Sociology Doctoral Institute

LIST OF THESES

for the doctoral dissertation titled

"Step-by-Step" – in Pursuit of a Pedagogical Innovation

by

Orsolya Becze

Supervisor:

Dr. László Letenyei
reader

Budapest, 2010

Institute of Sociology and Social Politics

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1. The Background and Reason of the Research

1.1. Background

The modernization of the Hungarian education system is slowly approaching its 30th year: in Zoltán Báthory's words, this "marathon reform" has in fact begun in the seventies, instigated by three major reform conceptions: autonomy, decentralization, alternativity (Báthory [2001]); on one hand, its "official" endeavor resulted in a legal act in 1985 (proposed by Ferenc Gazsó), meanwhile, its hidden course materialized in the alternative movement.

The transfer of the alternative solution- and autonomy-centered methodology into the everyday routine has presumed a certain relation system that helps the flexible adaptation of those who are involved in education under the ever-changing circumstances. In the beginning, the empirical research centers based on schools were excellent grounds for this work, and later on the institutionalized form: the alternative schools. Thus began a certain pedagogical pluralism that emphasized independent initiations, and "forced" the principle of "learn it by doing it" on everybody involved in any form with the issue of education: teachers, headmasters of schools, responsible people in the local governments and education politicians, in all, on anybody who felt innovation was important and also obtained a certain autonomy.

This change of paradigm (from reception-based education to creative education) was closely followed by the national innovation educational policy constantly making an effort to renew the techniques of education and to make it accessible for the educational institutions. However, since there was no instant solution at hand, this was the era of experimenting and contest for the reformers in order to create and operate the innovative system of tools in the field of education. The emergence of new contents and methods was rarely followed by a widespread political consensus that could be maintained for a long time, tough: the adaption of solutions (e.g. reform pedagogic tradition) already tried and proved to be working seemed to be more effective in several cases with regards to the aspects of innovation. Due to the effect of the aforementioned factors, the system of the educational institutions has gradually been re-defined, re-organized and begin to adapt to the international trends in the field of education, thus creating quasi-innovative forms of

institutions. Nevertheless, the search for the alternatives that proved effective and exploiting those alternatives did not exclude the possibility of further experimenting: some urged the radical re-organization of the school as an institution, others, on the other hand, wanted to establish the institutional solutions that have already proved effective in other countries. According to experts, it is useless to compare the two approaches (Halász [1999], Báthory [2001]). Both innovative policies' effect in the course of the changing public education leads to the same direction and by linking them one can better understand the expansion of the education systems.

Besides the aforementioned endeavors, in concordance with the escalating expectations of the knowledge-based society, most of the educational and development strategies of the past years aimed to help those students who were threatened by failure in school. This topic was emphasized not only in the educational policy, but also the social programmes aiming to implement the contents of said topic. These innovative solutions promised to be able to both alter the attitude of students struggling with various problems (integration difficulties, lack of interest in learning, turning against the school) and change their attitude towards learning, and also can create an environment in schools that motivates them (Halász [2003]). In the frame of the traditional institutionalized education, one method could be the practice of the innovative reform pedagogic approaches and the different ways of the management of learning.

The goal of this research is to analyze an innovative reform pedagogic approach introduced and enforced in the nineties in Hungary – the Step by Step programme – that aims both to ensure the integration of underprivileged students and to dissect the spread of the "innovative" procedure on one hand, and its pedagogic and social effects in a wider sense: what institutional changes has it created, what was the effect on the quality of education; in all, what can we say about the integration of students with regards to this specific programme.

1.2. About the importance of the analysis of the "Step by Step" programme from an innovative point of view

Reviewing the Hungarian bibliography on sociology of education, it can be said that the number of research papers and analyses dealing with the specific types of pedagogical innovations – those which are organized, financed and controlled from outside the national education system – are relatively scarce. The main reason of this phenomenon is that in the actuation of the educational system, the reform paradigm is on one side, and on the other– as if to compensate – the features of the alternative pedagogy, based on the autonomy of professional institutions. The different approaches aiming to develop the education are embedded in the system of the national pedagogic innovations (turning out to be compulsory in most cases: new curriculum, methodological innovations, etc.), however, the alternative approaches remain the internal matter of a circle of teachers or parents. Therefore the question of what other types of pedagogical innovations can be found besides the reform approaches are quite rare.

To my best knowledge, contrary to the international practice, the relevant Hungarian literature on the "diffusion of innovations" doesn't account sufficiently about the researches in the field of education.

The possibilities of the network analysis in the research of Hungarian pedagogic innovations is not widespread despite the fact that one could use the aforementioned technique in this field as well, since the local/regional implementation of these pedagogic innovations is in close connection with the network building.With the help of this analysis, we could measure information that has been only informally perceived or considered only as gossip but very important for all participants; e.g. the influence of an institute's leader, his/her central or mediator role, the prestige of an institute, etc. (Letenyei [2000]).

Thus, beyond the pragmatic, reform pedagogical viewpoints, I intend to expand the literature of the research concerning innovation and diffusion with the analysis of an alternative pedagogical programme that was created for the underprivileged and dropout students and is operated beyond the frames of the "state-pedagogic omnipotence" (Gazsó [1997]). I discuss the spread and innovative features of the "Step by Step" reform pedagogic programme using a new, so far unknown method of analysis.

2. The object and methodological basis of the research

2.1. The object

From all questions about the analysis of the innovative courses first I've chosen to discuss the following: to which extent could be seen as an innovation this new reform pedagogic approach – the "Step by Step" programme – and whether it is in accordance with the features typical to an average social and economic innovation or not.

E. M. Rogers' ([1983, 2003]) classical theoretic work is an excellent starting point to put these features in perspective: in this work, the author mentions five main characteristics of innovations: (1) the innovation always has a relative advantage compared to an already existing method; (2) it has to ensure the compatibility with the values of the potential users; (3) it has to be intelligible and logical; (4) there has to be a possibility to try the new method; (5) the monitoring of the level of transparency and palpability of the innovation's results. In order to cover all bases, I complete the system of viewpoints suggested by A. Rogers with A. Schumpeter's the guidelines concerning innovation. (Schumpeter [1980]).

After analyzing whether the "Step by Step" programme is in accordance with the aforementioned conditions of innovations, I follow its spread inside the education network in a certain region. The dissemination of the programme is most probably the result of a diffusion, meaning the innovation was delivered from the initiators to others not yet participating in the implementation of the programme (Ryan – Gross [1943]; Griliches [1957]; Katz – Lazarsfeld [1955]; Rogers [1962]; Lazarsfeld – Menzel [1963]; Farkas [1974]; Rogers [1983]; Valente [1995]; Valente – Davis [1999]; Valente [2003]; Letenyei [2000]; Láng et al [2003]). In my opinion, the dynamic of the diffusion shows a normal distribution in the time dimension: both the very early and the very late users number is quite small; the majority of the users joined after the "first innovators" but before the tardy users. (Rogers [1983]). Presenting the adapters of the innovation in a cumulative way and adapt a logistic curve, the result is an S-shaped curve.

In the third part of the analysis I'm going to check the validity of the hypotheses regarding the contextual (network) features influencing the diffusion of the innovation. It is a well-known hypothesis that the structure of the social networks, the position and roles undertaken by its members, the dynamic of networks greatly influences the acceptance, the way and speed of diffusion of the innovations (Brown [1981]; Burt [1982]; Granovetter

[1983]; Danowski [1986]; Burt [1992]; Valente [1995]; Valente – Rogers [1995]; Letenyei [2000]; Láng et al [2003]). In this paper I intend to deal with those determinants of the innovation's diffusion that consider both the structural features of the network (the strength of weak ties, the density of connections) and its positional characteristics (the role of the leaders of opinion and mediators, positional and structural equivalency) on the level of the participants in the net (Ego net) concerning both the whole net (network) and the subgroups of the net (blocks).

Considering the structural features of the network and the integrative effect of the weak ties the following hypothesis seems plausible: participants who are embedded in society with weak ties contribute more in the spread of any innovation than strong ties. This statement is based on the classical hypothesis formulated by Granovetter: according to him, the weak connections are better sources of gaining information than the strong ones (Granovetter [1983]). On the other hand, it is also probable that participants with strong connections are notified later through narrow partner channels about any innovations than their weakly embedded counterparts.

Studying several network-based approaches (Burt [1992]; Valente [1995]) I came to the conclusion that the network characteristics can influence not only the special patterns of the diffusion, but also its speed and dynamics in time. Thus the network approach brought new questions concerning the time dimension of the dissemination of the programme that is quite a new subject in network analysis. Based on Granovetter's hypothesis I assume that the diffusion of innovation is faster within the groups with smaller network density where the participants have heterogeneous structural positions than in a closed group with a high network density.

I'm not going to ignore the effect of individually perceived positional features on the diffusion process (Coleman et al [1966]; Burt [1976]; Weimann [1982]; Valente [1995]; Burt [1999]). Thus, besides the network characteristics, I'll examine how the professional status, reputation and structural position of potential innovators influence their predisposition towards innovation. Supposedly, there would be a difference between the institutions with different positions regarding the time of the adaptation: whether the institution plays a central or marginal role in the network of institutions.

Finally, the analysis of the diffusion process will be completed with an impact analysis: since an innovation can be regarded as successful – albeit it has a quite big circle of users – only if the results of the changes could be sustained until the original innovation is replaced with an even better method (Nahalka [2008]). It is a Hungarian feature of the spread of the "Step by Step" programme that most of the analyzed institutions chose this particular reform pedagogic programme to improve the situation of the problematic and underprivileged children[1]. Thus, one of the main goals of this innovation is to advance the underprivileged students' success and effectiveness in school. The conditions of this are the democratic, open, receptive institutional model and environment, as well as teachers who possess a high level of professional awareness (Horn [1995]). It is unclear whether these effects of the programme – its institutionalization and sustainability – could be identified or they remained marginal/withered due to its externally driven organization mode.

2.2. The methodical approach of the analysis

Due to the complexity of the problem to be analyzed, the empirical test of the aforementioned hypotheses required the application of several different methods.

In the first part of the analysis (hypothesis 1.1.) the main goal was to review the innovative characteristics of the programme: in order to execute this, a functional approach was required. However, this approach – due to its static nature – doesn't explain the shaping of the spread of innovation (hypotheses 2.2.1., 2.2.2., 2.2.3.), therefore my analysis was completed with a historical dissection as well. In order to reveal the path of the diffusion process (hypotheses 3.3.1., 3.3.2., 3.3.3., 3.3.4.) we need to analyze the network structure of the institutions. Within this framework, I detailed those features of the innovation that either refers to the structural characteristics of the network or its positional characteristics. In the last part of the analysis (hypotheses 4.4.1., 4.4.2., 4.4.3., 4.4.4., 4.4.5.) I examined the changes induced by the innovation in (1) the functioning of the institutions, (2) the professional awareness of the teachers, and (3) the achievements of the students. In order to implement this, I've mainly used the methodology of the classical (functionalist) organization sociology, and the trait analyses which are popular in social psychology.

[1] Despite the fact that the Open Society Institute's pedagogic programme, the Step-by-Step was created in order to eliminate discrimination of the Roma children on the ground of ethnic origin and to integrate them into the education system, in other countries this programme doesn't always aims to integration. For example, schools with different status used this approach, sometimes as part of the elite education.

This research – given its nature – holds a comparative approach. I've examined different institutions in the target region based on the adaptation and the success of the programme, endeavoring to thus compare and draw a parallel between the facts.

2.3. The methods used

In the starting phase of the research (discovering phase) I have fulfilled the analysis of the documents and statistical data available (methodical and training texts and publications regarding the didactical use of the programme; strategic plans about the programme's propagation; tender conceptions; postgraduate and sponsor records; professional reports; project documentations[2]), as well as the second-hand analysis of the data of the empirical researches about this field[3] . The review of the previous results, documents and statistical data made possible to draw some preliminary conclusions allowing me to formulate my working hypotheses regarding the innovative characteristics, propagation and the specific features of the institutes concerning their systems and operation.

This was followed by two surveys: first, on the telephone, then a personal one: in order to test the possibilities, I contacted those institutions where the teachers were involved in the "Step by Step" postgraduate programme according to the reports. The telephone survey aimed to map the group of the users of the programme and to confine the target group of my research; the more global survey with the questionnaires took place knowing the preliminary results of the antecedent phone survey face to face with the teachers in the institutes. In accordance with the objectives of the research, three different questionnaires

[2]Open Society Institute, Roma Education Initiative Program: Minőségi közoktatással a szegregáció ellen, 2003-2005, final report;
PHARE Program HU 99-04-01: A halmozottan hátrányos helyzetű, elsősorban roma fiatalok társadalmi beilleszkedésének támogatása I., 2001-2002, final report;
PHARE Program HU0101-01-2.1: A halmozottan hátrányos helyzetű, elsősorban roma fiatalok társadalmi integrációjának támogatása II., 2002-2003, final report;
KOMA Reform- és alternatív programok és innovációk támogatása: A Lépésről lépésre gyermekközpontú pedagógiai program széleskörű ismertetését, népszerűsítését célzó programok, 2003, final report;
Speciális, összevont, szegregált roma osztályok felszámolása az Európa Tanács támogatásával Pátkán, 2003–2004, reports, final report

[3]The research founded by the Open Society Institute, New York implemented in four countries – Bulgaria, Check Republic, Slovakia and Hungary – between 1999 and 2001 in the frame of the Roma Experimental Programe: "Step by Step Roma Special School Initiation": this is an international comparative analysis;
MATRA-KAP Projekt:
the discrimination research in the frame of the project titled "The effective upbringing Roma and not Roma children together", 2006

were filled in: first, the leaders of the institutions were asked, then the teachers, finally, the students involved in the programme.

The thematic structure of the questionnaires used was defined in accordance with the aforementioned primer objectives of the research, thus the questionnaires covered the below topics:

Institutional questionnaire

1) Sociometric questions: the institutional cooperations between the kindergardens and schools
2) Questions regarding the exploration of supportive constructions to introduce the programme
3) Questions pertaining to the professional preparedness of the institution's leader
4) Questions about the prestige of those who work with this programme and their professional judgement
5) Factsheet containing questions regarding the adaptation of the programme (since when it is used, how did she gain knowledge about the programme, how many teachers have a certificate from the "Step by Step" postgraduate course) and its present status (in how many groups/classes is the programme used), and also about the size of the institute, the students' ethnic and social content, the status of the teachers.

Questionnaire for the teachers

1) Questions pertaining to the innovative characteristics of the programme
2) Questions pertaining the professional development and awareness of the teachers
3) Variables concerning organizational issues:
    - questions concerning the system of motivating-grading of the teachers
    - questions regarding the guidance of the institute
    - questions about the organizational culture
4) variables with regards to functioning of the structural organization and the different systems connected to it (HR, PR, communication)
5) individual socio-economic and attitude variables

Questionnaire for the students

1) The personality test by Eysenck – junior version for young people– JEPQ

In order to modulate the reception of the examined process, I have also conducted interviews with those whom I judged as stakeholders from the viewpoint of the propagation of the innovation.

Since my research deals with the Hungarian propagation and effects of the "Step by Step" programme, the best test for the validity of my hypotheses would have been a nationwide survey. However, due to mainly financial causes, this was not a possibility: therefore I had to narrow down the scope of my research – in the end, I decided to do a regional analysis, using a full survey in a very unique region from the point of the propagation of the programme.

The key to choose a region was whether the programme was successful there or not: in the end, I chose the North Lowland region, because here the "Step by Step" programme is quite widespread, and, on the other hand, it offered the biggest diversity with regards to the success of the innovation, and there was a sufficient number of institutes for the questionnaires that has achieved a different level of success in the adaptation of the programme. Thus I could compare those institutes where the programme was working properly with the ones where only elements of the innovation are used, and also with several ones where initially the programme was effective, however, due to a contraction of institutes upon a central decision, the programme ceased, or "thanks" to the resistance of the director, despite the several tries, it couldn't be established.

From the 69 institutions contacted on the phone 64 I went and conducted my survey, however, in the case of the teachers, I had to count with a 36% loss, because out of the 382 teachers I intended to involve in my research, finally 242 did agree to help my work. To check my hypothesis regarding the effect the "Step by Step" programme on the personalities of the children involved I asked 95 students, and there was a control group also with 73 students.

I've conducted the statistic analysis of the data collected from the questionnaires by the SPSS programme, for the network analysis I've used the UCINET programme, and the NetDraw helped me to sketch the graphical picture of the networks.

3. The Results of the Dissertation

3.1. Innovation

3.1.1. The "Step by Step" programme as a pedagogical innovative hypothesis

I assume that the initiation of the "Step by Step" programme is adequate with those viewpoints that usually characterize the social and economic innovations: the initiation of the programme means a relative advantage from the point of the potential users compared to the traditional form of education; its methods, philosophy and conditions of adaptation can be harmonized with the values and needs of the institution leaders, teachers and students, and before its initiation, a trial is ensured so the results can be accessed and monitored by those who are interested.

Based on the results of the analysis, it can be stated that the adaptation of the "Step by Step" programme with its advantages and mode of adaptation already presented, is suited very well with the notion of innovation based on Rogers' theory. Analyzing the features of the programme, we can state that the personality based approach, the school environment adapted to the age and needs of the students, the practice of the differently organized study, in all, the differentiated teaching, the diverse assessment can be found in the "Step by Step" schools in comparison to other institutes. It is another difference that the "Step by Step" programme involves the parents in a more determined way in the work in the institute and outside as well, creating an adequate starting point for the implementation of the partner centered operation. The majority of the teachers using this method has recognized the need for change, and takes the responsibility for his/her constant professional development. In the elements of "Step by Step" programme the idea of inclusion prevails, in accordance with this, the teachers working with this programme recognize and handle effectively the differences between the students, they show acceptance and favorable attitude towards Roma students, they are more open to the integrated education.

The analysis also shows that the innovation features of the "Step by Step" programme can not only be measured in comparison with its advantages to the traditional education, but also in the fact that its initiation didn't require a huge remodeling of the already existing system, since it could be easily harmonized with the values, needs and past experiences of the potential users. The fact that the institutes where the programme was already adapted,

functionalized as training places and methodological centers for teachers who were interested in the programme, giving them them the opportunity to gain personal experience.

The analysis also shows that in those institutions that have given a great emphasize to the methodological renewal, ensured the financial background, activated the human resources needed for this change, harmonized it with the values of the potential users, learned the method carefully, recognized the critical points, the innovation was successful. The analysis of my later hypotheses regarding the big change of quality by the initiation of the programme in the successful operation, effectiveness of the institute, the professional level of the teachers, and the performance of the students could further modulate the aforementioned facts.

Thus it can be stated that the adaptation of the "Step by Step" programme exhausts all the conditions based on Rogers that ensure the innovative quality of a programme, so my hypothesis is proved correct.

3.2. The Diffusion of the Innovation

3.2.1. The hypothesis of the diffusion

I presume that the program's diffusion in Hungary is the result of a process: the innovation was passed over from its initiators to the participants not yet using it.

Analysing the process of the propagation of the pedagogical innovation with regards to the sources and channels of communication that play an important role in the propagation of information about the innovation, I've come to the conclusion that the spread of the "Step by Step" in the North Lowlands region was aided by the interpersonal and direct verbal communication: the information about the innovation didn't originate from a central source but was delivered to teachers and institution leaders open to innovation verbally by the users that have cumulated an adequate amount of experience in the form of presentations and workshops, postgraduate courses or personal contact – this happened through local channels in most cases. In this sense, the propagation of the programme can be viewed as a diffusion process: during its course, the directors of the educational institutions choose to apply the method that proves to be successful by the principle of imitation ("it did good to others").

3.2.2. The hypothesis of the dynamics of the programme's propagation

I presume that the dynamics of the proramme's propagation can be described the so-called normal accreation S curve. According to this presumption, I expect that the number of the institutes adapting the programme will show a normal distribution in the dimension of time: this means that the number of institutions introducing very early or very late is quite small, however, the majority became involved later than the "innovators" but before those who dropped behind. If we illustrate those who adapted the innovation and assign a logistic curve to it, the result is an S-shaped curve.

Dissecting the process of the programme's diffusion regarding the other variable, the time dimension that may explain it, the result resembles an S-curve – at least its initial period – and after a slow increase initiative period the spread follows an exponential accession course, then a sudden decrease can be observed. A logistic curve applied to the whole list of items makes it clear that we are faced with a more sophisticated accession pattern. The diffusion pattern of the propagation of the "Step by Step" programme in Hungary steps across the limitation of the classical accension curve describing the classical diffusion, and instead of the typical S-shape the diffusion becomes the result of two such logistic accession that has an upsweep, forming two detached S-curves. This bilogistical form mirrors the two different waves of the programme's propagation: both waves lasted for seven years each with two saturation levels in 1998 and 2005. The S-curve acts upon the changes in the educational policies in the last 15 years, and possesses a more or less fast running up phase, and then it is followed by a short impregnation period, concluded by another running up phase. The first phase of the programme is in correlation with the 1996 decree of the government that controlled the preparation of the pedagogical programmes of each kindergarden institution: the majority of the kindergardens (14 %) has found the "Step by Step" programme in the course of creating its own programme and has adapted it as a Local Kindergarden Pedagogic Programme. The second wave was caused by the modification of the public education act (modification 203 of act no. LXXIX 1993) that required the review of the institutions'pedagogic programmes, as well as the revision of the framework curricula and their adaptation to the National Basic Curriculum. This was further strengthened by the changing of the supporting system, ebbing of the source of the Soros Foundation by degrees and, as an alternative, new supporting forms were introduced in the frame of and financed by the programmes of the European Union.

3.2.3. The hypothesis of the modeling of the propagation process

If the propagation of the "Step by Step" programme can be identified as an innovative diffusion, then the process can be modeled and forecasted by using one of the diffusion models.

It was my intention to apprehend the process of the "Step by Step" programme's spread by one of the most popular diffusion model designed by Rogers.

Summarizing the results it can be stated that the diffusion theory designed by Rogers offers a useful frame of notions for the description of the Hungarian propagation of the "Step by Step" reform pedagogic programme: its propagation follows the logic of the model, meanwhile perfectly fitting in the diffusion frame defined by the four basic components (innovation, time, channels of communication, social systems). One of the main conclusions of my dissertation is that Rogers' theory can be used – mutatis mutandis: with the adequate change of the curve – in a diffusion that has taken place with special circumstances. However, the model is not predictive, since the S-curve is highly influenced by the decisions made in the education politics

My hypotheses from later on are based on the assumption that is considered as pragmatic nowadays that the network structures and mechanisms play an important role in the propagation of innovations and diffusion in the society. According to this approach, the structure and features of the networks between the institutions can speed up or slow down the propagation of an innovation.

3.3. The structural features of the propagation

3.3.1. Hypothesis about the strength of weak ties

My first hypothesis, stating that the stakeholders and connections weakly embedded in the net of institutions take over more innovations and also deliver more than those who have strong connections, was proved only in certain parts.

Both the strong and weak connections had an impact on the propagation of the "Step by Step" programme, albeit the innovation followed the different pattern and with a different speed based on the different connections. In the early stage of the spread both connections aided the propagation of the innovation equally. With the second wave, almost exclusively

those institutions joined that were in some distant connection with the innovator, meanwhile, the third wave brought the acquaintances' acquaintances, and this is beyond the close-knit circle of partners. The tight partner connections were favorable for the spread of innovation in a later phase. Where the innovation has entered in a closed partner community through the weak connections, thanks to the effect of the reference institute, it spread quite fast to the other members of the community in those cases too when the initiation of the institute was not preceded by a racional calculation, but they have started the innovation to follow the authoritative institutions' examples in their net. In the same time, stakeholders were needed as well who possessed connections beyond the close-knit circle of partners, as well as, based on their unique position in the network of institutions, had influence over other institutions of the settlement or region: if this was not the case, the innovation withered and its propagation was incidental from these groups to other groups or institutions.

All in all, we can state that the stakeholders and connections loosely linked and weakly embedded in society aided the fast adaptation and propagation of innovation mainly in such geographical and institutional circumstances where the new method was unknown to that point and the group's members did not constitute a close grouping. On the other hand, the strong connections were mainly needed for the involvement of the those who are not that enterprising.

3.3.2. Hypothesis concerning the diffusional strength of strong ties

In such institutional communities where the members don't form a closed up group, the innovation quickly spreads through the weak connections between them. In the same time, however, a question is raised: what influence do the faction-like forms have on the shaping of the diffusion process, meaning if the innovation spreads to an institution with a closed up community, do the strong connection speed up or slow down the process of the innovation's propagation?

Even if we accept the previous statement that inside a closed up network the strong connections helps the most the propagation of an innovation, according to my presumption, the members of a dense and closed network are notified much later about an innovation through the narrow partner communivation channels than their weakly embedded counterparts.

My hypothesis seems to be proved by the results, since in the case of the groups with high connection density, this density instead of speeding up the spread of diffusion, it slowed it down. This statement completes the assumption posed by several researchers who are dealing with innovations, among them, László Letenyei: the innovations are propagated mainly in the dense networks thus giving advantage to the members of the dense networks instead of the weak ones. (Letenyei [1992]). The explanation of this controversy on the surface is that under a certain unit of time the diffusion shows a different speed. While Letenyei's researches conducted among the native people of the Andes or the regional Hungarian agricultural producers proved that innovation spread quickly through such ties as relatives and between clans, it is also important to see clearly that in such cases, other connections are needed too beyond the aforementioned ones in order to propagate the innovation from one village to another, otherwise the innovation could stick and this would delay the diffusion. Thus the same processes and slow diffusion can be observed in those closed up communities as in the case of the education network of the "Step by Step" educational programme in the North Lowlands that I analysed.

3.3.3. The hypothesis of the diffusional bubble diffusional bubble

Since it seems to be proved that the quite high-density network constituted mainly by the primary connections of the stakeholders doesn't affect the spread of the diffusion, moreover neither did the connections of the weaker ties result in a faster propagation of the "Step by Step" programme, a question is raised: what structural features ensure best possible system of relation for the fast spread of the innovation inside the cooperation network of the "Step by Step" programme. According to my presumption, the diffusion procedure is created by the principle of cohesion and the principle of the structural equivalency.

Thus I further presume that the innovation spreads faster through the net of the stakeholders whose structural roles in the net are different and their net's density is smaller compared to the net of stakeholders whose structural role in the net are similar and their community is closed. According to this approach, the most important mediators of diffusion are the nodules that have a role to bridge and possess not too dense network connections: these nodules endure the possibility to pervade between the groups.

The results gained just partly prove the hypothesis, since it can be also proved that the innovation spreads fast not only in the group of institutions with mainly different positions and loosely knitted networks, but also though the high-density network of institutions that possess similar positions.

In the same time, my assumption concerning the positions in the network seems to be proved: according to my theory, the key to the success of the diffusion process lies in the presence mediator "broker" stakeholders who can fill in the structural holes between the isolated groups of stakeholders, as well can gain personal advantages being a professional supporter, thus they can also pass along advantageous possibilities and reliable information regarding the innovation with a good timing.

My research also proved that the best possible system of relations for the quick spread of the "Step by Step" programme through the network of institutions could be the local/regional networks detached along the principles of cohesion and equivalency. For the description of this propagation pattern defined by structural and positional features I've introduced the term *diffusional bubble*: it is a closed system created, sustained and operated by the diffusion. Thus the bubble can be comprehended as a densely or loosely knitted network aiming to deliver the innovation among the group constituted from stakeholders structurally equivalent. If we also incorporate the dimension of time into the research the results show that the speed of the propagation of the innovation is the highest in the case of said bubbles, the accessibility between these bubbles is aided with the weakly embedded opinion brokers possessing an individual connection structure functioning as bridges.

3.3.4. Hypothesis concerning the role of the opinion leaders

With the analysis of the data my fourth hypothesis was proved: according to it, the institutions differ on the basis of their role in the propagation according to the fact that they play a central or marginal role in the cooperation network of the institutions.

This hypothesis completes my theory just demonstrated above: not only the mediator "brokers" can influence the measure of the innovation's propagation, but the most important stakeholder – and opinion leader – of the net who occupies the center as well. In essence, his/her directing/influencing role can be described by a certain dichotomy: on one hand, to propagate important information towards those who are in the periphery of the

network (and have few connections), and to involve them in the innovative procedures. On the other hand, both his/her functions regarding the innovation and the dominance of the groups around him/her can easily perceived through his/her activity regarding the strong connections.

3.4. The Innovative Effects of the Programme

3.4.1. Hypothesis about the meliorating effect of the programme with regard to the performance of the students in school

The discussion of the innovative effects of the "Step by Step" programme assumes that the changes, the newly created pedagogical culture, methods, approaches and organizational solutions will be permanent: an innovation can be regarded as successful only in case it ensures the sustainability of the results, the prevailing of the newly created methods and the use of the newly acquired knowledge and skills. From this point of view, the most important conditions of the sustainability and effectiveness are the following: the institutionalization of the newly formed methodology (based on the guidelines of the programme) of the educational institutions; the adequate knowledge of the teachers; the development of the attitudes and skills essential for the programme; positive results appearing in the knowledge, skills and competency.

My first assumption based on the above discussed is that due to the effect of the programme, the students' performance in the school has improved in the long term.

According to the data concerning the performance of the students, the "Step by Step" programme proved to have a good effect on their performance. The majority of the students attending special classes with different curricula participating in the survey achieved better grades by the end of the two-year long trial period thanks to the "Step by Step" programme compared to the students who attended in classes that followed the normal curricula for elementary schools in special classes. This also means that the children (most of them underprivileged and/or Roma) learning in the aforementioned special classes with the special curriculum based on the "Step by Step" programme were able to adapt to the expectations of the normal curricula after the two-year duration of the programme, thus

won the opportunity to move back from the special class to the normal one (with the normal curriculum and number of students).

Considering these results, it can be stated that the "Step by Step" programme can be one of the innovative initiations that aims to improve the chances of Roma children in schools, however, it is not easy to assess its effects since we have to evaluate a two-year long period, and one cannot expect any fast results in this field. It is also beyond the frames of my dissertation to analyze whether and to which extent the "Step by Step" programme is a useful tool for the validation of other endeavors (e.g. changing the attitude of those students who turn against the school, changing their attitude towards learning; the creation of a motivating school environment) aiming to improve the Roma students' school performance. The result of the tests based on the subjects is only one element of this topic, since those ask questions referring only to lexical knowledge and its usage: thus we can only draw hypothetic conclusions with regards to the influence of the use of the method on the chances of integration in the case of underprivileged and/or Roma children.

3.4.2. Hypothesis concerning the effect enhancing the professional awareness

Instead of the ever controlling, "from above" directing teacher who controls the processes in only one way, another attitude is needed: the teacher needs to help, to motivate and be an expert. Also, a system is needed that is built upon professional ambition and interest, and is followed by a qualifying-motivating system where the feedback also means motivation that generates activity in the stakeholders.

> **My assumption was the following: given the results of the programme, the teachers have acquired such competences that are either linked to the high level pedagogical skills and the importance of the improving of the professional knowledge, or to a heightened level of responsibility concerning the development of the students.**

The results gained show that the majority of the asked teachers fulfils the expectations based on the "Step by Step" programme concerning the professional grows of the teachers. One of the most important proof of their professional competency is the fact that they have recognized the need for the change and take responsibility for their own constant professional development: they have also recognized the value of the method of learning from each other, therefore they always cooperate with their colleagues, and also have

experienced the possibilities of the postgraduate studies, thus participating those trainings has become part of their everyday routine: apart from the compulsory lessons aiming to the development they also participate in different professional groups and pedagogical workshops.

3.4.3. Hypothesis (1) regarding the personality forming effect of the programme

I also assume that the favorable effects of the programme manifest themselves not only in the school performance of the students but are also shown in their emotional lives, behavior, moral development,in their acceptance of diversity and in the development of their personalities. Therefore the personality profiles of the students involved in the "Step by Step" programme differs from those who study in classes based on the normative curriculum: they are more open, more sociable, emotionally stable, have better empathic skills and strong awareness of their personality, but they are also have a higher level of tolerance.

This hypothesis – albeit seems to be very simple – has yet to be proved unequivocally: no significant difference was registered between the groups of students participating in the survey. The tendency resulted from the comparison of the certain averages is not at all favorable to the students learning based on the "Step by Step" programme: it shows that these students are not only more open, more sociable and more critical towards the expectations of society, but also that they are more violent, more impulsive, they are in a distress more and less empathic than their peers studying in classes with the normative curriculum.

The question is raised: what effects and tendencies result in such behavioral patterns among the students involved in the "Step by Step" programme. Maybe the new pedagogical approach proved to be inconclusive concerning the personalities of the students, or the practice of developing the students' personalities has not become regular for the teachers, or the families are the reason: this topic can be the objective of another, later research. However, it is also important to know that the results cannot be considered as whole since a full research would take years to conduct regularly and also contains the monitoring of the changes.

3.4.4. Hypothesis (2) regarding the personality forming effect of the programme

I assumed that the program had the same effect on the personalities of the teachers as well: here I mean the differentiated treatment of the children and also the acceptance; and with these two factors, the full identification with the idea of inclusion: the latter is a special feature of the teachers involved in the "Step by Step" programme.

Based on the results my hypothesis seems to be proved in several aspects: the teachers involved in the "Step by Step" programme mainly show acceptance and has a favorable attitude towards Roma students, they are open to integrated education, welcome children with different skills and talents, and are prone to the differentiated integration of the students who have difficulties in learning.

3.4.5. Hypothesis about the programme's institution changing effect

The open, democratic and inclusive approach is not only modeled in the programme through the pedagogical methods and attitudes, but also on every grounds of the organizational and directive culture, such as the tasks of the institutes, the motivation of the teachers, the assessment of the teachers' work, or in the case of the internal communication or on the level of the decisions of the leader.

The results show that the democratic leadership prevails also in the frame of the traditional education, as well as the free flow of internal information and communication mainly to both directions; also important the parents' and fellow teachers' assessment about the teacher when his/her work is evaluated as in the schools involved with the "Step by Step" programme.

Besides, it is also clear that the personality centered approach, the shared leadership of the institution based on an alternative school organizing plan or the self-assessment/collegial assessment of the teachers are more emphasized features than they are in those institutions that use the normative curriculum: these institutions are performance and task orientated, and there is the strong control of the leader as well.

All in all, the majority of my hypotheses stated under point 4 have proved more or less to be adequate, because the results have shown that the institutional and personal background

examined here is able both to implement the programme and to ensure an adequate institutional strategy, values and human resources for the long term sustainability for the programme.

3.5. Conclusions

The research experiences gained from the analysis give ample proof for the fact that this pedagogical innovation, the “Step by Step” programme that is organized, directed and sponsored from the outside was propagated by diffusion in the region examined. The direction and speed of this propagation was defined by the structure and quality of the network also ensuring the high-level professional support and cooperation essential for the sustainability of the programme on the level of the institutional sub-nets – the diffusional bubbles – that are organized based on structural similarities and differences. Founded on mainly personal connections, cooperation between partners, through the self-developing innovation a new school model was born that created the institutional frames of the integration inside education. About the vertical and horizontal effects of this alternative approach on the public education system as a whole, we can only make new hypotheses: the examination of these new assumption would be the perspective topic of the next research.

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