

English summaries

Donald Broady & Sverker Lindblad, 1999: Frame factor theory revisited: Introduction /På återbesök i ramfaktorteorin: Temaintroduktion/ Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 1–4. Stockholm ISSN 1401-6788.

This issue of *Pedagogisk forskning i Sverige* presents seven contributions to the conference »På återbesök i ramfaktorteorin» (Frame factor theory revisited) which took place at Uppsala University in March 1997. Frame factor theory was first introduced by Urban Dahllöf in order to explain differentiations within the Swedish comprehensive school. However, he did not develop the theory further to any great extent. Instead this was done by Dahllöf's former Ph.D. student Ulf P. Lundgren, who broadened the scope of the theory and helped it play an important part in Swedish educational research. From different perspectives the conference papers discuss the genesis, development and reception of frame factor theory, its relations to other research traditions, its use in historical studies and its applicability in research on schooling today, thirty years later.

Urban Dahllöf, 1999: Early frame factor theoretical thinking in retrospect / Det tidiga ramfaktorteoretiska tänkandet. En tillbakablick/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 5–29. Stockholm ISSN 1401-6788.

In connection with the Swedish school reforms in the 1950s and 1960s, organizational frames became key issues. In an extensive report by Nils-Erik Svensson ability grouping was treated as an independent variable directly related to performance in elementary achievement tests, but showed small and insignificant differences for students of equal initial ability and social background. From the reform spokesmens' point of view, many of whom were prepared to pay a certain price on the achievement side of the reform components for favors in social respects, that outcome was almost too good to be true. But the project could not offer any explanation, since it was a typical descriptive input-output analysis without theoretical considerations.

In a parallel study of curriculum content, the present author had access to information about methods of instruction and the allocation of teaching time

in different curriculum units. However, those data were first used for purposes of curriculum planning and it only later became possible to supplement the Svensson analysis with this. When this was done a quite different outcome structure emerged: (i) Individualization was, contrary to recommendations and expectations, almost non-existent and no more frequent in the experimental comprehensive school than in the traditional secondary classes. (ii) The tests were very elementary ones with a low content validity when compared with the curriculum units actually taught, particularly in the secondary school settings. (iii) Great differences were found in the amount of teaching time spent on various topics in favor of less time on elementary units in the secondary classes and more time there on more advanced units that were not covered by the test battery.

The critical reanalysis of the material available led to the development of a theory about the specific mechanisms of ability grouping in two special cases; the one when traditional class-centered instruction was the dominant pattern of teaching, the other when a far-reaching individualization over curriculum units was practised. In both cases ability grouping was regarded as a fixed frame condition that cannot be changed by the individual teacher during the school year, even though it is a factor under control by local or central school authorities.

In combination with another key condition such as lack of competence or teaching aids to individualize instruction, this combination of frames set in the first case limits for what is possible to do with respect to the pacing problem. Thus, there were strong indications that the progression over the school year was heavily influenced by the achievement of a certain group of pupils that the teacher used as a reference group for her decision of when to introduce a new concept or curriculum topic. For elementary units, that »steering group» seemed in most cases to be located among pupils in the 10th–25th percentile range of the distribution of initial abilities, something that was later confirmed by Lundgren in an extended replication study at the senior secondary school level.

In the article it is argued that this specific theory of ability grouping and teaching progression represents an example of a »theory of the middle range» according to Merton, since it is valid only under the condition of a traditional classroom instruction in which a new concept or unit is introduced on a collective basis for the class as a whole. Consequently, when a far-reaching individualization over curriculum units is practiced, the steering group phenomenon should not be expected to appear, nor any unproductive waiting time for the slower class-mates among more advanced students.

The two specific theories outlined above, may in turn be seen as special cases of a more general model that substitutes the old descriptive input-output analysis with process links that represent a necessary condition in order to understand how and why different organizational arrangements and other educational frames affect the teaching and learning patterns in the classroom. Outcomes are never a direct consequence of an independent variable like the size or composition of the class but are dependent upon the kinds of

interaction that actually take place within the degrees of freedom that the frame conditions permit.

This means that the research on ability grouping presented here shows that there is an interdependence between the general model and a theory for a specific combination of organizational and other frame conditions. A general model is at best a helpful tool for sorting out principal possible relations between different components in a complex problem-chain of actors-frames-processes-outcomes, which in turn may enhance the design of research projects about such problems. However, the model will gain in credibility if it can be shown that it facilitates the creation of good designs as well as the formulation of fruitful theories about specific frame/process phenomena and it is important to underline that it is not meaningful to talk about the frame factor theory as a general (or still worse: universal) theory attempt. Instead, every unique combination of frame conditions requires a theoretical understanding of the key mechanisms of the educational processes involved in each specific case depending upon both goal dimensions, available resources of different kinds and on the competence and intentions of the actors involved.

A good theory gets explanatory power through a detailed and realistic analysis of the educational processes that take place as a consequence of the actors moves and underlying perceptions and intentions within the constraints set by organizational and other kinds of frames such as the total time at disposal. Therefore, the components in a theory-chain should be expected to vary both in kind, size and importance with the specific context even though the general model may have facilitated the researcher's perception of the problem field, the research design and the formulation of the specific theory.

The remaining part of the article discusses some other early contributions that were made in direct connection with or soon after the original report in Swedish (*Skoldifferentiering och undervisningsförlopp*), which was later followed by an abridged version in English (*Ability grouping, content validity and curriculum process analysis*). The big project reported by Lundgren which confirmed and deepened the first theory version with data from another part of the school system should once again be mentioned, because of its prominent role in renewing classroom interaction studies on the micro level of the problem area. Before that, another replication in the field of teaching Swedish provided additional support to the basic components of the theory.

Besides the direct replications mentioned above, the principal model provided a baseline for a number of early papers about general consequences for evaluation, planning and research. Most of them had Swedish school authorities as their main target group, even if some of them were later also published internationally. Among those addressing the international community of researchers, the following should be mentioned here.

A message to the IEA consortium at the Lake Mohonk conference concerned the need in the next IEA-phase to concentrate more intensely on process directed studies. This message was in vain.

An invitational address to Division B at the 1973 AERA annual meeting was delivered in New Orleans, in which the new approach was discussed in relation to some at that time prominent American contributions in research on

classroom behavior and interaction (Rosenshine, Furst), teacher effectiveness (Gage) and aptitude – treatment interaction (Cronbach, Bracht). While these American researchers had recommended still more detailed-controlled experimental designs, the Swedish speaker took the opposite view underlining the need of broadened paradigms that take a greater variety of field conditions into due account.

At a conference in Germany reported by Edelstein and Hopf, the consequences of the frame/process thinking for the mastery learning model was also critically discussed with emphasis on the fact that the total school teaching time after all is quite restricted, which will lead to serious priority problems in efforts to apply the mastery learning concept in a general way.

Finally, the frame/process-model led the author to enter upon another reanalysis, this time of the examination rates and student flow problems in higher education, since the model drew special attention to the working frame conditions for whole- and part-time students in different university environments and distance education programs.

It is also argued in the article, that teaching/learning processes are sometimes more heavily constrained by frame conditions than is always recognized, since cumulative effects don't become visible until a longer time-span is studied. However well-controlled, experiments of a short duration are not able to catch those process characteristics, the effects of which don't appear unless a long-term perspective is applied. This is one reason why it is so demanding for educational researchers to bridge the gap between micro- and macro studies and to do it with due regard both to the frame conditions surrounding the actors and to the complexities of the processes involved.

Already the early cases described here illustrate the very core of the message about the difference between a general model and a specific theory about organizational and other frame conditions and their effects in different respects. The theories about the phenomena outlined above do and should vary with the problem and its context, but they have in each case been if not entirely derived from, so at least inspired by the same basic model.

Ulf P. Lundgren, 1999: Frame factor theory and educational planning in practice /Ramfaktorteori och praktisk utbildningsplanering/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 31–41. Stockholm ISSN 1401-6788.

The present article examines retrospective support and treats frame factor theory as an analytical theory and as a model for school development. However, it also sets out to trace some of the developments of the Swedish school system as illustration; primarily of the compulsory comprehensive school. It does this both via a written account of the main cornerstones in recent school reforms and via reference to the role frame factor theory has

played in planning and evaluation around these reforms. This means that the article describes both frame factor theory and the main lines of development in the post-war compulsory school with a point of departure in how the theory was first formulated and how it later also came to be used both as a model for education planning and as a theory for understanding the school reforms of the eighties and nineties and their actual effects; particularly those concerning education equality.

My own deep and personal involvement in the development of frame factor theory and school reforms during the period described in the paper, particularly the later periods, means that the account provided in the paper is in many senses very much a personal one, with all the problems this entails. This is reflected on in the paper in conjunction to deliberations over the intention to illustrate more than a flat historical account and to instead provide an account which is fleshed out with reflections concerning personal interpretations of frame factor theory as a practical, analytical device.

The emphasis in the article is on the political steering and control of education, with illustrations taken from the obligatory school system and a view of education as an instrument of modernity, the period of history where rational choice has overcome blind faith as a foundation for decision making at individual and collective levels. In my view the development and applications of frame factor theory are both a part and reflection of this, as in modern society the task of the school is no longer merely to reproduce and mediate existing norms and values, but rather to create the possibilities for citizens to obtain and shape their meaningful cultural activities and income generative employment. Frame factor theory has been about the development and analysis of »frames of possibility» for this. This is a concern for democracy in and through education which implies breaking with deeply rooted long-lasting traditions; not the least in pedagogical theories concerning human abilities, knowledge, teaching and learning.

To attain the aims of reform, frame factor theory as a model for development included a formulation concerning the political steering of schools. At the base-line this saw the control of education as exercised principally via the allocation of resources and the use of regulations for guiding the appropriation of these resources. This cut back to Dahlöf's work and his illumination of differentiation issues which showed how the teaching process is in effect steered by its frames. However, not in the sense that these work within a straightforward cause-effect system. Rather the frames were more »frames of possibility», which enabled or opposed the possibilities of or for certain kinds of processes. Coupled back to the issues of democracy and equality in and through education, this meant that the intention was to control schools via the control of framing processes and the allocation and appropriation of resources which made certain sorts of development likely and others less likely. In the event the fuller realisation of democratic ideals and education equality have proved more difficult than anticipated.

Steering via the control of frames for the teaching process implies a certain amount of decentralisation in which the school must become more a part of the local social and civic scene, with accordingly broadened social and civic

responsibilities. This is a kind of community school idea, in which things like local free-time and leisure activities for youngsters become a part of the school, and the local or borough council (Sw. kommun) obtains some freedoms in the appropriation of the resources allocated to it from central government for schooling and other services. This needs to be controlled however, and in this vein all local and borough councils are required to produce a local plan of action for education and child-welfare which must also be thoroughly evaluated in terms of its effects.

In summary, the main corpus of frame factor theory is built around the idea that changes in external frames limit and regulate changes in internal processes indirectly. Rather than in direct cause-effect relations, changes in frames enable or disable certain process possibilities. In application this can come close to a kind of aims directed control, and this was also the intention of frame factor theory as a model for developing schools in the eighties, in which light its implications for development and evaluation of outcomes are paramount in the current scenario of the decentralisation of education control and the marketisation of education. In this scenario Parliament supplies a definition and specification of the general aims of education/schooling, and the local and borough councils describe in a local plan of action the local interpretations and adaptations which are to be adopted in the realisation of these general aims.

Again frame factor theory is meant to function here in terms of both a tool for gaining leverage over education planning and a theory of education control with analytic and evaluative implications, and is still in line with the intentions behind the development of the theory over the last 30 years. This means that although the political control of Swedish schools has moved in this period from control of resources and the regulation of resource use to a system of control via the specification of aims and outcomes and their evaluation, and did not necessarily require frame factor theory, my point is that (as is stressed in the article) frame factor theory can support and has supported such developments (this is an empirical point) and is and has been an excellent evaluative foundation for monitoring this development.

Christina Gustafsson, 1999: Frame factors and educational development work /Ramfaktorer och pedagogiskt utvecklingsarbete/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 43–57. Stockholm ISSN 1401-6788.

In the year 1967 Urban Dahllöf presented a research study concerning ability grouping. His book was translated into English in 1971 and described a reanalysis of a study focused on the relationship between ability grouping and scholastic achievement. The outcome of the study was that achievement results have to be interpreted in relation to the preceding educational process

and this process has to be interpreted in relation to factors limiting the process. Dahllöf called these conditions frame factors. Thus, the frame factor model says that factors such as time, ability grouping, and contents determine the teaching process. My article deals with an application of the frame factor model with a view to interpreting the development of a school project.

The concrete educational environment I studied was the upper level of the compulsory comprehensive school. During a quarter of a century the school staff have tried to meet increased demands concerning individualisation and the development of learning methods based on the pupils' own activities and responsibility. School-leaders and teachers took advantage of all the freedom the regulatory system allowed.

In the seventies the Swedish school system was characterised by roles based management. Yet the school could organise school-work based on a combination of lectures and periods of individual work. During these individual work-periods the pupils could choose among various exercises offered in each subject. They could be at work with the task as long as they wanted and they were also allowed to work together. When I returned to this school in the middle of the nineties, I discovered that the pupils, compared to the pupils 10–15 years before, were more steered in their studies. The pupils themselves considered their schoolwork over determined and they thought that the teachers decided too much. The teachers wanted to give more traditional lectures and supervise the pupils more. This was a fact in spite of another steering system, i.e. management by objectives. Fewer limiting frames resulted in a more restricted learning situation! I was astonished. According to the theoretical model I expected the learning process to be comparatively free in a school managed by objectives. Did this mean that I showed that the frame factor discussion was wrong? Were the frame factors of no importance? I didn't interpret my results in that way. Instead it seemed that the frame factors became so wide, and also so indistinct, in the latest curriculum reform that a need arose for the actors to create their own frame factors.

The conclusions of this study was that the frame factor model is still a useful tool when analysing educational processes. But, a more complex application of the model requires a data material which describes the processes but also illustrates how the actors interpret the conditions of the teaching- and learning-processes. The new question is: Who decides for whom something is a frame factor?

Agneta Linné, 1999: On the frame factor theory and historical change. Notes from a study of curriculum history /Om ramfaktorteorin och historisk förändring. Noteringar utifrån en läroplanshistorisk studie/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 57–69. Stockholm ISSN 1401-6788.

In this article, frame factor theory is discussed in relation to the problem of curriculum transformation over time and as a basis for an analysis of curriculum theory. My revisit to frame factor theory is a revisit to the frame factor theory outlined by Ulf P. Lundgren when he depicts the further development of his research programme from primarily an analysis of the framing of the classroom process towards an analysis of the societal and cultural transformations that created and moulded frames like time, space and class size. The discussion is made with reference to a concrete example: my investigation *Moralen, barnet eller vetenskapen? En studie av tradition och förändring i lärarutbildningen*. (Morality, the child or science? A study of tradition and change in teacher education). I have used the perspective of the frame factor theory as a starting point for an analysis of curriculum history.

The research problem of my study concerns the basic characteristics and major changes of Swedish education of elementary school teachers since its origin in 1842; particularly, contradictions and transformations until around 1920 are analyzed. Crucial concepts are frame, tradition, pedagogic text and curriculum code together with Basil Bernstein's concepts *classification* and *framing*. Tentatively, Pierre Bourdieu's concept *social field* is also introduced as a tool to analyze the discrepancies between different curriculum principles and to comprehend how encounters between different traditions, embodied by different agents, may take shape at one and the same time period. The empirical material consists of various texts relevant to the education of elementary school teachers.

Right from the start of a Swedish state regulated institution of teacher education, contradictory positions arose concerning the character and strength of state control over the seminaries. The external framing of teacher education was the object of continuous struggle. Another conflict focused upon principles to build up a method of transmission. To a great extent it was the division of labour and the classification and framing that was later reorganized, with the outspoken goal of enhancing the influence of the power of the teacher's personality to reach each single child without any intermediaries. To accomplish this, a strong insulation and boundary maintenance between different categories of school life was recommended – between teachers' talk and children's talk, between speech and silence, between lessons and breaks. The pedagogic space was arranged so as to allow the teacher through his spatial location to have a more powerful control over what went on. The lesson was transformed into a pedagogic text by the pattern of recitation. In this process, the framing of the classroom discourse became stronger and the boundary maintenance of contents more powerful. The lessons took on a prescribed form, reinforced by the examination system of the seminaries.

From the 1880s onward, the dominating character of teacher education was deeply challenged and a reformed education was developing – an education preparing for the schooling of citizens for a new society. The principles of selection of goals, content and methods of transmission were becoming more and more problematic. But it was apparent that the curriculum was built upon the basis of selection. Conceptions of a biological human being that could be studied and influenced by scientific methods contributed to the principles of selection – however, counterbalanced by ideas of the nation, the sense of community and the value of work and ›practical life‹. The symbolic child, invariably given by nature, became visible in the pedagogic discourse. Physical education, biology and other natural sciences were given greater scope at the expense of religion and the catechism. A new generation of seminary teachers and directors engaged in formulating pedagogic texts reflecting the new curriculum.

To a large extent the history of teacher education for the elementary school has appeared to be a history of educational frames. Frames outlined by localization and the number of students admitted have been decisive to the formation and survival of the institution. Right from the start the agents of the field have struggled for these frames. There have been struggles for admission to the field, for the ownership of the arena and for the control of entrance and final examinations.

The study has demonstrated that Ulf P. Lundgren's outline of a theory on the interaction between schooling and society point out extremely important questions and concepts for further analysis of the historical formation of an educational institution. Given its background in frame factor theory, a language and a perspective have been created that makes it possible to discover and describe the frames of the pedagogic space and their transformations. In the present study, adding new analytic devices has helped to identify crucial transformation periods, discern societal forces that have promoted change, identify the role of dominating agents and expose the dynamics of curriculum content.

The openness of the perspective, and its character of ›method of enquiry‹, have made it necessary to widen and specify the original approach. Accordingly, the perspective of the frame factor theory has in a certain sense also been transcended.

Sverker Lindblad & Fritiof Sahlström, 1999: *Old standards and new borders: on framefactors and classroom interaction /Gamla mönster och nya gränser: Om ramfaktorer och klassrumsinteraktion/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 73–92. Stockholm ISSN 1401-6788.*

This article analyzes and compares classroom interaction in relation to the concept of framing. It relies on and develops both the framing concept from the Swedish frame factor theory, and the framing concept introduced by Bernstein. More specifically, the article attempts to do two things: to demonstrate how constraints and affordances in classroom interaction can be thought of as situationally and interactionally constituted »inner frames», and to use the developed concepts for analyzing historical changes in classroom interaction, using two materials, one collected in the seventies and the other in the nineties.

Teaching can be thought of as a locally and situationally construed process, occurring within limits. These limits can arise in many ways. Our focus is on the way constraints and affordances for interactional processes are construed as limits and affordances for the constitution of learning and socialization in classrooms. Another aspect of our study concerns comparisons between teaching processes taking place in different historical and social contexts. In this analysis, we use Basil Bernstein's concepts of framing and classification to analyze and compare classrooms recorded twenty years apart, in 1973 and 1993.

These recordings were made in two research projects. The first was carried out by the authors in 1992–95, where two classes in two schools were followed from grade seven until grade nine. It is primarily this material that has been used for the analysis of »inner frames». The second material was recorded by Staf Callewaert and Bengt A. Nilsson in 1972–73, in an 8th grade class. The comparative analysis is carried out using both these materials.

Classroom interaction in the nineties material is dominated by two different processes: teacher-directed plenary teaching and work in pairs or small groups at the students' desks. The interactional organization of plenary teaching can be argued to frame the mediating interaction of the classroom in ways which limit the students' possibilities for participation in specific ways. These possibilities are relationally constituted, because of e.g. the way one student's public talk works as a simultaneous constraint on other students' possibilities for speaking in public at the same time. However, the public participation of one student also implies a simultaneous possibility for other students to spend time on quiet talk in private, at their desks. In this way, plenary teaching can be argued to frame the classroom interaction in a way which implies a division of labor between the students.

The second predominant mode of work is desk work. The way interaction is organized in these sequences implies different constraints and affordances than in whole-class teaching. The students have much greater opportunities for participation through talking here than in plenary segments. The analysis shows that an important constraint on the interaction at the desks is the simple fact of who one is seated with, if anyone. From the perspective of learning and

socialization as local social constructs, it makes a difference with whom the students are to construe what is to be construed. In the classes we have studied, it seems systematically to be the case that students sit with equals, in terms of gender, social background and grade level. Thus, the seemingly unlimited and unlimiting choice of seating partner seems to be both limited, in terms of available partners, and limiting, in terms of constraints and affordances for learning and socialization.

Against the background of the quite different constraints and affordances for classroom interaction implied by the different modes of classroom work found in the analysis, it was of interest to study whether there has been historical changes in the time spent on the different ways of working. To probe this issue further, recordings in a Swedish 8th grade class made in 1973 (the recordings made by Staf Callewaert and Bengt A. Nilsson) were compared with recordings made in the same subjects in an 8th grade class in 1994. The results of this limited study indicate that there has been an important shift in the organization of classroom interaction at this level.

The major difference between the two materials was that the dominance of small-group work in the nineties material was missing in the seventies material. In the seventies material, there were no lessons spent entirely on desk work at all. From this limited analysis, it seems as if the new ways of working within the Swedish school have developed in the period of time which has passed between the two studies.

In terms of classification, we found small differences. However, there were distinct differences found in relation to framing. We found that the students in our nineties observations have a much greater influence over the pace and order of work, that is a weakened procedural framing. At the same time, we find that the students' influence over the content of the tasks seems small and that they have no influence over the criteria of evaluation against which their work is being judged.

Further, the study shows that the »new» pattern of interaction allows for several parallel interactions in the classroom. The weakened framing in this respect allows for increased possibilities of interaction for the students. The topical content of this interaction is to a large extent beyond the control of the teacher. Thus, the analysis makes visible how the weakened procedural framing has substantial topical consequences. The larger freedom of desk work is constrained by text and work books in relation to the task at hand, but also allows for interaction with little or no explicit relation to the formulated task. Put in a different way, the found changes in the framing of school work gives the students larger possibilities for sorting (out) themselves. In this way, the students have been given a larger responsibility for both the successes and failures of their own school careers.

Sverker Lindblad, Göran Linde & Lars Naeslund, 1999: Frame factor theory and practical reason /Ramfaktorteori och praktiskt förnuft/. *Pedagogisk Forskning i Sverige*, Vol 4, No 1, pp 93–109. Stockholm ISSN 1401-6788.

In this essay we discuss the frame factor theoretical approach developed by Urban Dahllöf and Ulf P. Lundgren from the late 1960s and onwards. In this approach teaching is understood as a process occurring within certain frames. Our point of departure is formulated on ideas of practical reason derived from the Finnish philosopher Georg Henrik von Wright. Practical reason as a tool for analysis is based on an Aristotelian practical syllogism, where actions are understood as logical conclusions of premises in terms of intentions (what you want) and epistemic attitudes (what you consider as necessary to do in order to get what you want). These premises are in turned determined by social and historical circumstances such as norms, rules, competencies and situational changes. Thus, practical reason from this point of view is situated in a world outside the actor and is a means to understand contextual necessities as well as opportunities for action.

A distinction is made between frame factor theories in restricted and elaborated forms. The restricted form is a way of understanding teaching outcomes as a consequence of a process within certain limits, such as time available and the composition of the group of students. In a more elaborated form the frames are analysed and explained for instance in terms of structural approaches or within theories of social (re)production. Especially in the elaborated form, frame factor theories deal with an understanding of teaching as constrained and governed by events and determinants outside the teaching process. The strength of the frame factor theory approach is the ways it deals with the impact of external determinants on teaching.

Understanding teaching in the light of practical reason means something different. Here, the actors, their intentions, judgements and strategies are of importance in order to capture the meaning of teaching and the outcomes of this process. Thus, determinants internal to teaching, such as intentions and epistemic attitudes are of crucial importance if you want to understand teachers' work. From this point of view, frame factor theories misrepresent or neglect teachers' perspectives, strategies and actions, since these theories have little interest in the meaning of teaching from the actors' point of view. In this sense the frame factor theory approach can thus be understood as part of increasing cleavage between frame factor theorising and research on the one hand and the practical reasoning of teachers on the other.

We base our arguments on different studies of teachers', their long term strategies and repertoires and their rationales to change their teaching. For instance, we have found significant differences among teachers with similar tasks that are using given constraints and opportunities in quite different ways. Such variations are not considered as unimportant in the constitution of schooling and for the outcomes of teaching. In schooling, external determinants matter as well as internal ones. And frame factor theories have taught us ways to understand the impact of these for the teaching processes.

Furthermore, there is no point in arguing that frame factor theories fit more to a centralised and regulated education system and that deregulation and decentralisation implies an increased space for teachers and head teachers. On the contrary, in a decentralised and deregulated system there is an increased need to capture implications of differences in constraints for educational measures and their outcomes, e.g. in terms of equity. Here, frame factor theorising is a potential support for practical reason in education.

Considering the fact that frame factor theories have produced highly interesting and thought provoking findings, there is a need to consider possibilities to combine frame factor theories with studies on teachers' practical reasoning. A starting point is to understand frames as constituted in teaching and by means of social facts.

Donald Broady, 1999: The Swedishness of the frame factor theory /Det svenska hos ramfaktorteorin/. Pedagogisk Forskning i Sverige, Vol 4, No 1, pp 111–121. Stockholm ISSN 1401-6788.

The pioneer period of the frame factor theory was the decade 1967–77 when Urban Dahllöf's and Ulf P. Lundgren's seminal works were published. The success was immediate. Frame-factor theory exerted an extraordinary influence not only in the scientific field but also on educational debate and policy in Sweden. Its impact on the international curriculum field was considerable as well.

At least in Sweden one main reason for this success was that the theory was misunderstood. Originally it emerged as a tool intended for the study of precise and well defined problems concerning the conditions, realisation and outcomes of the teaching process. According to Dahllöf and Lundgren the most important »frame factor» was the amount of time that, given the pupil's previous knowledge, is needed in order to obtain certain learning objectives – for example, the capability to perform a certain arithmetic operation. Other frame factors were the objectives defined by the syllabus, and the sequencing of course content. In short, frame factors were factors outside the scope of the teacher's control. Dahllöf and Lundgren argued that these frame factors functioned as limitations for the teaching process in the classroom – by influencing the teacher's way of organising the pacing of learning and instruction and addressing different groups of pupils.

However, when »frame factors» became a catchword in the Swedish public debate, they were taken to signify every conceivable kind of condition or determinant. Because of its vagueness this notion was suitable for polemic purposes. It was for example often forgotten that the frame concept, as used by Dahllöf and Lundgren, does not explain what happens in the classroom. It rather explains why certain things can not happen. Thereby the frame concept

meant a rupture with the up to then predominant design of research on teaching and learning, the main objective of which had been to test correlations between dependent and independent variables (for example, between learning outcomes and teaching methods).

Thus, within the scientific field the frame factor theory let social science traditions – structuralism, system theory, etc. – into Swedish educational research, which during the period after World War II had been extremely monolithic, dominated by psychology and in many respects functioning as a branch of American behavioural science. In this respect the frame factor theory might be compared with currents like Marxism thirty years ago or today's feminism, which at the university have paved the way for a broad spectrum of research traditions, many of which have rather little to do with Karl Marx or gender problems. One important difference, that to a large degree explains its success, was that the frame factor theory functioned not so much as a battering-ram but rather as a Trojan horse. By using arguments and statistical procedures that were understandable to colleagues who were fostered by American empiricist traditions, Dahllöf and Lundgren managed to expose the shortcomings of conventional research design principles »from within».

The success also depended on its empirical character. The contemporaneous import of so-called »reproduction theories» from France, Germany, England and the US was distorted since the empirical underpinnings of the works of Altvater, Bourdieu, and others were absent in the introductions and translations. Therefore these theories were initially perceived less as research tools but rather as tracts or creeds. By contrast, the frame factor theory was presented as the outcome of extensive and rigorous empirical work. The favourable reception also depended on its Swedishness. The data sets were collected in Swedish classrooms. The problems addressed were crucial to the ongoing debates on the consequences of recent school reforms.

Finally, the frame concept of Dahllöf and Lundgren was Swedish in yet another respect. In search of the determinants of schooling, the educational research avant-garde in Germany was referring to the Marxist critique of the political economy or Freudian analyses of the desire structure, and in France to the capitalistic mode of production, the reproduction of the dominating class, or the sign systems and episteme of the present epoch. In Sweden the attention was drawn to organisational frames decided by the state. Inspection of state affairs instead of student rebellion is perhaps a Swedish peculiarity.