 2003, p. 108)*

11 The correct answers are in all three questionnaires: inf1 - code 2 (8%), inf2 - code 2 (8%), inf3 - code 3 (15%), inf4 - code 1 (Kaposkeresztúr), inf5 - code 2 (Igal), inf6 - code 2 (services), inf7 - code 3 (34%), inf8 - code 1, inf9 - code 3 (38%)

12 For a discussion of what the civic education project entails see Herman, Z., Szociológia és politológia, A delibarative közvélemény-kutatás nemzetközi gyakorlata [Sociology and Political Science, The International Practice of Deliberative Opinion Polling], in ed Örkeny, A, Székelyi, M., 2007, pp. 17-40

13 Nota bene: many of the participants had the brochure with them and attempted to use it as an active tool during the weekend.

The information brochure, as the only concrete common source of information to all participants plays an important role during the information process[14]. There are other sources of information that may also play a role during the information process, like media and local rumors, but researchers can never be sure to what extent these are truly common to all participants and cannot control them. In addition, the information brochure is also the only point of external reference apart from the panel of experts involved during the deliberation and therefore it also affects the answers given at T3. Consequently, the knowledge provided by the brochure in comparison with the knowledge level measured by the correct answers to inf1 to inf9 merits detailed description, as it is of elemental importance, being the main source of information to all participants before and during the DP.

If one checks to what extent the information questions are answered in the brochure; that is, if we examine the brochure assuming it to be our only source of information about the issue, the following can be said: questions inf1 and inf2 are in the graph on page 12 of the brochure, which is later included in the brochure as the main introductory chapter. We find EU, Hungarian and regional data about the employment rate for 2008 (the questions apply to data from 2006) and the unemployed/active rate for Somogy county in 2007[15] in this first section. The graph providing the correct answers for inf1 and inf2 is hard to locate and find answers from (for inf1), since the list is in order of the rate of unemployment in each member country of the European Union, so if the respondents are not looking for the answer directly it is not likely that they will remember this particular piece of information. The correct answer to question inf3 could be read from the part of the brochure dealing with the labor market on page 5. Questions inf4 and inf5 can be found in the list provided on page 4, but again, similar to the case of inf1, the list is long and is in alphabetical order, and the respondents would have to look especially carefully to find the correct answers. Answers to questions inf6 and inf7[16] can be found in the text, and later on in a following chapter inf8 is also answered (see next section). inf9 is the last question, the answer to which is presented in a table about the county, not the region. The impact of the brochure-content on learning is tested in a sub-section about the effect of the question.

The hypothesis is a comparison of what change takes place during the information process and the deliberation process and whether this change is grounded change or random change. This is presented in the global level of knowledge at T1, T2 and T3 as the knowledge level increases, and through examining the trends of change through the connected questions while trying to exclude the possibility of guessing.

Knowledge level at T1, T2 and T3

As presented above, knowledge level is measured by the number of correct answers provided by the respondent to the multiple-choice questions at each time. Table 1 shows the percentage and the cumulative percentage of the number of correct answers the participants gave at the three recordings. We can see from the table that the number of people who could correctly answer a higher number of questions increased. It can be seen that out of nine questions the highest number of correct answers was 8 which was attained by only one respondent in each case[17]. It can also be observed that during the information process the ratio of 4 or more correct answers does not change (at 34.3 %), but a more important quantity of information is accumulated during the deliberation process (41.7 %).

14 As mentioned above, the brochure was mailed to the participants before the weekend.

15 Brochure, p. 1

16 Brochure, p. 5

17 In T1 and T2 a 34-year-old man who had completed vocational school and in T3 a 59-year-old woman with a university degree.

Table 1 **Number of correct answers, cumulative percent**[18]

Number of correct answers	Initial questionnaire (T1)		Pre-weekend questionnaire (T2)		Final questionnaire (T3)	
	Percent	Cumulative percent	Percent	Cumulative percent	Percent	Cumulative percent
8*	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
7	0.0%	0.9%	2.8%	3.7%	5.6%	6.5%
6	1.9%	2.8%	3.7%	7.4%	7.4%	13.9%
5	12.0%	14.8%	12.0%	19.4%	15.7%	29.6%
4	19.4%	34.3%	14.8%	34.3%	12.0%	41.7%
3	16.7%	50.9%	21.3%	55.6%	20.4%	62.0%
2	18.5%	69.4%	16.7%	72.2%	19.4%	81.5%
1	23.1%	92.6%	18.5%	90.7%	13.0%	94.4%
0	7.4%	100.0%	9.3%	100.0%	5.6%	100.0%

* Nobody had 9 correct answers in any of the three questionnaires

The first observation to be made from the table above is that a relatively low level of knowledge is initially displayed, since before the DP half (50.9 %) of the participants correctly answered just three or more questions out of the nine questions. This amount increases somewhat in the following two questionnaires, first to 55.6 % before reaching a level of 62 %.

It has been observed in other DPs that, in general, measured information gain is constrained by ceiling effects. Those participants who start at or near 100 % percent of correct answers can show little if any gain during the information and deliberative process (Luskin, 2001, p. 1). In the present case study the average number of questions the respondents managed to answer correctly at T1 was 2.7, with 2.8 questions at T2 and 3.3 questions at T3, respectively. This suggests that the average participant learned the answers to about 0.5 questions from T1 to T3. This knowledge gain is minimal in the authors' view.

Next, *Table 2* shows the number of correct answers from all participants at T1 as compared to the participants of the overall survey. It shows that the level of knowledge of participants is actually 0.3 percentage-points higher than the general sample. This should be considered an important difference in the present case, given that the DP increased knowledge by on average about 0.5 per question.

On the other hand, the low level of original knowledge in both the whole sample and the DP participants also suggests a floor effect[19], which is the opposite of the ceiling effect and would also explain the original minimal level and the rather insignificant knowledge gain. A floor effect happens when knowledge gain is strongly affected by the fact that the original level of knowledge is very low, and further suggests that not only are questions too complicated for participants to answer at T1 but the they are too difficult to learn during the DP.

18 Friedman Test: Asymp. Sig.: 0,028***

19 Term used by Hansen, 2003, p. 108

Table 2 – **Comparison of participants – representative survey: number of correct answers to knowledge questions**

	Mean	N	Standard Deviation
General survey	2.37	1412	1.75
Weekend Participants	2.67	108	1.66
Total	2.39	1520	1.75

The data presented above leads to the conclusion that the question of the Kaposvár DP produces a floor effect.

The effect of the question

In this section, the authors test whether the type of question affects learning. The authors test to what extent the actual information-content and the structure of the question affects answering correctly in the DP.

Firstly, there is a comparison between numerical-statistical data, where respondents either had to choose the right answer from a set of percentages (inf1 inf2 inf3 inf7 and inf9) or from in-text composed answers (inf4 inf5 inf6 and inf8). The aggregated change in "percentage" questions is not significant; that is, the results are very probably due to pure guessing. On the other hand, "textual" questions are significant in both two change dimensions at the following Wilcoxon's test significance: deliberation process is 0.01*** and overall change is 0.00***. The mean of knowledge is 1.52 questions at the first, 1.71 at the second and 2.00 at the third recording. Consequently, data indicates that the average 0.5 question learned by the participant is rather a "textual" question.

Second consideration: it is no surprise that knowledge gain is hard to observe, especially between T1 and T2 when it can be difficult to find the information in the briefing material and to answer correctly would take further personal research[20]. The other possibility for participants to acquire this knowledge is actively taking part in the deliberation. It is of course quasi-impossible to determine where and how the answers came up during the weekend, so due to lack of information this aspect of knowledge gain is mentioned but not further examined.

To examine the above-analyzed issues, a question typology was constructed according to the content of the brochure; more precisely, addressing to what extent the questions are answerable from the main source of information for participants (the brochure). Accordingly, there are three categories for questions, as follows:

- Easy to answer from the brochure: clearly and easily answerable based on the brochure (inf2 inf6 inf8);
- Although the answers can be found in the first section of the brochure, the wording of the text makes it hard to give a direct correct answer (inf3 inf7 inf9);
- Difficult to answer based on the brochure because the answer is hidden in a large list of information. The correct answer can be given based on the brochure if one is really looking for the particular answer, but it is unlikely to be found by leafing through or not specifically seeking to learn it (inf1 inf4 inf 5).

The significance levels for the deliberation process and T1-T3 are the following:

20 It has also been already mentioned that not all participants read the brochure before arriving at the meeting (certain of those who received it did not read it and some others did not receive it by mail in time).

Table 3 – **Brochure content (means, significance)**

	Wilcoxon's rank test - significance levels			Means of number of correct answers		
	Information	Deliberation	Overall	T1	T2	T3
Easy to find	0.454	0.031	0.019	0.91	0.99	1.16
In the text	0.906	0.418	0.314	0.75	0.74	0.83
In a list	0.290	0.012	0.004	1.01	1.11	1.31

All significant changes are found during the deliberation process or in the overall perspective (T1-T3), but no significant changes are witnessed in the information process. There is a slight increase in the means that is more important in the first and last cases, and a nearly insignificant increase in those answers that can be found in the next. One cannot specify, however, which type of question the respondents learned on average, which suggests that the different categories of questions in the brochure did not really affect the low learning outcome.

The conclusion of this section is that the type of question strongly affected the minimal learning that took place and that the brochure helped learning to a very limited extent only. In a more general manner it can be said that some of the questions were difficult to answer from the briefing material, which may be one of the reasons that knowledge gain during the information process was moderate. Another reason could be that some participants did not study the material before the meeting.

Learning during the process of information and the process of deliberation

In the next section the analysis is further developed to see the distribution of those who gained information. Analysis is done at the individual level and not from the perspective of the questions as in the previous section.

Firstly, from the perspective of individuals the number of participants who learned the correct answer to at least one more question is presented in *Chart 1.*

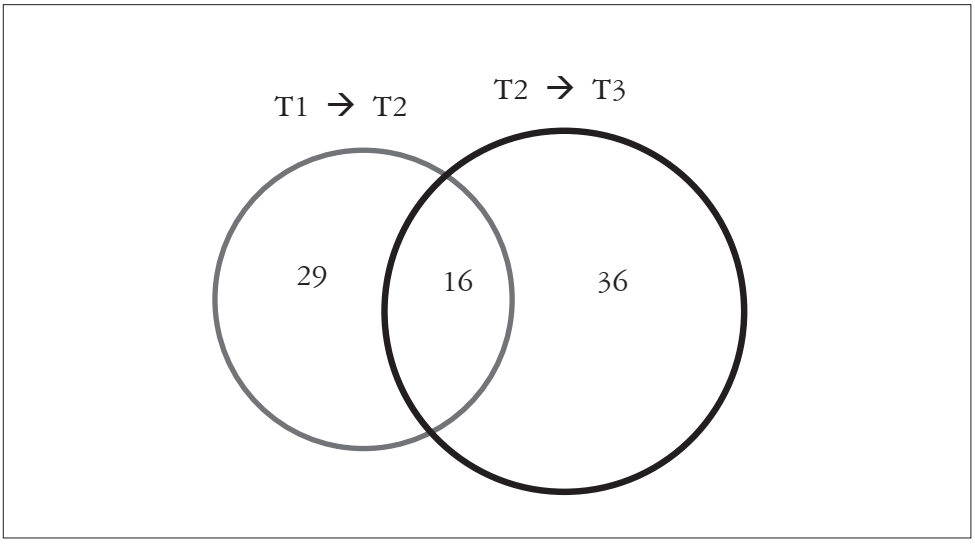

Chart 1 – **Knowledge gain (Venn diagram)**

During the information process 29+16=45 participants[21] knew the answer to one more (unconnected) question: this means that (in this statement) it is not tested whether the participants learned a whole new question or forgot the correct answer to one but rather learned two questions during the process. On the other hand, connecting the questions means monitoring the change in correct answers to each question on its own. This means that one concrete question is monitored at one time: do numbers of correct answers change from one time interval to the next? This is detailed in the next section (Detailed Trends).

Focusing on Graph 1 a total knowledge gain is evident; the same figure for T2 to T3 (process of deliberation) is 36+16=52.The overall change in all cases is 81 (36+16+29).

During the information process, change can only be accepted at the weakest level, since two-tailed asymptotic significa nce is 0.286*. Since the authors have not chosen to work at this level of significance, the difference is considered to have occurred due to pure chance. The T2 to T3 change is, on the other hand, significant (0.004).The overall change is also significant (0.005).

In the next section (which still does not connect the questions) the paper examines the total knowledge gain and loss during the overall process, and during the deliberation process in detail. It is done in this split format because of the above-mentioned significance. In the paragraph above it was noted that the change during the information process is not significant and thus likely to have occurred due to pure chance. Consequently, there is no chart to show the change between information processes (due to a lack of significance).

The next two charts present the results that are significant: chart 2 shows distribution of knowledge gain and loss during the deliberation process and chart 3 shows the knowledge gain from the overall perspective.

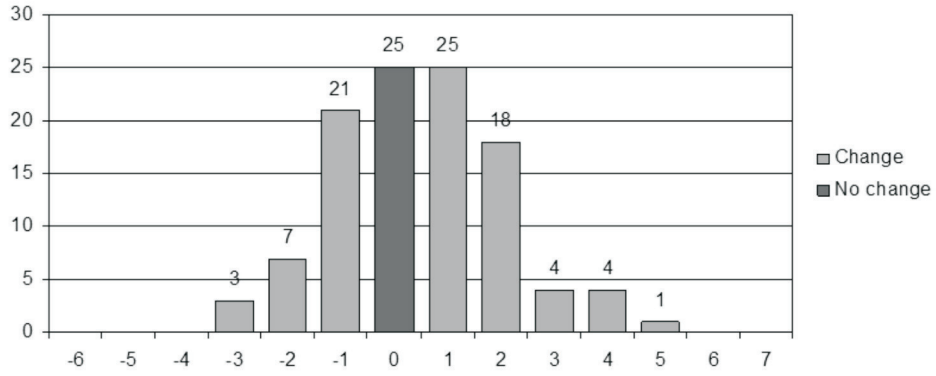

Chart 2 – **Knowledge change in the deliberation process**

The no-change bar represents 25 people who have the same number of correct answers at T3 as at T2. Knowledge loss is displayed as a negative scale (21 at minus 1 means that are 21 people who got one less question right at T3 when compared to T2). The bar at plus five means that there is one person who knew the right answer to five more questions at the end of the weekend than he/she knew at the beginning. Looking at the chart it may be seen that knowledge gain is somewhat more important than loss. However, if no change is added to the negative, the above-mentioned poor level of knowledge-gain is clearly displayed.

21 The paper talks about numbers and not percentages, since the n is a population, for the above explained reasons.

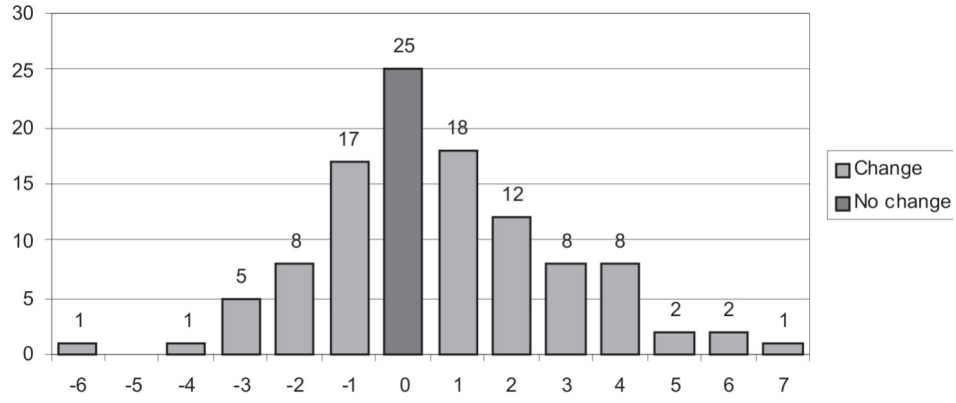

Chart 3 – **Overall knowledge change**

Then, looking at the overall change (T1-T3), the spectrum of scale chart 2 is much broader. Knowledge gain is more significant and even after adding "no change" knowledge gain is apparent in over half the participants[22], as chart 2 presents.

This section shows that the majority of learning (especially, effective learning) takes place during the deliberation process, and that the overall change is significant and positive but of a low level, only affecting just over half the individuals participating in the DP.

Detailed trends

In the last step of the analysis the authors connect the questions and present how change takes place if the comparison is not global, but calculated taking each question into account on each of the three occasions. In this altered construction, significances change and it is possible to compare the information process to the deliberation process to test part of the original hypothesis about knowledge gain. Moreover, the connection of the questions on a theoretical level means more consistent, steady and persistent knowledge and allows for better exclusion of guessing than the previously-presented overall knowledge treatment.

In the following two tables knowledge loss and increase of knowledge are presented with the number of questions that were in this category and the number of participants in the given case. The tables show that decreasing knowledge is statistically significant, while increase in knowledge is not significant in a statistical sense. This result can be interpreted as a coincidence: the fact that the population gained knowledge during the DP was a coincidence[23]. As for decrease, nearly twice as many people stop forgetting answers after the deliberation process.

22 As mentioned above, at an average of 0.5 questions.

23 Significance in the information process and the deliberation process is over 0,05

Table 4 – **Decrease in knowledge**

Number of questions where information was lost	Decrease*	
	Information Process	Deliberation Process
0	28	50
1	41	39
2	26	15
3	9	4
4	3	0
5	1	0

* Asymp. Sig.:0.000***

Table 5 – **Increase of knowledge**

Number of questions where information was gained	Knowledge gain*	
	Information	Deliberation
0	34	36
1	27	36
2	22	21
3	16	9
4	8	4
5	1	2

* Asymp. Sig.:0.174**

These tables also support the conclusions that have already been made about the insignificance of change in knowledge level during the information process and show a significant decrease in the low level of knowledge using the more consistent model that follows the questions.

As a conclusion, it should be noted that this section underlines even more the importance of the (previously-mentioned) guessing factor and the pertinence of the floor effect. Though the increase of knowledge is not structured, the decrease follows a particular pattern. This supports the findings of the previous sections about the type and detail of change that took place in each process.

OPINION CHANGE – ATTITUDE DIFFERENCES

The second part of the paper deals with opinion change. The main question addressed in this section is what kind of change did participants undergo during the DP about the Hungarian economic situation, and how is this affected by the information and deliberation processes?

In opinion polls, most papers talk about the attitudes of the participants. In the case of the DP according as a civic education project, attitudes are handled as non-given opinions that can be changed, modified, redefined and their states presented at different times. Hansen (Hansen, 2003, chapter 5 section 2) presented this modification as a sort of crystallization of opinions: as different topics are being discussed, participants consider what they are being told and remodel their opinions and the strength with which they hold them to some extent. This opinion crystallization can be of two types: either opinions are confirmed and strengthened, since

the underlying values of opinions are set in the center of focus or there is a change of opinion. This change can mean that opinions consistently move towards one direction of thought or alternatively undergo great change that opens up the world of the opinion-holder, with the opinion becoming more inconsistent and potentially giving way to confusion, uncertainty and illogical attitudes. Hansen summarizes the problematic as follows:

> *"Initially individuals may not have consistent opinions about the issues. Their opinions might be incoherent and vary strongly over time and according to the latest argument presented to them. Th{r}ough deliberation the individuals are forced to articulate their opinions and these opinions are confronted by other opinions. In such deliberative process the individuals will potentially develop a more coherent opinion structure, their opinions would be more stable and less subject to change. On the other hand the deliberative process might also leave the participants more confused as they now see how complex the problem might be. In such a cases the participants opinions actually less stable and less consistent as the participants understand that the problem is many-sided and, accordingly, have difficulty in deciding" (Hansen, 2003, p. 108).*

Theoretically, this leads to three possible outcomes with post-DP attitudes:

- no change regarding strengthening of opinion;
- more coherent opinions towards one end of the scale/one policy option; or,
- a set of more confused opinions where the participant has understood the complexity of the problem, but the DP was not enough to set the person on a consistent opinion track.

DP experts have further reflections on the three possible outcomes. On the one hand, Fishkin claims that, as far as attitude is concerned: "statistically significant net change is far more the rule than the exception but that it varies across issues and settings" (Fiskhin et al, 2007, p. 2). Thus Fishkin thinks that the stabilizing group either does not exist or is a minimal part of the sample.

On the other hand, Hansen claims that option towards coherence is the most common outcome, when he says that:

> *"Generally speaking, increasing correlations are found between the statements in each set during the process of information {information process}[24] and the process of deliberation {deliberation process}[25]."(Hansen et al, 2004,p. 275)*

Regarding time lapse through the DP process, the general hypothesis is that change occurs mainly during the deliberative phase as the motor of attitude-change is discussion that takes place in small groups (that is, the formal deliberation)[26]. Discussions may take place outside this context and even before the deliberation process, and this and the knowledge gain are the elements which account for the attitude-change during the information process.

The following part of the study focuses on the scale and structure of opinion change on the following five topics:

1. macroeconomic issues;
2. foreign investments;
3. employment effects on the labor market;
4. the perceived connection between government and unemployment issues; and,
5. illegal markets.

24 t0-t1 in Hansen's analysis, changed by the authors for clearer understanding

25 Information process in the original text, changed for easier comprehension

26 Fishkin emphasized this when trying to distinguish between the deliberative experience and deliberation: for example: Fishkin et al, 2006, p. 4

Apart from these five major topics which are dealt with in this section, an additional topic (unemployment-related) is presented in the next chapter because of the coexistence of attitude change and knowledge gain in the particular question.

The authors decided to divide the key questions into several topics for two main reasons. Firstly, the amount of data being handled is immense, so there is a danger of a high percentage of missing values. Secondly, there is the possibility that for different topics the response trends will differ.

In the following sections of the chapter each topic is analyzed in two ways. As all topics consist of variable groups the authors' goals were to examine these groups as follows:

- to determine the size of the change by concluding if the shift in the value of the variables is notable or negligible,
- to attempt to formulate patterns of opinion change within the given groups through focusing on the phenomena Hansen has described.

Due to the fact that the sample is dealt with as a population, there is no need for significant level testing. Notable change is determined with the help of scaling of the questions: change exceeding 5% or 10% of the overall scale of the variable is considered notable change. After examining to what extent the values of the variables shift during the two processes, cluster structures are constructed to help analyze the typical characteristics of the change that the respondents have undergone. The authors focus is on the direction and intensity of change during the two processes; they therefore work with an aggregated variable in each case and measure the percentage of change in the variable. This means that the different responses were aggregated taking into consideration the scale of question. The change is standardized. The authors tried to produce statistically stable cluster structures[27] and an attempt is made to interpret these cluster structures. It has to be emphasized once more that the paper makes no attempt to describe the contextual meaning of the variables. The focus lies only in the extent of change.

Macroeconomic issues

The core of this topic is comprised of three questions concerning macroeconomic issues. These variables concerned whether respondents favored or opposed different macro-structural issues such as tax payments, innovation or the question of whether the state should own enterprises or not. *Table 6* shows the values of two variables shifting during the informational process, while only one changed again during the deliberation process (highlighted in the table in bold).

Table 6 – **Opinion change on macroeconomic issues**[28]

Variable	Question	Scale	Means			Change	
			T1	T2	T3	T1T2	T2T3
q2_3	Do you favor investing in new technologies?	1-5	4.41	4.37	4.55	0.04	0.18
q3	Enterprises should be state owned (1)/private (7)	1-7	3.16	3.66	3.23	0.50	0.43
q19	Government should decrease taxes even if this means less funding for education, health care and pensions/increase taxes for health care	1-7	3.36	4.16	4.12	0.80	0.04

Regarding macroeconomic issues, a very clear and stable cluster could be constructed. From the 108 participants, 80 had valid values for all six variables used in the analysis. Three cluster

27 This means that there are only a specific amount of groups that are inwardly very alike and outwardly significantly different from other groups.

28 Figures highlighted in bold represent over 5% shift in average value, as in all following tables

groups were created, with even membership. The "Moderate" Group holds almost half of the respondents (49 %), while the two other groups hold the other half of the respondents almost equally. Although, "Moderates" do not shift much, they exceed the notable 5 % benchmark introduced at the beginning of this section several times. "Radicals" shift notably in all cases except with one variable (q2_3), but even during the informational process they shift the most in terms of percent. "Decideds" seem to change either not at all or, after experiencing a major shift during the information process, they shift back exactly the opposite way during the deliberation process, leading them to have similar scores after participating in the DP event as before.

Table 7 – **Cluster structure of percentage opinion change on macro-economic issues**

Variable	Question	Process	Average Change %		
			Moderate	Radical	Decided
q2_3	Do you favor investing in new technologies?	Information	-0.5%	1.1%	-0.9%
		Deliberation	-7.2%	2.2%	0.0%
q3	Enterprises should be state owned (1)/private (7)	Information	4.8%	15.9%	-47.8%
		Deliberation	0.0%	-17.5%	43.5%
q19	Government should decrease taxes even if this means less funding for education, health care and pensions/increase taxes for health care	Information	12.1%	-42.1%	-14.9%
		Deliberation	-8.8%	18.3%	6.2%
		Number of cases	39	18	23

National foreign economy policy

In the core questionnaire a strong emphasis was put on acquiring respondents' opinions on foreign economic policies and investments due to the fact that one of the major topics of the research was the relationship of the region to the European Union. From the five variables in this topic only two shifted value notably in the informational process and only one during the deliberation process. No opinion change took place about the question concerning the effect of foreign investment and having important industries kept in national hands.

Table 8 – **Opinion change on national foreign economy policy**

Variable	Question	Scale	Means			Change	
			T1	T2	T3	T1T2	T2T3
q1	National economy should be protected against foreign competition (1) /open to market (7)	1-7	3.94	4.89	4.73	0.94	0.15
q2_1	Do you favor keeping strategic industries in national hands?	1-5	4.09	4.14	4.07	0.05	0.07
q2_2	Do you favor increasing taxes on imported products?	1-5	3.46	3.27	3.62	0.19	0.35
q2_4	Do you favor encouraging foreign investment?	1-5	3.18	3.57	3.49	0.39	0.08
q4	Foreign investments help (1) /damage (5) Hungary	1-5	3.35	3.49	3.59	0.14	0.10

From all five topics foreign policy issues have the most overall missing values. From 108 respondents, merely 61 respondents had valid answers to all variables in all three questionnaires. Although a stable cluster structure could be formed from the data, the interpretation and cluster membership is unsatisfying and therefore the different groups are not differentiated by name.

Group 2 and Group 3 show very similar trends; there is slight and not even notable difference between most of the scores. Group 1 could possibly be dubbed "radical", but due to the fact that there are only three members in this group, the validity and interpretability of this group is questionable. This result might be due to the low number of cases, making interpretation of differences difficult.

Table 9 – **Cluster structure for percentage of opinion change on national foreign economic policy**

Variable	Question	Process	Average Change %		
			Groups 1	Group 2	Group 3
q1	National economy should be protected against foreign competition (1) /open to market (7)	Information	-19.0%	14.3%	-35.7%
		Deliberation	-4.8%	-11.8%	26.2%
q2_1	Do you favor keeping strategic industries in national hands?	Information	20.0%	-4.7%	0.8%
		Deliberation	-6.7%	-5.9%	5.8%
q2_2	Do you favor increasing taxes on imported products?	Information	-40.0%	1.2%	0.0%
		Deliberation	0.0%	-1.8%	-7.5%
q2_4	Do you favor encouraging foreign investment?	Information	60.0%	-12.9%	-2.5%
		Deliberation	-33.3%	-0.6%	0.0%
q4	Foreign investments help (1) /damage (5) Hungary	Information	40.0%	-8.2%	-8.3%
		Deliberation	0.0%	-1.2%	4.2%
		Number of cases	-19.0%	14.3%	-35.7%

Employment effects on the labor market

The following topic shows the opinions and opinion changes of the respondents on the different impacts on employment and labor market regarding which kind of measurements would increase or decrease the amount of jobs available. As shown in *Table 10,* there was a notable opinion shift only during the information process in three variables out of the four of the topic. However, even the one variable which did not shift notably shifted more during the information process. No notable (essentially, none at all) shift could be observed during the deliberation process.

Table 10 – **Opinion changes regarding employment effects on the labor market**

Variable	Question	Scale	Means			Change	
			T1	T2	T3	T1T2	T2T3
q6	Would giving employers more freedom in hiring and firing would increase or decrease economic growth?	1-5	2.30	2.57	2.59	0.27	0.02
q7	Would giving employers more freedom in hiring and firing increase or decrease the number of jobs?	1-5	2.47	2.74	2.73	0.27	0.01
q8	Would increasing job security increase or decrease workers' interest in acquiring more skills?	1-5	4.04	4.20	4.11	0.16	0.08
q18	Does unemployment improves or worsens labor discipline?	1-5	2.53	2.79	2.77	0.26	0.02

In Table 11 the cluster structure of opinion change on employment effects on the labor market can be seen. The cluster structure is adequate, as well as the interpretability of the cluster groups. Cluster membership is uneven: from the 81 respondents that have valid answers, the majority are part of the "Moderate" Group, while the rest of the respondents are spread unevenly between groups. This is a tendency that could be slightly observed in the prior cluster structure about opinions on foreign policy issues. "Moderates" only shift to a small extent, in general, never exceeding the crucial 10 %. This does not apply to the other three groups. The group dubbed "Confused re-evaluators" has a very important trait: after shifting to a high degree, their opinions are tamed somewhat by the end of the deliberation process. This trend can also be observed in the "Re-evaluators" group with a hint of a difference: there is no sudden shift after the information process, as in the "Confused re-evaluators" Group. "Radicals" seem to be the only group that not only shift a great deal in the first place, but also maintain their direction of shift, with opinion reconsideration playing no role.

Table 11 – **Cluster structure showing percentage opinion change about employment effects on the labor market**

Variable	Question	Process	Average Change %			
			Moderate	Confused re-evaluators	Re-evaluators	Radical
q6	Would giving employers more freedom in hiring and firing would increase or decrease economic growth?	Information	0.5%	17.5%	-6.3%	-40.0%
		Deliberation	0.0%	-10.0%	0.0%	-6.2%
q7	Would giving employers more freedom in hiring and firing increase or decrease the number of jobs?	Information	4.4%	42.5%	-23.2%	-27.7%
		Deliberation	-2.9%	-27.5%	15.8%	-4.6%
q8	Would increasing job security increase or decrease workers' interest in acquiring more skills?	Information	-2.4%	-5.0%	7.4%	-15.4%
		Deliberation	1.5%	7.5%	-4.2%	-1.5%
Q18	Does unemployment improves or worsens labor discipline?	Information	9.8%	-12.5%	-27.4%	-7.7%
		Deliberation	-8.3%	7.5%	8.4%	3.1%
		Number of cases	41	8	19	13

Connection between government and unemployment issues

This topic consists of five variables, all of which measure the opinions of respondents on the measures taken by the government concerning unemployment. Table 12 shows that most of the variables shifted during the deliberation process. One item (q13) shifted during both processes considerably, while another item (q16) did not change notably during either process.

Table 12 – **Opinion change about the connection between government and unemployment issues**

Variable	Question	Scale	Means			Change	
			T1	T2	T3	T1T2	T2T3
q5	Government should (1) /should not (7) protect companies from hiring	1-7	5.83	5.63	6.00	0.20	0.37
q9	Finding a job is one's own responsibility (1)/ Government's responsibility (7)	1-7	4.28	4.08	3.35	0.20	0.72
q13	Allowances, aids and benefits should be paid only to those who work for them (1)/everyone should get aids (7)	1-7	4.87	5.32	5.79	0.45	0.47
q16	How much power would you say the government has to prevent unemployment? (0 not at all)	0-10	5.97	5.86	6.05	0.11	0.19
q17	Nowadays' economic situation unemployment cannot be totally avoided (1)/should be avoided (7)	1-7	4.35	4.12	3.56	0.23	0.56

The cluster analysis of the fourth topic also produced a statistically stable cluster structure with three groups. Just as in the cluster structure before, the one presented in Table 13 showed an uneven distribution of cluster memberships between cluster groups. Over 60 % of the respondents were grouped into the "Moderate re-evaluator" Group, with another 30 % in the "Confused" Group. Again, the group showing radical opinion shift consists of the fewest members. The trend of "Moderate re-evaluators" is similar to the "Moderates" of the previous cluster structure (Table 11), with some more uncertainty in opinion. The group "Current Structure" shifts a little more and shows a tendency to re-evaluate formerly stated opinions. The "Confused" Group is very extreme and ambivalent in the sense that they nearly never maintain their direction of opinion. "Extreme Radicals" show very extreme traits in opinion shifts: typically a very high percentage of opinion shift – or in one case, no opinion shift at all.

Table 13 – **Cluster structure showing percentage opinion change on the connection between government and unemployment issues**

Variable	Question	Process	Average Change %		
			Moderate	Confused re-evaluators	Extreme Radical
q5	Government should (1) /should not (7) protect companies from hiring	Information	5.1%	1.9%	0.0%
		Deliberation	-2.4%	-12.4%	0.0%
q9	Finding a job is one's own responsibility (1)/ Government's responsibility (7)	Information	7.5%	15.5%	-49.0%
		Deliberation	4.0%	1.9%	53.1%
q13	Allowances, aids and benefits should be paid only to those who work for them (1)/everyone should get aids (7)	Information	-18.1%	26.7%	-28.6%
q16	How much power would you say the government has to prevent unemployment? (0 not at all)	Information	3.4%	11.5%	-41.6%
		Deliberation	-0.7%	-8.3%	13.0%
q17	Nowadays' economic situation unemployment cannot be totally avoided (1)/should be avoided (7)	Information	2.2%	23.0%	-44.9%
		Deliberation	2.7%	-0.6%	44.9%
		Number of cases	53	23	7

The illegal market

The final topic is one of the most homogeneous of all topics, focusing clearly and only on the effect of the illegal market on the economy and everyday life. From the six variables in this topic, only two shifted mean values considerably: both during the information process. All other variables show negligible shifts in their values.

Table 14 – **Opinion changes about illegal markets**

Variable	Question	Scale	Means			Change	
			T1	T2	T3	T1T2	T2T3
q14	Government should prevent all illegal work on which taxes are not paid (1)/shouldn't do anything (7)	1-7	2.40	2.64	2.63	0.24	0.00
q15_1	Illegal work produces product and services that otherwise couldn't be produced due to high level of costs of employment (taxes and social contributions)	0-10	5.77	4.94	5.37	0.83	0.43
q15_2	Companies that use illegal work are getting to undue advantages in the competition on the market	0-10	8.76	8.58	9.08	0.18	0.49
q15_3	Illegal work places the employee in an insecure situation as legal protection does not apply	0-10	9.16	8.99	9.08	0.17	0.09
q15_4	Government is deprived of income and thus cannot take fully in charge all its social duties	0-10	8.80	8.73	9.03	0.08	0.30
q15_5	Those who are only able to work illegally have at least some kind of income to make a living	0-10	7.37	8.08	7.81	0.71	0.27

This final cluster structure shows signs of disruption. While the cluster structure is again stable, the groups produced are hard to interpret. All three groups show signs of inconsistency, and a trend to re-evaluate can also be observed – only the extremity of shift differs between groups. Distribution of cluster membership among the groups is again unequal: from the 78 respondents included in the cluster analysis almost 70 % are in the second group ("Moderate re-evaluators"). A tendency to very small groups with extreme values is present in this cluster structure.

Table 15 – **Cluster structure on opinion changes on illegal market**

Variable	Question	Process	Average Change %		
			Moderate	Confused re-evaluators	Extreme Radical
q14	Government should prevent all illegal work on which taxes are not paid (1)/shouldn't do anything (7)	Information	0.8%	-6.7%	4.1%
		Deliberation	-0.8%	-1.3%	-4.1%
q15_1	Illegal work produces product and services that otherwise couldn't be produced due to high level of costs of employment (taxes and social contributions)	Information	54.5%	-10.1%	28.6%
		Deliberation	-35.9%	5.1%	-18.2%
q15_2	Companies that use illegal work are getting to undue advantages in the competition on the market	Information	-0.5%	-3.8%	46.8%
		Deliberation	-3.5%	2.4%	-46.8%
q15_3	Illegal work places the employee in an insecure situation as legal protection does not apply	Information	-3.0%	-0.5%	50.6%
		Deliberation	1.0%	1.0%	-36.4%
q15_4	Government is deprived of income and thus cannot take fully in charge all its social duties	Information	10.6%	-6.5%	50.6%
		Deliberation	-8.1%	4.5%	-49.4%
q15_5	Those who are only able to work illegally have at least some kind of income to make a living	Number of cases	3.5%	-13.2%	5.2%
		Information	-4.5%	3.9%	-3.9%
		Number of cases	18	53	7

OVERVIEW OF THE CHAPTER

In this chapter the main topics of the questionnaire were analyzed in two different ways. Firstly, the size of the opinion change was observed. Secondly, an attempt to build groups according to opinion change was carried out. Both procedures lead to interesting findings.

Firstly, from the 24 variables used and analyzed in the paper, a total of 14 variables changed considerably in one of the two processes. A vast majority of these variables shifted in average value during the information process. From the 6 values that did change notably during the deliberation process, two also shifted value during the information process. Summarizing the size of the opinion change it can be said a major shift took place for more than half of the variables. The fact that there are major shifts between opinions is not surprising at all; with the exception of two variables (q3 and q13) the shift between opinions is greater either during the informational process or during the deliberation process. This is quite understandable due to the fact that if an opinion changes a lot from one time period to the next, it is unlikely to change again just as drastically. As the authors have already implied during the analysis section, a sudden change in opinion can with reason be followed only by subtle changes of opinion, since the dramatically-changed opinion may often only need a little refining.

Looking into the issue of negligibly shifting variables (of which there were 10), the following assumptions can be made:

- participants had not come across these questions in every day life and had no feelings directly concerning them nor had previously thought about possible answers. This hypothesis also involves an underlying assumption about the incomprehensibility of the vocabulary of the questionnaire.
- the effect of the new situation participants were confronted with at the beginning of the weekend may play a role. One cannot ignore the fact that respondents could have been nervous and/or self-conscious when filling out the second questionnaire; they were far away from the familiar warmth of home and largely unaware of how the whole DP worked.

Secondly, a successful multiple cluster analysis was carried out. From the five topics introduced, all had a stable cluster structure and three interpretable clusters were found. In all except one topic a maximum of 25% of the cases were excluded from the analysis due to missing values.

Several observations can be made. The overall tendency is that a large fraction of participants shifted only moderately (i.e. only few showed major or radical changes of opinion). Another important finding is that a lot of opinions change during the information process, but by the end of the deliberation process opinion changes soften: firstly, there is a large shift during the information process in one "direction", and then, during the deliberation process, this shift turns around (the value of the variable returns closer to its original place). In some cases this means a settling of opinion around the middle of the scale, while in other cases it means returning very similar values to those displayed at the beginning. This finding is well-aligned with the thoughts already presented while summarizing the overall change in variables.

Through conducting cluster analysis it was shown that Hansen's categories – if not all of them - emerge. It can be seen that there is an overall tendency to confusion and also understanding; extremity and intensity is what really varies between groups. The authors state that clear-cut groups are not found in this case, but the potential is there.

Taking into consideration the results of both methods, the authors conclude that while the information process has a "mind and eye-opening" function, the deliberation also has a stabilizing function to some extent, since the most radical changes of opinion occur during the information process. The assumption followed in this paper is that during the information process participants cannot necessarily handle all the information they receive and do not filter out any false information. During the deliberation process they have the time and opportunity to understand, organize, sort out and acquire details about the information.

To investigate this assumption further, analysis was carried out and is presented in the next chapter.

Knowledge gain and attitude on aid and benefits for the unemployed

In the next section combined attitude and knowledge change is examined in a combined way to test the original hypothesis and the findings of the previous chapter. The two processes of information gain and opinion change are inseparable in practice. Learning is not limited only to factual information absorption29 but also to learning structures. This is more complex skill-type learning of how one categorizes, values and judges different aspects of a given problem which indefinably become a source of opinion-change. The same theme is mentioned by Hansen in his analysis: "If people have made up their minds, they have fewer incentives to seek out information." (Hansen, 2003, p. 132) Also, the lead given in the previous chapter suggests that there are more hidden shifts and changes going on.

Using the case study of unemployment, the paper presents how this can be traced using one single question. The authors attempt to model how the mental imprints of the problem of unemployment are created in the heads of the participants. Moreover, the issue is of great interest as it is generally very important for local participants. The authors suppose that the two mechanisms strengthen each other and work together towards learning and creation of a well-formed opinion by the end of the process and therefore overall unemployment attitudes and structural knowledge undergo significant changes during the DP.

29 As tested in the first analysis of inf1-inf9

The hypothesis is modeled and tested using factor analysis. With the help of the maximum likelihood extraction method the authors structured how participants categorized the different unemployment aids and allowances with the following factor scores:

Table 16 – **Structural imprint on unemployment (factor scores)**[30]

		T1		T2	T3		
		Factors		Factors	Factors		
Variable	Question	F1	F2	F1	F1	F2	F3
q12_1	Labor market services	0.520		0.608			0.602
q12_2	Training support	0.640		0.679			0.772
q12_3	Wage- and contribution-type subsidiaries	0.761		0.841		0.439	0.44
q12_4	Communal work	0.581		0.893	0.386		
q12_5	Support for self-employment	0.735		0.838	0.999		
q12_6	Job search allowance and benefit		0.603	0.785		0.727	
q12_7	Regular social aid given by the local council to all		0.997	0.987		0.894	

In the case of T1, the participants' opinions show where they could tell the difference between what was strictly an unemployment allowance and what was not. This is what the factor structure accounts for.

In case of T2 it seems as Hansen's thesis of confusion is true for the participants of the DP. Only one dimension was formed; all the policies and measures were seen to be the same, or at least participants could not differentiate between them. They receive a series of items with the benefits and disadvantages for each policy but they feel incapable of choosing. Everything is connected and they cannot order the information they are presented in any meaningful way.

By the third questionnaire, after two days of discussion, the participants' attitudes have created three clear dimensions in their mental imprints. The three dimensions are the following:

- The first dimension is about the re-engagement of the unemployed in the labor market.
- The second dimension is about aid without compensation.
- In the third dimension it can be clearly seen that those variables that relate to beneficiary compensation form a part.

The only item that is two-dimensional is wage and contribution subsidiaries. It may be assumed that it is hard to understand this phrase which leads to participant confusion. Yet it is also clear that within this structure of mental imprints the item lies astride two factors with equal weight because it has a place in both of them (since the wage and the contribution-type subsidiaries are of multiple forms and the collective name given to them is overly scientific and includes both compensated and non-compensated aid, the existence of the term 'compensation' is decisive between the second and the third factor).

Indeed, a very special and specific case of learning has taken place. In this case, participants not only acquired factual data, but changed how they viewed a specific structure. After reading the brochure and after listening to expert opinion and fellow participants, people were able to master the structure – and moreover the attitude – that academics and policy makers have when analyzing employment issues. The authors believe that this is a very important change. The change in knowledge is imprinted in the attitudes of the participants and has not only changed the attitudes themselves but participants have also learned the attitude structure that is commonly used. The connection between attitude and knowledge has been made, and, moreover,

30 The authors are aware of the fact that the factor scores are not appropriate in all cases, but for the point being discussed, they find them acceptable.

civic education in the normative sense of the DP project took place during the Kaposvár DP through this questioning process.

In conclusion of this section, it should be stressed that the authors view this result as the most important and the most successful result of the DP from all those points that have been examined in this paper. This result strongly underlines the philosophical standpoint of the DP as a civic education project.[31]

Conclusion

The aim of the paper was to examine the change in two main fields (information gain and attitude change) in a DP on regional unemployment, a topic which calls for both types of questions and even joint ones of the two types. At the beginning of the paper the authors proposed a series of hypotheses: in this section a summary-review of the results can be found. Reviewing the original hypotheses of the paper the following can be said:

Hypothesis (a) should be rejected - most of the learning took place at T2 to T3 and the brochure was not too useful in the respect that is examined in this context. Analysis reported in this paper also uncovered the presence of a floor effect, limiting very much the possibility of learning. Also, the results have shown that while answering these questions guessing took place to a large extent.

As for hypothesis (b), it does not have to be rejected entirely. Although the authors' assumption that a major shift took place during the deliberation process was not confirmed, a typology emerges, even if not as clear as hoped for. Part of the hypothesis concerning the existence of a consistent opinion construction of some participants even before the deliberation process is clearly seen from the result. Thus, this part of the hypothesis can be retained with some limitations.

The third hypothesis on the co-effect of learning and attitude change has been fully verified: it can be clearly seen from the results that after the chaos of T2, which shows that there is no structure in the concepts of the participants, all comes together in T3. By then the structure is there in the participants' heads; formation of constructed and founded opinions has taken place. Over the whole process analysis shows that the deliberation process is considerably more important that the information process.

Moreover, the assumption of the paper about the relation between the information process and the deliberation process can be retained. Participants cannot necessarily handle all the information. They do not filter out bogus information before the weekend, and they just get confused. During the deliberation process they have the time and opportunity to understand, organize, sort out and acquire details about the information, as the factor results show.

All in all, the authors believe that face-to-face experience and the intensity of the event have far more impact on the participants than the pure information presented by the brochure and the alertness of would-be participants. During the time between the first recording and the event, the authors cannot be sure that all participants received the brochures in time. One issue is the matter of participant's habits and the time that they had available to discuss the topic detailed in the brochure with friends, or even to read the material at all. Moreover, it can be supposed that the participants only became engaged with the issues discussed during the deliberation process. The authors suggest it would be worth asking the participants about the information process in another poll in order to be able to further examine this question. In Denmark, participants were asked whether they had read the brochure, but also it is worth asking whether they had

31 The authors feel that for any further analysis of DP results this track of analysis should somehow also be followed-up on and utilized.

engaged in any discussion between the first recording and the meeting event in their domestic environment or whether they paid special attention to the topic or not.

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