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Organizational Path Dependence in Schools?

- An Organizational Perspective on Schools by Practices of Differentiation in Berlin Secondary Schools

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ABSTRACT

The objective of this paper is the theoretical and empirical transfer of path dependence theory to the field of school education. To show that organizational path dependence can also be found in schools it is necessary to explain that schools are organizations and how to operationalize path dependence processes in an educational organization: at the level of practices. By analyzing practices of differentiation after the secondary school reform in Berlin 2010/11, which two types secondary schools (*Hauptschule* and *Realschule*) representing different levels of academic ability, were merged to form a single school type simply known as ‘integrated secondary school’ (*Integrierte Sekundarschule*, abbreviated to *ISS*), it can be shown that some schools still apply the same differentiation practices as they did prior to the reform. Thus organizational path dependence will be used to explain the organizational self-reinforcing practice of differentiation in secondary schools.

Keywords:

organizational path dependence, practices of differentiation, School reform Berlin, schools as organizations

1. TRANSFER TO SCHOOLS

In the analysis of the transfer of modern economic approaches and insights of research on schools, it is striking that not only 'inspiration from economics' provide triggers for educational reforms but also empirical phenomena such as education reforms are explained using economic concepts. So not only economists and social scientists are increasingly aware of the concept of path dependence. Recently, academic educational research has been particularly used the concept of path dependence for explaining school structure debate about the 'duality' (two-tier system). An issue in the journal of pedagogic (4, 2013) was published to the topic 'two-tier system' structural change in the German school system. In the course of structural changes in the German school system and through reform processes, phenomena such as persistence occur, which can be comprehended using the concept of path dependency. However, this assumes different levels and definitions of path dependence. The debates on structure take place at the institutional level; states are compared, as in Germany an educational federalism dominates. However, this paper focuses on individual schools. The focus is central, because a high variance has been documented between schools at this level. The change of the paradigm to the individual school supports this, because the concept of the individual school as a 'pedagogic unity of action' (Fend 2008: 146) showed more scope for action and organising work in the last 20 years. The focus is on schools as an educational organizations and thus organizational path dependence because Schools as organizations get under pressure. Schools have to deal with massive transformative challenges, because of Reforms relating to manage and develop an own school profile for competition to other schools (for the 'best' pupils) and related to include pupils with disability (because auf changing legal position to human right). According to these drivers of change the persistence puzzled the picture. Resistances in organizations are common phenomena even resistance and focus on self-reinforcing mechanism in the organizational research (Schäcke 2006). Just schools haven't been focused this was. According to the phenomena the (most) actors in schools are willing to change schools: they just do not act in this way. For that reason the focus are practices in Schools. A special focus is on new form of organization; the Integrated Secondary School (*Integrierte Sekundarschule*, abbreviated to *ISS*).

The insight of a variety of research fields can sum up briefly to an academic void: The organizational research in Germany focused mainly on firms and schools as organizations are neglected. Sociology of education insufficient edits the topic of educational organizations. The research on educational research (e.g. PISA) focused on exogenous explanations. Endogenous explanations of differentiation are mostly used either at a microscopic level, looking at certain token attributes of pupils and their decisions or at a macroscopic level looking at institutions. The organizational level of schools, their practices and circumstances, or the semi-professional knowledge of teachers (Buchen et al. 2007) have received little attention. That is way educational research can be critiqued for insufficiently addressing organizations and the organizational field.

The theoretical lens of Path dependence can be applied to address these issues and explaining the phenomena of persistence in organizations and (un-)intended effects. So as to be in a position to conduct a detailed analysis of the development of path dependence sketched out above or indeed to confirm the development of such path dependence.

Accordingly, the paper focuses on the transfer of the concept of path dependence to the school organization. So following questions matter:

How organizational path dependence can be found and why schools are analyzed as organizations? How to analyze the persistence/ resistance of the reform in schools? And why practices of differentiation are relevant? Thus the question is: To what extent will be the concept of organizational path dependence transferred on schools?

From a theoretical view: *Why it makes sense to understand school as organization? Why schools are relevant for path dependence? Why “schools matter”?*

From an empirical view: *Whether and how differentiation practices exist in secondary schools after the implementation of a school reform program? How can differences in the practices be explained? Which practices and action patterns lead to stability in schools? Why does the intervention of the reform not work?*

Despite of efforts to reform the German school system persistence as puzzling phenomena appeared, which can be comprehended using the explanatory concept of path dependency. The School reform of 2010/11 in Berlin is an intervention that is made, but cannot break the path seeing by practices of differentiation. So the proof of path dependence can be seen in the resistance of the reform, that initiative as well as demonstrating ‘inefficiency’ in the sense that there has been no switch to an alternative since the room for maneuver is limited.

To aim the transfer of path dependence to schools, a brief introduction to the field of education research on the school system and path dependence is just given. For the theoretical transfer on the level of organizational path dependence, the organizational perspective of research on schools and the theoretical lens of ‘practices of differentiation’ had to be previously arranged. Thereafter schools can analyze as organizations and organizational path dependence is practical. After this theoretical framework the empirical side can be present by the ‘case selection, methods and research design’ to show briefly the school reform in Berlin as an intervention but cannot break the path. The author ends up with the discussion of the transfer to schools and it’s constrains using the example of inefficient analysis. Just note, there is a glossary of school types at the end of the paper.

2. ORGANIZATIONAL RESEARCH ON SCHOOLS

German (speaking) educational science does not principally regard schools as organizations and is replaced by the American organization theory research, due to their lack of connectivity. Koch and Schemman (2009: 11) describe the connectivity of organizational theory contributions of the U.S. to the German educational science as difficult because the system developed in different directions.

In the German speaking educational science, regarding approaches to organizational theory, consequently often on the previously non-specialist sociological, economic organization, research or early essays on schools as an organizational form by American authors such as Scott, Zucker, Meyer, Rowan, DiMaggio, Powell and Weick referenced. In the review of these early works the core of the organization is established, which is in contrast to Weber's ideal type of 'rational' understanding of management and control of organization. The widespread review could be due to the direct examples of schools. Some authors argue for a profitable review of early approaches (Kuper, Thiel 2010: 495). Since no fully elaborated theory of 'educational' organization is within reach (Kuper 2001) and the sociology of education neglects the category.

German Business management and organizational research do not consider schools (for example Schäcke 2006). A comparison of enterprise organizations with schools would, because of technical terminology and the operational understanding of economic input-output models and resources, lead to criticism from the side of educational science (see Drepper, Tacke: 212). The diagnosed theory deficit of genuine educational science research into organization of schools (cf. Kuper 2008: 259), is now more recently edited by the field of 'educational organization research' using the reverberation of organizational theories for education, and additionally the topics 'organization and pedagogy' (Göhlich et al. 2005).

The term organization is defined in different ways within organizational research (Schreyögg 1999). The honeycomb-like organization (Herzog 2009: 161), that was described in the previous approaches as "loosely coupled systems" (Weick 1976), still dominate the debate on the particular type of organization of schools. To what extent schools as organizations can be classified into different types, is a controversial discussion (Depper, Tacke 2012). In contrast, in education sociology the author believe the subject has been neglected (see for instance Kahlert 2010).

The school development research describe school as a special social organization (Rolff 1993) and shows that schools have hardly any of the typical features of organization and is regarded as deficient in this respect. While some sociologists like Langenohl (2008) describe the school organization in all features as follows:

“Although a general definition is difficult to determine, the following features can be identified '(1) the organization's goals, (2) the organizational structure with the added distinction of formal and informal structure, (3) the organization members or participants, as well as (4) the spatial and material resources of the organization.' (Preisendörfer 2005: 59) In relation to the school one can therefore say that the school (1) pursues certain objectives (the educational and formative purpose) that they (2) feature an

internal division of labor and role structure (such as the roles of different subject teachers) that they (3) recruit members (teachers through training and students through coercion) and that (4) it is bound to one or more physical locations (school buildings), which influence the social situations that take place inside them (such as the arrangement of tables and chairs)” (Langenohl 2008: 817).

This sociological appreciation from Preisdörfer was originally inspired by Scott (2003) and restricted to the basic elements, the environment of the organization is also taken into account in this model. Scott sees schools as a heteronomous professional organizations (cf. Scott 1965), which are characterized by features such as working alliance, lack of opportunity to standardize work and central administration in the same way as for autonomous professions, subjugated to external bureaucratic controls (cf. Thiel 2008a). The early approach of Scott treats professionals as employees through bureaucratic regulations and rules with a low degree of autonomy, because they are subordinate to the bureaucracy. Collegial professional decisions serve only an informal and advisory purpose. Due to the dominance of the bureaucracy teachers according to Klatetzki (2012: 177) pursue a weak profession. Whether pedagogical occupations may be referred to as a profession, is controversial in educational science (see Böllert, Gogolin 2002). The author would like to present them as a weak profession, so practices get accentuate. By linking organizational practice and educational organization research, the tension between the pedagogical self-image and organization theory will illuminate (cf. Kuper, Thiel 2010). To sum up, Schools are organizations since they possess the defined characteristics of an organization such as formulization, communication, behavior expectations, membership roles and regulations (Langenohl 2008; Kuper 2008: 259). Despite this ‘implicitness’ knowing (that schools are organizations) Kuper has identified a deficit of theory in scientific educational research (ibid.). There is no comprehensive theory of ‘pedagogical’ organization (Kuper 2001).

A review of the literature up to now shows how neglected the topic has been. Besides the described (inter) and disciplinary uses the following developments have contributed to lighten the organizational perspective on schools makes sense. Through current reform projects and theoretical discourses on education reform and changed control forms such as greater autonomy of individual schools, which under the keyword ‘school autonomy’ breaks down state control in favor of school autonomy (Rürup 2007; Schaefer 2009). Consequently, the criticism of an organizational deficit can be contradicted. So schools can be analyzed as organizations and to connect the organizational level of path dependence.

2.1. THEORETICAL APPROACH: ORGANISATIONAL PATH DEPENDENCE

The organizational path dependence as a further development of path dependence at the organizational level is provided by the ‘Berlin model’ (Sydow et al. 2009). Following theoretical framework focused on organizations. The research concept is chosen to explain organizational path dependence which provides a theoretical lens on practices (which are mapped in figure 1 as points or snowflake).

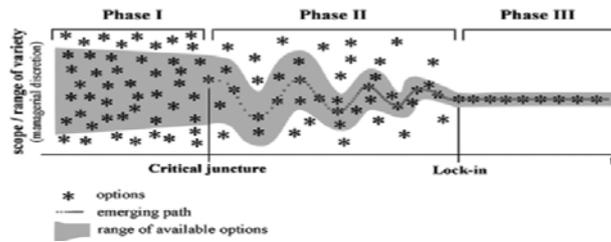


Figure 1: Phases of path dependence from Sydow et al. 2009: 692

In Figure 1, the time bar in the ‘Berlin model’ distinguishes between three phases: The pre-phase I is characterized by its openness. The grey shadow in the figure indicates that decisions are marked by societal, cultural and historical context. In general, development cannot be predicted (non-ergodicity). The move into the preformation phase II is induced at a critical juncture. So-called small events have induced a once-off critical juncture. The last event causes self-reinforcement and positive feedback effects which in turn lead to a narrowing of the room for maneuver. The funnel-shaped representation indicates that over the course of time there are ever fewer courses of action available. Phase III begins with a ‘lock-in’. The path closes at this point since it is no longer possible to switch to an alternative. The grey shadows in the figure shows that what is now in place is a very narrow corridor. This status is (potentially) inefficient and its persistence is recognizable (Sydow et al. 2009).

The strength of path dependence theory lies in its explanation of the self-reinforcing process which in the course of time limits room for maneuver. The key elements of my project will be to clearly identify the self-reinforcing mechanisms, i.e. (1) coordination effects, (2) complementary effects, (3) learning effects and (4) adaptive expectations (Sydow et al. 2009: 699ff.). In addition to focusing on self-reinforcing mechanisms, a structuration theoretical approach after Giddens (1984) is chosen, so as to take into account an actor’s perspective of ‘knowledgeable agents’ (ibidem: 5). Thus, through the actions and practices of the actors, despite their having other intentions and having reflected on the situation, unintentional consequences are triggered. The recursiveness of practice or structure and action as a recursive process as well as their interaction will be theoretically recorded (Giddens 1984). For the reasons given process perspective can be fruitfully applied to the ‘Berlin model’.

2.2. THEORETICAL LENSE: PRACTICE OF DIFFERENTIATION

In the following addresses the question: Why practices of differentiation are relevant? And how practices get captured? Before we capture practices, we need to be sure to be one the right level of analysis.

According to the concept of recontextualization (Fend 2006: 175) attention will be drawn to the fact that the school structure is not deterministic but contextualizing. It is the framework the actors find themselves in that leads to the variance described (ibid.). Therefore, the school structure must be considered as the macro context; however, dealing with issues of effects and consequences of organizational models at a macro level such as school type and school system comparisons (like the

school type *Gesamtschule* with other types), with have been studied since the 1970s, is not very fruitful with respect to heterogeneity and path dependence. The focus needs to be far more at the level of the individual school since it is here that greatest variance can be seen. Fend (2008) showed that the decoupling of the graduation certificate and school type took place literally behind the back of the ‘governance’. The school developments took place silently within the organization of the schools. Fend describes the „individual school as an educational unit“ (Fend 1986). Accordingly, it is not a macro perspective of governance but rather the practices taking place at the individual school. Furthermore Ditton and Kreckler showed in 1995 that the spread of performance across school classes is large. Thus “the performance of *best classes from the worst schools* in Realschulen and Gymnasien barely differ from the performance of the *worst class in the best school*” (italics in original; Ditton, Kreckler 1995: 520). So the focus needs to be on the practices in schools.

Despite internal differences practice theories can be seen as more important in organizational studies since the metaphoric ‘practice turn’ (Schatzki et al. 2001). There is a huge literature on practice with little different understanding. For Schatzki et al. (2001) practice is a distinct social ontology, like for Bourdieu’s theory ‘praxeologie’ (1982, 1983) which is a combination of practical sense and incorporation of knowledge to habitus and social practices are self-reproducing dispositions in a social field. Gherardi (2012) named it ‘practical lens’; Feldman and Orlikowski (2011) showed that practice can be used in three approaches: empirical, theoretical and philosophical. The author will not mix too many concepts and choose Giddens (1984) definition where practice recursively produce and reproduce structures that constrain and enable actions.

The author focused on practices of differentiation as dealing with heterogeneity. Because – as organizations – schools are expected to deal with heterogeneity¹ as efficiently as possible. Against the background of explicit between-school tracking in German-speaking countries and the effect of a very strong performance based differentiation, social disparities can be clearly identified. Maaz, Baumert and Trautwein (2010: 86) have described the link between social background and school performance using two different mechanisms: institutional effects and compositional effects. They refer to institutional effects when the roots of differences in rates of learning are to be found in school-type specific aspects such as timetables, syllabi, teacher competence and the atmosphere of lessons (ibidem: 87). Composition effects arise out of the make-up of the pupil populations. Together, both mechanisms lead to a differentiation in the learning and development environment and thus to social disparity (ibid.). Furthermore, against the background of these results it can be assumed that organizational practices play an additional key role here.

Heterogeneity is often defined as diversity and has a positive connotation. Heterogeneity is a relative construct that is conceived differently in historical, theoretical and empirical contexts (Trautmann and

¹ In educational science heterogeneity is seen both as a problem and an opportunity since on the one hand it contradicts the principle of equality while on the other hand it is linked to the negatively connoted idea of homogenization and the continuation of inequality and disadvantage (cf. Hagedorn 2010: 419).

Wischer 2010). The characteristics of differentiation² between pupils are socially constructed and consideration of their societal value judgments is not 'neutral'. Differences can be interpreted to varying degrees as acknowledgement, hierarchization, disadvantage or forced adaptation (ibidem: 47ff.). The work will focus on three characteristics: gender³ as well as social and cultural background. Since these three provide the clearest explanation for educational disparity in quantitative and qualitative studies (Klein et al. 2010; Büchner 2003). Nonetheless, within intersectionality studies there is a dispute as to which lines of difference are relevant (Leiprecht, Lutz 2003).

The author focus especially on the practices which regularly and in a generalized form lead to differentiation along the lines of the attributes described above. Practices of differentiation are defined as practices and decisions in the organisation – the school – which, following the logic of institutionalizing homogeneity have an unequal effect on pupils. In this process, differences will be focused on which are created in the organisation and which are ascribed through the collective attributes of 'cultural background' to a disadvantaged group. The focus is on 'positive' differentiation practices such as the intention of encouraging and furthering pupils as well as 'negative' and also examine effects of direct or indirect differentiation practices.

Practices are relevant because they differ even within a single formal structure. To reconstruct standard patterns of action the focus will be on practices which are at the level just above that of the actions taken. The practices are not, therefore, individual actions or phenomena. Neither are the pedagogic intentions of the individual actors (especially teachers) being studied. Instead the author will focus on differentiation practices and standard communication as seen within the schools, which are independent of the individual actors. Interestingly, a wide variety of organizational differentiation practices can be identified at the schools. Same age classes, specialist subject differentiation in Gesamtschulen or elective subject differentiation or special support classes are examples of this differentiation (Trautmann, Wischer 2011: 78). The reduced external institutional differentiation and internal differentiation lead to the erroneous idea that there is a spectrum of differentiation (ibidem: 78). At the individual school level further latent differentiation is suspected which can be identified in the actual practices. Project lessons, project days, mixed-age classes and the creation of 'left-over' classes are examples of this. The difficulty of the undertaking lies in the fact that the impetus or intention of the literature within the reform discourse is not always recognizable. Behind the 'organizational' problems of the heterogeneous school are norms, values and issues of fairness. Thus the structure of the school is based on decisions and practice made by actors which are reversible (in so far as they are not path dependent). The question of allocating tasks to the school and the weighting of optimal furthering of individual pupils goes together with the recognition of diversity. This is to be dealt with analytically using school as organization theoretical background.

² The particular difficulty from the discourse of heterogeneity is that the separate characteristics can be itemized in further characteristics and classes.

³ For ease of reading only one gender form will be used. The specific characteristic of gender will only be mentioned where it plays an explicit role.

3. CASE SELECTION, METHODS AND RESEARCH DESIGN

Because the German education system is structured federally (meaning that the individual states determine their own educational system) the framework of my research has to be focused on a single federal state. According to Below (2009: 143) the structure and content of the Berlin education system is reformed- liberal⁴. This is in contrast to the traditional conservative types of states such as Bavaria, Baden-Württemberg and Mecklenburg-Western Pomerania, where both the structure and the content are strictly regulated. These states have a compulsory traditional educational canon, while the teaching material in Berlin is 'more modern' allowing room for schools to act individually. In the traditional-conservative type of school, selection is early and transfers are difficult. This federalist typology has been affected by the reforms which have been going on since 1997; but it is nonetheless clear that the focus on the individual school in Berlin is targeted, since the individual school in Berlin is less constrained than is the case in other states. In addition to this argument of focusing the organizational level: current research showed that there is no path dependence on the level of the school system. The histories of states are multifaceted (Zymek 2013)

Some background-information to the Reform need to be explained for the case selection: The left-leaning Berlin governing senate voted to dissolve the system of *Hauptschulen*, *Realschulen* and *Gesamtschulen* in the 2010/11 school year, since there was a very low transfer rate from Berlin *Hauptschulen*. Now, following six years of primary school children can transfer either to a *Gymnasium* or to a newly formed integrated secondary school which also provides a senior grade (13 years of schooling in all) as well as all available school qualifications.⁵ The Berlin Senate decided that following the primary school reform a choice of two secondary level schools was to be provided, the integrated secondary school and the *Gymnasium* (starting with the school year 2010/11). The years when there will still be pupils attending a *Hauptschule*, *Realschule*, *Gymnasium* or *Gesamtschule*, will end with the school year 2014/15. The conditions for the new integrated secondary schools are individual support, differentiation according to ability, flexible timetables, full day school as well as dual learning.⁶ The pupils from *Realschulen* and *Hauptschulen* were taught in separate buildings and had a different syllabus prior to the reform. Both forms of school were brought together in the school year 2010/11 to form the new *integrated secondary schools (ISS)*.

⁴ Similar to the city states of Bremen and Hamburg as well as the federal states of Brandenburg, Hessen, Lower Saxony and Northrhine-Westphalia.

⁵ In addition, since the 2008/09 school year Berlin has run a pilot project *Gemeinschaftsschule* from first grade through to senior grade and providing access to all school qualifications.

⁶ (<http://www.berlin.de/sen/bildung/bildungspolitik/schulreform/>; last access: 14.10.2013)

The following is a presentation of the possible school options in Berlin and Cases-Selection with the form of organization prior the reform:

- ISS_A) Realschule,
- ISS_B) Gesamtschule
- ISS_D) Haupt- und Realschule in one building,
- ISS_C) verbundene Hauptschule

In order to capture practices, effects and mechanism through and in organizations the author has chosen a *case study design* (Yin 1994). For this purpose the working definition from Horstkemper und Tillmann is used: “Case studies as a long-term, systematic and, when dealing with the ‘case’ a critical approach” (ibidem: 301). The case study approach enables processes such as the path dependence construct to be observed more intensely, more realistically and from more perspectives with all its complex characteristics, processes and contexts (ibid.). So the analysis provide of how schools and the secondary school reform functions on the level of social practices and processes so also to be able to identify desirable, undesirable and self-reinforcing effects. The analysis should explain whether and why key ideas from management, such as efficiency and quality, are reflected in practices.

The case study design can provide evidence of stable and unstable differentiation practices in secondary schools, seen in figure 2, as a variance from school to school. Accordingly, the path states that former *Realschulen*, which had become integrated secondary schools following the fusion, continued to apply their ‘old’ differentiation practices and are not capable of adapting to the ‘new’ heterogeneous school population.

criteria	specification
design	case studies of 4 secondary schools
unit of analysis	practices of differentiation
criteria of analysis	stable and unstable differentiation
methods	interviews, observation in class conferences

Figure 2: Research Approach and Methods by the author

The research design involves the contrasting of several case studies, since insights on path dependence can be derived from a comparison of schools. The theory-driven selection of the schools is based on the data from the quantitative-comparative school studies. It is thus possible to build on existing knowledge of school research with respect to school types. This necessitates a qualitative case examination of four schools which vary in their practices: two schools with stable path-dependent practices and two schools with heterogeneous unstable practices.

Earlier practices have been retained in spite of the school reform but that different types of schools use different practices: Thus the former *Hauptschulen*⁷ deals with heterogeneity since this school type grew into a ‘leftover’ school which could not easily get rid of its difficult pupils. A pupil can only be transferred to a special school on the basis of an evaluation provided by an expert. In contrast, the *Realschule* operate homogeneously by sending weak students to a *Hauptschule* and very good pupils to a *Gymnasium*. An indication of this practice can be seen in the ‘left-over’ classes as described above: the manner in which heterogeneity is dealt with can be observed for instance in project work and in teaching across several class levels etc. However, these are manifest structural organizational examples. By focusing on the practice of differentiation further attributes can be identified. The methodology will be implemented using semi-structured interviews and participatory observation focusing on the relevant practice.

4. PERSISTENCE DESPITE SCHOOL REFORM?

The calls for reform could no longer be ignored following the poor performance in large scale assessment studies like PISA and TIMSS. The decision to reform the structure of the schools was a consequence of the organizational shortfall identified in schools (cf. Preisendörfer 2005: 155). As a result of the dissolution of the tree-tier system in the Berlin school reform of 2010/11, the secondary school population has become far more heterogeneous. But the question remains whether, despite the school reform, homogenizing behaviors continue. So the special focus is on new form of organization; the Integrated Secondary School (*Integrierte Sekundarschule*, abbreviated to *ISS*). What pattern of internal differentiation exists in the respective individual schools? Therefore, the focus will be at the level of the individual schools with their organizational differentiation in dealing with heterogeneity since, according to Trautmann and Wischer (2011), they have often been overlooked in the debate on school structures. To point out, despite of efforts to reform the German school system persistence as puzzling phenomena appeared: stable practices of differentiation in schools. So in the fusion process of the organization, which through the reform has to deal with an exogenous shock, the schools are expected to modify their endogenous decisions and practices, but they often actually remain the same. So these secondary schools thus automatically have a pupil population which is heterogeneous, but schools deal with this in different ways of routine. For instance, some secondary schools have formed ‘left-over’ classes. These are characterized by the continuation of the poor learning environment typically inherited from the ‘old’ *Hauptschule*. Furthermore these ‘left-over’ classes are excluded from additional development projects. In other words they do not take part in project lessons or mentoring programs which are conducted externally in cooperation with charitable organizations such as the

⁷ A connection can be made to existing qualitative case study research. There are, for instance existing comparative analyses of several Berlin *Hauptschulen* which have identified and described the problems (Roeder 1997).

Hürdenspringer.⁸ Regarding observation of the adaptation of organizational practices in the heterogeneous population of pupils in German secondary schools: Some school, such as the former *Realschule (ISS_A)*, not manage in the changed environment to adapt to the new increased heterogeneity caused by the school reform since their differentiation practices are possible path-dependent. In other schools, such as the former comprehensive schools (*Gesamtschule*) they have succeeded with heterogeneity practice since these schools either further their pupils at an earlier stage or are better able to adapt. (The practices which are the object of the research and which are described in Figure 1 as options are shown in the Berlin model as dots or snowflakes).

According to the path development, practices (or decisions) of the teacher or the organization contribute to the creation of homogenous learning group. These differentiation practices are ‘logical’, both for the teacher and the school, since it is ‘easier’ to deal with a ‘homogenous’ learning group requiring less coordination. The practices of differentiation are lead to the creation of homogenous learning groups since these are believed to function in a ‘logical’ manner. In practice, many reasons are given (time and material arguments, the depth and complexity of the subjects, ‘rational calculation’, apparent excessive demands on both pupils and teachers), which all have one thing in common, pupils ‘must’ be allocated to groups as a result of limited resources. Coordination effects and adaptive expectations which play a role here appear sequentially. One important aspect here is that behind the backs of the actors, a ‘leftover’ group is formed leading to inefficiency so the group is ‘doubly’ disadvantaged. The double disadvantage results from the fact that the affected pupils are socially disadvantaged through their attributes as well as being disadvantaged in a poor learning environment in a type of downward spiral. Thus they experience a reinforced, ‘double disadvantage’ (Schümer 2004: 105ff.) as a negative effect of this reinforced process.

One of the practices is the organization of pupils into ‘leftover’ classes which still exist despite the school reform. The aim of the reform was, among other things, to counteract the formation of such ‘leftover’ classes. This differentiation practice, however, still exists in the newly integrated secondary schools and has led to the creation of ‘leftover’ classes with the ‘worst’ pupils. It can be assumed the learning environment is poor in these classes, exactly the same learning environment which was to eradicated by dissolving the *Hauptschule*.

A note on *coordination effects*: At school and class conferences the discourse on differentiation practices are discussed. The greater the number of teachers who adhere to the practice of differentiation, the lower the cost of coordination since less time is required for the differentiation of individual pupils. The conferences run more smoothly and even new teachers and trainees are attracted to and adopt the differentiation practices – and fewer issues have to be voted on.

An indication of how *complementary effects* work can be seen in the way differentiation practice works in the streamed school system: The practices of differentiation are strengthened through

⁸ This information was obtained in informal discussions with teachers and relevant organizers of a mentoring program called *Hürdenspringer* for students with migration background.

complementary effects within the streamed system. Differentiation at the macro level of the type of school, at the level of the individual school and at the micro level of the class “[...] can occur at the level of the individual the pupil attributes (such as age, gender, or ability) and with different objectives (reduction of complexity or specialization among other things). It can occur at different levels and in different ways” (Trautmann, Wischer 2011: 74). The external hierarchical differentiation of school types in the first level of the secondary system is a peculiarity of the German speaking systems in a worldwide comparison. The close connection between the external school structure and the tendency to differentiate is probably due to the existence of multiple streams. Fend speaks of a ‘clearing out mentality’ leading to pupils being “passed on to other school types and a high rate of pupils staying behind” (Fend 2004: 23). As a result of the synergy effects of linking several regulations, it becomes more difficult to change a differentiation practice the more complex the bundle of regulations and practices (cf. Ackermann 2003).

Learning effects and adaptive expectation effects can be demonstrated through the practice of differentiation. ‘Old’ didactic principles are retained along with ‘old’ content and practices since this saves preparation time. The effects of adaptive expectations reinforce these practices, since it leads to an interactive preference formation. Teachers expect that other teachers are using the same practices so they adapt to this to get on the winning side (cf. Sydow et al. 2009: 700). Furthermore, the practice can be reinforced through legitimatization or by the opposite phenomenon, the fear of being stigmatized as an outsider if one does not adapt.⁹

5. DISCUSSION: INEFFICIENCY ANALYSIS

The phenomenon of an educational environment providing neither stimulus nor incentive, the *Hauptschule*, was to be dealt with through its abolition. The aim was to merge the *Hauptschule*, the *Realschule* and the *Gesamtschule* into one single type of secondary school catering for all pupils. But despite the secondary school reform in 2010/11 the practice of differentiation in secondary schools remains, so that pupils continue to be streamed leaving one group, which called the ‘left-over’ group, still stuck in a negative learning environment. The creation of such groups of pupils with certain attributes can demonstrate the path dependence process. ‘School-effectiveness’ research has demonstrated the negativity of differentiation and how it hinders the development of pupil potential. Thus, 18.5% of fifteen-year-old pupils are not able to read a newspaper and find themselves on or under the lowest performance-level I (Artelt et al. 2009). Literacy performance can be defined as

⁹ Examples of self-reinforcing mechanism can be found in the literature which can only be briefly outlined here: “Solidly anchored in the organization by contrast is the deterministic logic by which attributed characteristics and collective features of those who have been disadvantaged are seen as the reason for the decision and all the resulting consequences” (Gomolla, Radtke 2009: 277). So following, for example, Theory X the disadvantaged pupils are attributed certain characteristics of a group, such as, for instance, that they are not motivated to learn or other societal attributes, which in turn leads to their receiving no support or encouragement. And so we end up with a self-fulfilling prophecy (cf. Sydow et al. 2009: 700).

inefficient (outcome). The inefficiency and the resistance of the existing practice despite the school reform can be seen as an indication of an organizational 'lock-in'.

The approach taken by the author is, therefore, an empirical case study of schools. The chosen cases are secondary schools in Berlin, which continue to group their pupils into, preferably homogeneous, learning groups despite the secondary school reform implemented in the school year 2010/11. Differentiation practices are defined as all those recurrent activities and emergent processes which go towards forming a homogeneous learning group. Homogenous learning groups could encourage inefficiency since they lead to the formation of a weak and problematical learning standard at the lower end of the ability scale. The accumulation of weak pupils in a 'left-over' class encourages problematic effects such as behavioral, educational and learning problems (Helmke 2007). This unfavorable composition effect at the level of the lesson can also be seen at the level of school types. On the basis of a secondary analysis of PISA data on pupil performance in the *Hauptschule* Schümer (2004: 105ff.) was able to demonstrate that the performance was weaker than expected due to the poor learning environment and because they were 'doubly disadvantaged' through their social and cultural situation. It is of interest to note that the homogenous learning groups are actually more heterogeneous in terms of performance than generally presumed. 10% of the best pupils in *Hauptschulen* would fit into the middle performance scale of a *Gymnasium*. Just about half the 15-year-olds in *Realschulen* overlap in their performance with the pupils of *Gymnasien* (PISA 2001: 121; Tillmann 2008: 57). The difference between the classes of *Hauptschulen*, *Realschulen* and *Gymnasien* is only demonstrated in their average achievement and their social composition. There is in fact no huge difference in actual performance as demonstrated by the major overlaps. As a consequence Tillmann believes the idea of the homogenous learning group is a 'fiction' which has been strived for without success (Tillmann 2008: 57). The homogenous learning groups are in fact more heterogeneous than is or was believed. Attributes by which learning groups are put together compete with performance, social and cultural backgrounds and other characteristics. The effect of this 'fiction of the homogenous learning' (ibid.) is, however, demonstrated in the problem of the 'left-over' classes. The difficulty in measuring the inefficiency of social phenomena can be found in the central idea 'behind' the phenomenon. The central idea of the heterogeneity discourse in pedagogics cannot be transferred to the semantics of economics using efficiency calculations. The main idea behind heterogeneity is that of equality of opportunity, which is possible in contrast to efficiency. Present-day practices of differentiation depend on societal value systems and on basic convictions. The central ideas must be viewed together with the respective interests (cf. Brüsemeister 2005).

The social inequality of the education system, characterized in different ways has been well researched in interdisciplinary educational research (author group educational report 2010; Ditton 2008; Jacob, Tieben 2010; Krüger et al. 2010; Maaz et al. 2006, 2010, Müller-Benedict 2007; Author group regional educational report Berlin-Brandenburg 2010). The wealth of literature on social inequality in the education system demonstrates that social and background disparities have been well documented

and are not based on the performance principle but rather on social structures. Disparities are expressed in the strong effect of primary background attributes according to Boudon (1974), in other words through the direct influence of one social class on measured performance and certificates as well as secondary background effects; how education choices are made according to social background and the consequences for individual educational success independent of any development of competencies. The role of allocation is not disputed, but the procedure by which the allocation is conducted is questionable. Fend shows that the German terminal system passes on the right to enter the next level of institution (e.g. the *Abitur*: German exam-based qualification gained at the end of a 12/13 years of education acts as the entrance exam to university). This rights-oriented examination system is coupled with an elective system. In this selective system the entrance examination decides on the allocation (Fend 2008: 96ff.).

The problem of poor homogeneous learning group at the *Hauptschule* is not dealt with simply by getting rid of the school type. The example of the secondary schools is interesting in view of the fact that officially they see their role as furthering every child and schools advertise this fact on their homepages. Practices of differentiation are still functioning very well in some secondary schools while they are not found in others. The logic of differentiation in schools has resulted in self-reinforcing mechanisms, so that hints of i.e. coordination effects, complementary effects, learning effects and adaptive expectations (Sydow et al. 2009) are working in schools. These mechanisms can result in a situation called 'lock-in', so the school as organization is unable to change and improve, which is why the reform is possible not working at these schools. In summary, a path dependence process of differentiation practices took place, reinforcing and strengthening the practice of differentiation in certain schools over time.

To sum up, the work aimed to analyse the persistence of practice of differentiation in Berlin Secondary schools despite reform process. Particular focus will be placed on the 'left-over' group. So the problem of a poor learning environment in the *Hauptschule* providing little stimulus has not been solved by the Berlin school reform but has simply been shifted elsewhere to schools like (ISS_C). The author focused on practices, because these practices differ greatly. In other words the greatest variance was found at the level of the practice. By using the concept of path dependence the author provides a further explanation why secondary school reform in Berlin did not break this pattern.

The contribution represents a theoretical transfer of path dependence to the field of school research, which means a further coverage of the path dependence. The implementation of the Berlin model of organizational path dependence in the pedagogic context and corresponding practices indicate a self-reinforcing mechanism and an associated stabilizing effect over time. Consolidated findings have shown how the practice of differentiation is reproduced and stabilized in schools and become path dependent. To date, there is no literature available on the organizational practices of path dependence in schools. An explanation for this can be found in Trautmann and Wischer (2011: 137). He describes how school development research focusses on heterogeneity and concentrates on the macro- and micro

levels, in other words on the analysis of the school structure and the lesson and how the individual school has only been observed in recent years. This research into heterogeneous practice shows up two gaps, in the demonstration of path dependence and regarding practice research into heterogeneity at the level of the individual school. To date, as far as the author is aware, only Buchen et al. (2007) have conducted a study on heterogeneity and school development at this level. The focus on the individual school is central to the discourse of heterogeneity, because a high variance has been documented between schools at this level. The change of the paradigm to the individual school supports this, because the concept of the individual school as a 'pedagogic unity of action' (Fend 2008: 146) showed more scope for action and organising work.

School can be viewed as an organization. Consequently, the concept of organizational path dependence can be applied to schools as organizations. The transfer of path dependency to school research requires a critical reflection and appropriate adaptation to the object. Like the transfer of an economic explanation concept in education research is often associated with a corresponding adjustment to the object. Like the history of the path dependence from technological over institutional to organizational path dependence showed an adaption of the effects of self-reinforcing mechanisms at the specific context.

To sum up, the paper focuses on the transfer of the concept of path dependence to the school organization: Despite of efforts to reform the German school system persistence of 'practices of differentiation' as puzzling phenomena appeared which can be comprehended using the explanatory concept of organizational path dependency. Using the example of structural reform in schools in Berlin, 'practices of differentiation' and the organizational forms of the Integrated Secondary School can be considered in this way.

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GLOSSARY: SCHOOL TYPES

Abitur (Secondary school qualification at the upper level, exam-based qualification gained at the end of a 12 (*Gymnasium*) and 13 (*Sekundarschule*) years of education acts as the entrance exam to university)

Förderschule (special school for students with special needs on account of disability)

Gemeinschaftsschule (is a pilot project of a ‘community school’ from first grade through to senior grade and providing access to all school qualifications.)

Gesamtschule (comprehensive school; in cooperative type pupils are taught in classes grouped according to different levels of qualification. In integrated type pupils are taught in courses grouped according to different level of proficiency for a number of core subjects but taught together as a year group for all other subjects.)

Grundschule (elementary school is a compulsory school for all children of the age of 6 onwards. In Berlin and Brandenburg there are six grades, other federal states have four grades.)

Gymnasium (academic secondary school providing an in-depth general education aimed at the general higher education entrance qualification with *Abitur*)

Hauptschule (secondary school of the lowest level, usually comprising grades 5-9/10, providing a basic general education)

integrierte Sekundarschule (the secondary school reform in 2010/11 fusion the *Hauptschule*, the *Realschule*, the *Gesamtschule* into one single type of secondary school catering for all pupils, also integrate disabled students with special needs. This reform built all-day schools.)

Realschule (secondary school that usually comprising grades 5-10; pupils with a more extensive general education and the opportunity to go to courses of education at upper secondary level that lead to vocational or higher education entrance qualifications)