

The System of Learning and Teaching Organized by the Polish Commission of the National Education (1773-94)

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ABSTRACT

In a successfully developing system, goal, principles and processes are coupled with each other and with a continuous increase of knowledge. Analyzing these relations, Wilson, Barsky and Daviss (1996-2000) proposed universal criteria to assess progress of systemic changes. These criteria can be applied to development of a modern technology or science, as well as to education reforms. The goal of this work is to apply these criteria to analyze effectiveness of the system of learning and teaching created by the Polish Commission of the National Education (KEN). It has been shown (Ekiel-Jeżewska, 2012) how the overarching goal of education, economical and political development of Poland, was consistent with the KEN basic principles: common goals, freedom and autonomy, ownership of accumulated knowledge. We have demonstrated how KEN kept alive the six processes inherent to successful system reforms: knowledge accumulation, sustained professional development within a recognized hierarchy of practitioner's expertise and transmission of this expertise to others, design of complex entities, improvement of quality, diffusion of innovations, and redesign. In this way, we have provided an example how a similar assessment can be performed for modern educational initiatives, programs, systems and reforms, in contrast to common evaluation of individual teachers and students. Following the best Polish educational tradition, we have reminded that, nowadays, we need to rethink what does it mean to learn and teach productively, and what should be the overarching goal of education in the society of the XXI century.

Keywords: Polish Commission of the National Education, Educational Reforms, Redesign

INTRODUCTION

On October 14 each year Polish teachers celebrate a holiday of their profession. The tradition is rooted in 1773, when the first ministry of education in Europe, called the Polish Commission of the National Education (KEN), was formed to create a new schooling system in Poland. The KEN reform is considered to be progressive and very successful. A new generation of citizens was brought up by KEN's schools and they started significant improvements of the Polish economy, politics and society. But they could not prevent nor stop political conflicts, and Poland lost its independence as a country. The KEN system lasted only 21 years, but its tradition had a significant influence on a later education in Poland.

In this paper, we analyze the KEN history, focusing only on key processes in its schooling system and their analogy to the processes in modern technological systems such as production of airplanes or computers (Barsky, Wilson and <https://openaccess.cms-conferences.org/#/publications/book/978-1-4951-2110-4>

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Daviss, 2000).

Until 1773, most of Polish secondary schools were ruled by Jesuits. In 1773, the Society of Jesuits was dissolved. Polish Parliament announced the abolition breve of Pope Clemence XIV and created Commission of the National Education (KEN) to form and rule a new system of secondary schools and universities, supported by income from the former Jesuits' possessions. The aim of Jesuits' schools was to teach the superiority of Church. Students did not learn there critical thinking and were not educated as citizens. Poland lost power, and a significant part of its land. The goal of the new KEN system was to start learning and teaching in a way needed to a rapid political and economic development of the country. The mission of teachers was to bring up humans and citizens, which are happy and make others be happy in their company (Ustawy, 1783).

To this goal, a new paradigm of teaching was introduced. In Jesuits' schools, students' and teachers' roles were passive. Teaching methods, curriculum, textbooks had to follow detailed instructions specified by (Ratio Studiorum, 1599), with no freedom left for teachers. Students' minds were not trained to discriminate between discovering the world and speculating, e.g. if a tree can talk a human language or an animal life without head. (Woltanowski and Wołoszyński, 1973) Such an education served well to support the leading role of the Church in the society, but could not result in bringing up good citizens and skillful managers.

In the new system, learning of students was based on their own experiments, observations, questions, analysis and discovery rather than repetition (Ustawy, 1783). Students' motivation and will were in focus, and forcing to learn was out of question (Piramowicz, 1787). The new pedagogical paradigm was the foundation of a new system of teachers' education, new curriculum and textbooks, leading to practical education, useful for economic and political growth of the country.

HOW TO IDENTIFY A SUCCESSFUL EDUCATIONAL REFORM?

A Model Development Concept (MDC) has been proposed (Barsky, Wilson and Daviss, 2000) for classifying education reforms based on the characteristics of processes, which can serve as leading indicators of success or failure. Leading in the sense that they can be applied before the reform is completed. The template for change is rooted in the redesign process which has transformed various technologies, such as production of airplanes or computers (Wilson and Daviss, 1994). Processes of research, development, implementation, evaluation and redesign, evident in various developing technological systems, should be also present in a successful educational reform. MDC hinges on universal character of the processes responsible for a system development.

Therefore, according to the MDC, the five key processes that should be integral to education reforms are the following.

1. Acquiring basic knowledge needed to the system growth.
2. Building technical culture: growth of professional development, hierarchy of practitioners' expertise and transmission of the expertise to others.
3. Design, based on conscious decision-making.
4. Continuous improvement.
5. Diffusion of the innovation.

A research and development (R&D) timeline for a future education reform is also important. It is divided into the following three time periods (Wilson and Barsky, 1998).

1. The first period (3 years) is focused on definition and exploration.
2. The second period (5-20 years) is a time of transition.
3. The third period (lasting indefinitely) is sustainability.

In the next section, the MDC and the R&D timeline will be used as a framework for classifying stages in the reforms of the Polish Commission of the National Education.

KEY PROCESSES INITIATED BY THE COMMISSION OF THE NATIONAL EDUCATION

Acquiring basic knowledge needed to the system growth

The commission consisted of politicians (magnates) who voluntarily committed to reform Polish educational system according to the adopted goals. They did not have pedagogical experience, and therefore based their activities on a wide cooperation with Polish and international experts in pedagogy and subject matter. They continuously asked all Polish citizens and foreign specialists to send their opinions, educational projects, and textbooks, analyzed them and used the best ideas. For example, Piotr Samuel de Nemours designed the hierarchy of schools, and Etienne Bonnot de Condillac wrote a logic textbook, famous for the method of teaching based on students' own observations and reasoning.

Principles of teaching were linked to contemporary European pedagogical creed, based, among others, on ideas of Montaigne, Bacon, Descartes, Locke, Rousseau and Condillac. Laic educational system, governed by state and link between schools and universities were adopted by KEN from "Essay on National Education" written in 1763 by Louis-Rene de Caradeuc de La Chalotais. The reform also benefited from previous Polish pedagogical experience; in particular, that of Stanisław Konarski, who created a progressive secondary school called Collegium Nobilium, and changed the system of schools led by Piarists.

KEN systematically acquired knowledge about schools, by visiting them and collecting reports from teachers and principals.

Building professional development and transmitting the expertise

Hierarchy of the new system consisted of elementary (parish) schools, district and provincial secondary schools, and two universities in Krakow and Vilnius. The universities were responsible for education of pre-service and in-service teachers, and helping them to solve local problems. To serve this goal, the structure of universities, the people working there, the financial system – everything had been changed, in agreement with the new pedagogic creed. The provincial schools helped the district ones, and the latter were supposed to help teachers from elementary schools. Academy of Science and Liberal Arts was created, which was in charge of pedagogical activities of KEN. It was a team made of 9 experts and called Towarzystwo do Książ Elementarnych, TdKE (Society of Elementary Textbooks). Their work was paid and focused on pedagogical design and redesign of the system.

Design

The overarching goal of the reform was clear. To reach it, three tasks were undertaken: design of the pedagogical methods and curriculum, design of the teaching and learning network of schools and universities, and design of the economic structure. The process of the system design consists of the following three time periods, which seem to fit the R & D timeline (Wilson and Barsky, 1998),

- First period: exploration (1773-76), with the following milestones.
 - (1) Basic concept of new curriculum and pedagogical methods was created and described in two documents (Przepis, 1774) and (Układ, 1775).
 - (2) Writing textbooks was thrown open to competition, with more than 20 entries until 1776.
 - (3) The hierarchy and structure of the system was designed, based on the actual state of schools.
 - (4) "Brain" of the pedagogical activities, TdKE, was formed (1775).
 - (5) KEN started to economically and judicatory control all the former Jesuits' possessions (decision of

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the parliament in 1776). Earlier the control was in hands of other commissions of the parliament (Komisje Rozdawnicze i Sądowe) and KEN lost a significant part of the due income and of the possessions themselves (Kot, 1996).

- Second period: changes (1776-83), with the following milestones.
 - (1) Reform of universities in Warszawa (1780) and Vilnius (1783) was carried out. The universities started to educate pre-service and in-service teachers, guide the provincial secondary schools, and arrange visits of experts to each school every year.
 - (2) Essential “elementary textbooks” were published, based on the new paradigm of teaching (Polish and Latin grammar, ethics, arithmetic, geometry, algebra).
 - (3) Economic system was built and started operating. In 1781, a list of KEN’s possessions, their managers, and all financial operations was completed. Kasa Generalna was in charge of managing finances.
 - (4) KEN’s pedagogical, organizational and economic laws were established in a single document (Ustawy, 1783).
 - (5) Reverse salients (barriers to reform) were overcome (Barsky et al, 2000). Three main obstacles and the methods to overcome them are listed in Table 1.

Table 1: How KEN overcame obstacles (reverse salients) blocking the reform system in the second period, 1776-83 (Ekiel-Jeżewska 2012)

Obstacles (reverse salients)	Action of KEN
A part of KEN possessions stolen away	Trials in court Creation of a new economic system
A gap between the new curriculum and actual teachers’ skills	New textbooks written Education system for teachers created
Lack of KEN’s knowledge about teachers’ needs	Visits of experts at each school every year Reports sent from schools

- Last period: sustainable growth (1783-94), with the main milestone: resistance of nobility against schooling system of KEN overcome.

Continuous improvement

The Total Quality Improvement involves two procedures: constant examination the way things are done and looking for ways to improve the system (Barsky et al, 2000). In the KEN’s system, these procedures consisted of the following activities.

- Examination the outcomes and feasibility of plans. First KEN’s visits to schools in 1774 focused on investigation of the state of schools, their resources and needs, and the opinions about the reform. At most of the schools, knowledge and skills of teachers were low, and the old teaching paradigm was dominant (Kot, 1996). Later on, the process of collecting and analyzing information about schools was continued (Ustawy, 1783). The schools were visited every year by a university professor and the principal of the provincial secondary school. Reports from every school and letters from teachers were sent to universities. The collected information was carefully analyzed and used to solve local problems, identify generic obstacles and remove them, redesign systemic processes or improve quality, e.g. of textbooks. Examples of common changes were replacements of monastic teachers by laic ones which graduated from universities, or transferring teachers to other schools.

- Searching for improvement. This was done by collecting information from a variety of sources, and by <https://openaccess.cms-conferences.org/#/publications/book/978-1-4951-2110-4>

competition of different projects. For example, there were more than 10 mathematics textbooks sent to KEN as the contest entries, and the published one was considered to be very good. The existence of several versions of a given project allowed to easily correct mistakes. For example, the Popławski's pattern of education based on monastic traditions, used in 1780-83, was too restrictive for laic teachers, who did not accept it. Therefore, KEN asked Kołłątaj, the author of an alternative more liberal pattern, to guide the process of changes.

Redesign

The redesign process is the integration of research, development, dissemination, and refinement by which innovations and the procedures that create them are originated, improved and made affordable. Its characteristic features are (Wilson and Daviss, 1996):

- System has a compelling, clear vision
- There appear a guided, orderly pattern of strategic change, by a steady succession of improved models
- Resistance to change in a society is systematically overcome
- Authority to make decisions and changes is dispersed

Vision of the KEN system was clear: to educate good citizens. Even after partition of Poland, long after the end of KEN's activities, this vision had a significant influence on education in Poland. The orderly pattern of strategic change has been discussed in section "Design". Examples of resistance to change and KEN's actions to remove them are shown in Table 2.

Table 2: Actions of KEN to gain approval of parents (Ekiel-Jezewska 2012)

Reason of nobility's dissatisfaction	Action of KEN
Decrease of the religion prestige in schools	Primate of Poland becomes KEN's leader Clerics become principals of KEN's schools Laic teachers take part in religious ceremonies
Students can't fluently speak and write in Latin	Some lessons are taught in Latin
Zoology lessons are considered ridiculous	Zoology lessons are suspended until publication of Czenpiński's textbook

Dispersion of the authority was built into all KEN's activities. After a short initial period of time, pedagogical design of the reform was passed into hands of TdKE. Visits at schools, at the beginning performed directly by KEN, later on by the universities and principals of provincial schools. In particular, teachers were invited to share with the universities their ideas how to improve the system. Moreover, the initiative of teachers to construct their own equipment and materials needed for teaching was rewarded by reimbursement of the costs.

Diffusion of the innovation and effectiveness of the reform

Effectiveness of redesign in industry is measured against four criteria: capitalizing on success, improving quality, expanding usefulness, lowering price of each unit, and increasing the number of consumers. Effectiveness of educational redesign is related to the increased experience of students and teachers (Wilson and Daviss, 1996, pp. 30 and 47). How is it related to KEN activities?

Did innovations introduced by KEN disseminated? Was the reform effective? To answer these questions, some quantitative indicators are needed. The striking feature of the KEN's reform is that such a statistics is available. KEN carefully documented all its actions, collected and analyzed information, Such a scientific approach to

performed changes, needed for a continuous improvement, was in contrast to a contemporary typical lifestyle and economic situation in Poland. In many towns, houses and fortifications were partially destroyed by fires or enemies. Epidemics of contagious diseases and uprisings of peasants were common. Craft and trade were hardly developed (Mrozowska, 1956, pp. 111, 139, 166, 194, 222).

Similar difficulties had to be overcome by KEN. For example, some school buildings had no windows or heating was not operating properly. The university in Kraków had its own possessions, but in 1777 it became clear that its total income was not known! Putanowicz estimated massam Universitatis as 3000 złp, but later on Kołłątaj discovered 35000 złp - ten times larger amount. Therefore, pedagogical changes of the university were preceded by economical ones, performed by Kołłątaj (Jobert, 1979, p. 81). Innovation and entrepreneurship were applied in both of them (Drucker, 1985).

Below we list some indicators which illustrate diffusion of the innovation and effectiveness of the reform.

- Number of students in KEN's secondary schools.

In 1700, Jesuits had 51 secondary schools in which they taught around 20 thousand sons of nobility (Woltanowski and Wołoszyński, 1973, p. 27). At that time, in Poland lived around 10 million people. In 1772, before the partition, and before KEN, in Poland there were 114 secondary schools, in which learnt around 30 thousand students (0.3% of the population). As a result of partition, Poland lost 35% of population and in particular some of the schools. At the beginning, KEN was in charge of 84 secondary schools. 40 of them were post-Jesuit schools (Szybiak, 1973). At that time in Poland lived 6 million people. In 1783, KEN took care of 73 schools. 40 were ruled by clergy, and 33 were academic with the (mainly laic) teachers educated by KEN. In each school there were 3-6 main teachers, principal, two teachers of languages and one of religion. Education took 6-7 years.

In 1775-91, around 14000-15000 students learnt at KEN secondary schools – less than 0.2% of the population. The percentage of students in KEN schools decreased in comparison with the Jesuits times. A few schools from the beginning lost more than half of the students (e.g. the school in Kalisz). In Table 3 the number of students in Korona's secondary schools is listed in consecutive academic years (Poland consisted of two parts: Korona and Lithuania. Kraków belonged to Korona and Vilnius to Lithuania).

Table 3: Number of students in KEN's secondary schools in Korona (Smoleński, 1954, p. 178)

Year	In 16 academic schools	In 29 monastic schools	In all 45 Korona's schools
1781/82	4314	7086	11400
1782/83	3672	6526	10198
1783/84	3884	6292	10176
1784/85	4095	6097	10192
1785/86	3834	5866	9700
1786/87	3969	5825	9794
1787/88	3675	6216	9891
1788/89	3920	6638	10558
1789/90	3587	6258	9845
Average	3883	6311	10195

The conclusion is that the number of students practically did not change during the time of the KEN reform. After the initial transition period, the situation became stable. Later on, KEN did not lose students. Moreover, the number of students in monastic (other than Jesuits) schools did not increase, and the number of students in academic schools did not decrease. Taking into account all the difficulties of the reform, this is an indication of the KEN's success.

- Increase of teachers' knowledge and skills.

Table 4: Number of pre-service laic teachers educated at the university in Kraków and their later careers (Mrozowska, 1956, pp. 74,75,95).

Year	Number of teachers studying in Kraków	Number of teachers who resigned	Number of teachers sent to schools
1780/81	16		
1781/82	16		
1782/83	24		
1783/84	30	5	11
1784/85	26	4	6
1785/86	24	6	7
1786/87	30	0	4
1787/88	30	12 ¹	6
1788/89	21	0	6
1789/90	11	0	7
1790/91	16	1	3
1791/92	18	2	4
1792/93	12	2	5
1793/94	6	5	3
1794/95			1
Total	108	36	63

The strategy of KEN was to educate laic pre-service teachers according to the new paradigm and then send them to schools. They were taught at universities in Kraków and Vilnius. Each year maximum 6-8 new teachers could start their studies at each university, and the upper limit of teachers trained at the same time

¹ Large number of teachers who resigned in 1787/1788 is a consequence of mistakes made of the university rector Feliks Oraczewski.

at each university was 30. The studies were supposed to last 4 years. There were no fees for learning. Most of teachers received stipends to cover their living expenses.

Table 4 contains numbers of teachers which learnt at the Kraków university each year and numbers of teachers which were sent from Kraków to schools each year. It is clear that there was a stable flow of laic teachers from the university to schools.

Therefore, the number of laic teachers in academic schools kept increasing from year to year, as shown in Table 5. In 1789, in 74 secondary schools in Poland there were 482 teachers, and 115 of them were laic. In academic schools, most of teachers were laic. KEN's attitude to monastic teachers can be illustrated by the opinion of its member Adam Czartoryski: ``Can anybody who has been brought up in isolation from the world and who does not know the world, be a good guide for the world?'' (Smoleński, 1979, p. 271)

Table 5: Number of laic teachers in Korona's academic schools (Mrozowska, 1956, p. 99)

Year	Number of laic teachers
1781/82	18
1782/83	19
1783/84	37
1784/85	40
1785/86	44
1786/87	46
1787/88	48
1788/89	58
1789/90	60
1790/91	60
1791/92	62
1792/93	66

According to the KEN's law, monastic teachers had to study at university for three years and pass the final exam. (Ustawy, 1783) This process indeed took place. Numbers of monastic teachers who studied in Kraków in each academic year can be found in (Mrozowska, 1956, p.74).

- New textbooks

New curriculum and new methods of teaching required new textbooks. The process of preparing them and redesigning based on feedback from schools had to take a long period of time. Still, KEN managed to publish 29 ``elementary textbooks'', 6 supplemental books and 6 pedagogical guides for teachers.

- KEN's finances

When KEN gained control over its finances, most of its possessions had been already stolen away. It

remained only one third from the Jesuits' 40 million złp (Kot, 1996, vol. 2, p. 56). The remaining possessions were not managed well (without free-market economy rules). This caused a serious problem for KEN, which did not have any other sources of income. Following the Jesuits' habits, education in KEN's schools was free of charge. Therefore, KEN had to economize and resign from ambitious plans to support financially education in elementary schools. Owing to economic skills of its members, KEN succeeded in preventing further lost of land and waste of money.

Effectiveness of KEN's financial system was crucial for dissemination of the educational reform (Grabski, 1984). Obviously, a stable source of income was necessary to support education. But there was another less straightforward aspect. KEN demonstrated high economic skills, which could be passed to the students in schools. This observation was essential for parents to built trust in the new system and its usefulness. Its economic strategy resulted in stable income in 1776-92, illustrated in Table 6. As a reward, the parliament increased the profit which KEN could yield from his possessions and money (this is why the income in 1790-92 is higher than before).

Table 6: KEN's income (Jobert, 1979, p. 65 and Grabski, 1984, p. 163).

Period	Income in złp (Jobert, 1979)	Income in złp (Grabski, 1984)
1773 – 1776	1 852 420	1 968 000
1776 – 1778	2 489 455	2 510 000
1778 – 1780	2 805 470	2 934 800
1780 – 1782	2 790 259	2 966 600
1782 – 1784	2 740 197	2 929 200
1784 – 1786	2 647 650	2 647 800
1786 – 1788	2 675 911	2 675 300
1788 – 1790	2 630 409	2 643 400
1790 – 1792	3 155 513	3 175 300

The KEN income was 2.5 times smaller than the income of Jesuits, and the number of students only a little smaller (14-15 thousands in comparison with 20 thousands). Therefore, the cost of education of a single student was significantly lowered! This impressive result was combined with the increase of quality of teaching.

PRINCIPLES OF THE EDUCATIONAL SYSTEM CREATED BY THE COMMISSION OF THE NATIONAL EDUCATION

KEN created a new academic estate: teachers. It gave them the following rights: 1) partnership of life, 2) freedom and autonomy, 3) ownership of possessions. They were consistent with KEN's general principles: 1) common goals, 2) freedom of thoughts and rights, 3) ownership of accumulated knowledge. The last principle is especially important. KEN introduced the method of teaching consistent with the inner motivation of children to discover the world, preparing them to actively take part in the economic, political, cultural and educational development of

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Poland.

CONCLUSIONS

In a growing system, goal, principles and processes are coupled with each other and with acquisition of knowledge, as illustrated in Figure 1.

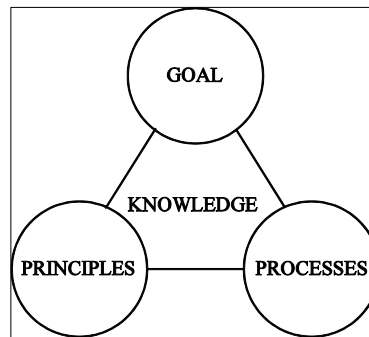


Figure 1. Growing system

Analyzing these relations, Wilson, Barsky and Daviss identified universal criteria of effectiveness of systemic changes. They can be applied to development of modern technologies or science, and also to educational reforms or programs. In this work, we have applied them to analyze effectiveness of the educational reform of the Polish Commission of the National Education. A similar analysis of modern educational programs or reforms can be performed, in contrast to common evaluation of individual students and teachers.

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