EDUCATIONAL RESEARCH AND POLICY-MAKING: A THIRD WAY*

I am very pleased to have been invited to come to Szeged to pay homage to my friend, Zoltan Bathory. I first met Zoltan when I came to Budapest in 1967 to see Arpad Kiss. When I turned up at what was then called OPI, Arpad introduced me to this young, red-haired, thin, intense-looking, cigarette-smoking man called Zoltan. Zoltan was clearly some sort of research assistant to Arpad. The reason for my visit was to explain to Arpad and his colleagues about the International Association for the Evaluation of Educational Achievement, more commonly known as IEA. All of the discussion went through an interpreter, then known as Judit Fülöp. She may remember more about the content of the discussion than I did. Arpad had obviously read about IEA and felt that it might be helpful to Hungary to have some hard evidence about the achievement levels of Hungary compared with other countries and also something about the major determinants of such achievement. I spent two days explaining and answering questions. I was then told that the OPI people had to go and discuss all of this with the Ministry people so I was shunted off to Szeged for the day where I met with the Faculty of Education staff members. It is of interest that I am speaking English today in Szeged. On my first visit, the meeting started in French (mainly I suspect because Agoston wanted to show off his French) and it was clear that the faculty members had no idea what was being said but sat politely there. I had heard that the older people in Hungary spoke German so I switched to German and suddenly everyone woke up!! It also turned out that Agoston spoke very good German. But Judit still had to translate for a few people but now from German to Hungarian.

At that time I gained the very strong impression that empirical research was viewed with great suspicion. Comparing achievement levels was also viewed with a certain fear. In general I sensed a fear to express thoughts openly. How can they explore new ideas openly if they are afraid, I wondered.

In 1968, IEA ran a training course called Seminar on Learning and the Educational Process (SOLEP) based on the similar seminars run by Lee Cronbach in Stanford. John B. Carroll was the director of the seminar that was held in Skepparholmen near Stockholm. The participants were new PhDs with a great deal of promise. Ten were from the US and the rest from Europe. Arpad brought a lot of pressure that Zoltan be allowed to go. Whereas Zoltan spoke fluent German he was still struggling with English. The SOLEP involved interacting in very fast English. I watched Zoltan throughout the six weeks. How on earth will he manage, I wondered. But he did manage and also learned a great deal. Three years later, IEA ran a 6-week seminar on Curriculum Development and Evaluation (led by Benjamin S. Bloom), also in Sweden but this time at a place called Gränna. In part because of Arpad's pushing and in part because of the impression that Zoltan had made at the Skepparholmen seminar, Hun-

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gary was able to send a team of six Hungarians. This team later became a bit of a mafia for curriculum development in Hungary.

Zoltan soon took over from Arpad as the representative for Hungary in IEA. Zoltan's assistant in Hungary was Peter Vari. Zoltan was by this time interested in research and also in curriculum development. But there was always the problem that those with power – the major decision-makers in the Ministry – did not listen and were totally unimpressed by "hard facts" if they interfered with their previous notions or the ideology that they held. Zoltan spent quite a bit of time writing articles in Hungarian that brought in new ideas from other countries.

The "events" came in 1989. A few years after the change Zoltan became a Director-General of Education in the Ministry. I think that it was in 1990 or 1991 that I was invited to give a presentation to the Education committee in the new Parliament. My presentation was just after lunch and I suspect that some members of the committee had indulged a baratsk too much. There were seven political parties represented in Parliament and there were thus seven members of the education committee. The member from the Farmers' Party spent most of the first half hour soundly asleep. He suddenly awoke and then spluttered "Tell us what they do in America, that is what we should do". So much for careful thought!!

Zoltan has had the rare experience of being both a researcher furnishing information to the Ministry and of being on the receiving end of researchers providing him, but as a policy-maker now. I have somewhat facetiously sub-titled this article: "the third way". This is the phrase that Tony Blair used to describe his approach to governing the UK. I shall propose a new way of having the relationship between researchers and policy-makers and I shall be most interested in knowing how Zoltan will react to what I propose.

The need for evidence

There are several clusters of questions that are typically asked in research about systems of education. These include:

- School buildings: effective least cost architecture, optimum total enrolment, types of laboratories, kinds of sports facilities, maintenance (at what cost and by whom?), classroom size and type, etc.
- Basic equipment for schools and classrooms: Which equipment is required for effective learning?
- Structure of the system: number of years of primary and secondary education, selective vs. comprehensive schools, heterogeneous vs, homogeneous grouping of pupils, length of school year, number of terms per year, number of hours of instruction per day and year, curricula and syllabi (how detailed?), cross-curricular activities, etc.
- Teacher training and allocation of teachers to schools: which forms of training are most effective for different kinds of outcomes? How are rural and isolated areas best assured of good teachers?
- Homework: How much and how often at different grade levels and how often corrected and worked through with pupils?
- Which forms of feedback to teachers and correctives by teachers are most effective to improve pupil learning?
- Grade repetition: how much and how determined or should there be none?
- Decentralisation and cost: how much decentralisation in education should there be and how should education be financed?

- How is the variance among regions, among schools and among pupils for various forms of outcomes is reasonable? How is it checked and how frequently?

This is but a short list of the many question areas. The questions will differ somewhat for the different school types: primary, secondary, and vocational school. No education system exists in a vacuum. There is a societal and political context as well as a tradition of education. Planners of systems must and do take these factors into account. Furthermore there is the question of funds available for an education system. If the money is not available, then however desirable a particular course of action might be there is little use in suggesting it if there is no hope of the money being made available. Or even though there is no hope for the money now, it might be worth suggesting it now in order to plant the idea in the heads of those in charge of the source of funding. Despite these constraints, it can be argued that the planners need to know the answers to most of the questions if they are to be able to take a stance on the particular issue. What, then, is the evidence that educational planners and administrators can use in order to answer the above questions?

There is systematic evidence and non-systematic evidence. Systematic evidence is that which refers to all schools of interest to the planner (the target population) and also across time (i.e. on several occasions). Non-systematic evidence is that which reports an example of a phenomenon in a particular school or pupil but that is only one observation (or very few observations), often a casual one.

The sources of evidence are historical (through documentary analysis), from current observation (typically from the inspectorate in a country), and from empirical research conducted by educational researchers. However, there are some questions that cannot be answered from historical research. Take, for example, the issue of computers in schools. The advent of computers in schools began only in the late 1980s. The field is still developing rapidly and it is unlikely that the analysis of historical documents would be likely to have much to say on this issue. Each source of evidence is important and not to be discarded lightly. In the best of worlds, all three sources should yield the same results.

It seems to be generally accepted that there is need for "hard" information about the various aspects of education. If the policy-makers have such information they are likely to take better decisions than without such information.

The relationship between research and reform – a general picture

Educational research is a growing industry. Its major aim is to make a contribution to knowledge by supplying the kinds of information needed to answer the questions posed earlier in this article.

In 1899, William James in his *Talks to Teachers on Psychology* emphasised that education was "an art" and not a science and could therefore not deduce schemes and methods of teaching for direct application from psychology: "An intermediary inventive mind must make the application by using its originality" (p. 8). Nearly 100 years later De Landsheere (1994, p.1871) "Like medicine, education is an art. That is why advances in research do not directly produce a science of education, in the positivistic meaning of the term, but yield increasingly powerful foundations for practice and decision-making". Masters, on the other hand, while making comparisons with medical research, suggests that in education research syntheses, sharper-focussed research questions, and better communications between researchers and research utilisers, would do much to improve the link between research and school reform (Masters, 1999).

In 1960, there seemed to be general agreement in the institution (the National Foundation for Educational Research in London) where this author worked that it would take at least one generation, about 15 years, between the results being produced by any of the then current research projects and their implementation at the school or classroom level. As empirical educational research has become a large enterprise, sponsors have increasingly hoped that research would provide pointers to the elements of reform that can either help to raise cognitive achievement, affective development and skills or cut the costs of education without damage to the desired outcomes.

Different aspects of educational research

Before proceeding with the link between research and reform, it would be desirable to deal with the various aspects of research.

Most policy-makers want, as mentioned above, clear results from research for the problems they have. These results should preferably be accompanied by a set of suggestions for reform or action. The research from which the results emanate should be "sound".

Given that it is often extremely difficult if not impossible to conduct good experiments in education from which "cause and effect" can be safely identified, researchers often have to depend on natural variation using survey samples. But, this depends on natural variation being there for the phenomenon under investigation. Class size is an example of where there is some variation in school systems but it is often within fairly narrow limits. Within a country, the average class size may be 25 children per class at a certain grade level. But the range is only 20 to 30. Yet, in other countries, the average class size may well be over 40 or even over 60. And in these other countries the range will be small. As another example, a country may wish to examine the differences between private and public schools but if there are no private schools, then there is no natural variation. Furthermore there is always the criticism that cross-sectional and longitudinal studies are "correlational" and assumptions must be made about "cause and effect".

The research must be "sound". Yet it can be argued that there are many studies that have technical deficiencies such that the results cannot be trusted. These deficiencies can include poor conceptualisation, poor measurement, poor sampling and incorrect estimates of sampling error, inappropriate analyses, and false interpretations and conclusions. Some could argue that more unsound than sound research is produced in the field of education. The International Academy of Education produced a summary of "The requirements of a good study" for sample surveys in international educational achievement studies (IAE, Appendix 2, 1999). This attempts to describe in lay terms the kinds of points in research publications that policy-makers should look for when trying to decide whether or not the research was well conducted and trustworthy. It would be useful if summaries such as this one were to be produced for different types of research.

It is important that readers of research reports can identify if the research conducted was unsound and cannot be trusted. Many senior policy-makers do not have this ability and must rely on those skilled in these matters in their own ministries of education. Unfortunately, not all ministries have such people. The dangers of implementing policy based on poor research are obvious.

It is also the case that policy-makers need results that have, if possible, been replicated and that are generalisable to a grade level or general level (e.g. junior high school or elementary levels of education) in an educational system, and where the effects are large. Research that is only applicable to a few specific schools (case-study approach) is not of interest to them.

Furthermore, the research should ideally be applicable to several key subjects in school and not just to one subject. Ministries allocate resources to schools and they want the resources to have a wide application in each school and not just to one subject. Unfortunately, having results on the effect of variables on several subjects at the same time is costly and time consuming.

Keeves (1994) has distinguished between research studies associated with the generation of change and those that serve to maintain and consolidate existing conditions. It is the second type of research that he calls "legitimatory research". Thus the motivation for commissioning research must also be taken into account when viewing the links between research and change.

Contexts for policy-making and research

As already stated, policy-makers are interested in their problems within their current frame of reference and understanding of education. Many senior members of Ministries of Education are extremely busy dealing with the day-today problems – and even crises – that arise and, as a result, have little time to reflect on the desired goals of education and how best to achieve them. Fuller et al. (1990) have very well described the institutional obstacles to framing the important policy questions. Many policy-makers think that what researchers generally produce is "fundamental" research which is of no, or only peripheral, interest to them. What they need is research results that they can use directly-applied research. But, what the policy-makers perceive to be of interest can change with a change of government. For example, the matter of busing, educational vouchers, and private schools had quite different priorities under the Carter and Reagan administrations in the United States. Equality of educational opportunity, on the other hand, has had a high priority under various administrations in various countries.

In the second project of the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ), chief policy-makers in fifteen southern African countries were asked to rate issues that were of interest to them in primary schooling. One of the issues was that of private tuition outside of school. This was given very low priority despite the fact that the first study of SACMEQ had shown the practice to be very widespread and, for the most part, to affect achievement even after home background had been accounted for. It was later given a higher priority after the researchers had interacted more with the policy makers.

Policy-makers have allegiances that influence both what they regard as relevant, innocuous or even "dangerous" research and also their willingness to take account of research findings. Stories abound of ministries or government departments either ignoring research results or delaying the publication of government sponsored research because the results did not accord with the current political interests. Ways of delaying the publication of research results that governments do not like have been hilariously resumed in "Yes Minister" (Lynn and Jay, 1982). Not only can research be delayed or ignored but only partial results can also be selected to help them argue a case. Keeves (1994) has dealt with many of the problems that arise with those in authority when conducting legitimatory research. It is perhaps also of interest to note that one of Keeves' first reports was shredded after printing but before publication because one of the findings negated a policy proposal by one of the State Director-Generals of Education. The report contained the results of the first major national analyses of the first mathematics study of International Association for The Evaluation if Educational achievement (IEA).

Governments, as a rule, last only a few years. The research they sponsor should be completed within that time period and preferably in less than two years. There are few research

projects that can be completed in this time period when it is considered that the instruments have to be developed and tried out before the major data collection can begin. The findings should be made available in time for the decisions that have to be taken and which will go ahead with or without the necessary knowledge base. Operational decision-making cannot wait for the results of specifically sponsored research results.

The researchers often tend to have different backgrounds and value systems from those of the policy-makers. Researchers have usually undertaken their work in research institutes or university settings. Researchers have been trained to think widely and to question all things. Their allegiance tends to be more to fundamental or conclusion-oriented research. They pay much more attention to how the quality of their research is received by their research peers than by government agencies.

In most cases, researchers are not involved in the planning and implementation of reform. They rarely have any interest in how to plan the costs involved in any reform. They can rarely phrase their results in the language of planning and implementing reform. Indeed, once they have published their research report they tend to lose interest in what happens after that.

Status in the research world depends on the reputation the individual researcher gains from his or her research work. Of particular importance is what the research peers say. Status in the administrative world tends to be based on seniority and length of service and not on the quality of a particular piece of work.

Models of Research utilisation

In 1979, Weiss distinguished among seven different models of research utilisation in the social sciences:

- The R&D model. This is a "linear" process from basic research to applied research and development to application. Weiss pointed out that the applicability of this model was limited in the social sciences because knowledge in the field does not lend itself easily to "conversion into replicable technologies, either material or social" (p.427).
- The problem solving model. Here the results from a specific project are expected to be used directly in a decision-making situation. The process consists of: identification of missing knowledge – acquisition of research information either by conducting a new study or by reviewing the existing body of knowledge –interpretation of the results given the policy options available –decision about which policy to pursue. This model has sometimes been known as the "philosopher-king" approach where researchers are supposed to provide the information from which policy-makers derive guidelines for action. The problem-solving model often tacitly assumes about goals but social scientists do not agree among themselves about the goals of certain actions. Nor is there necessarily agreement among all policy-makers about the goals.
- The interactive model. This model assumes an ongoing dialogue between researchers and policy-makes. This is usually a disorderly set of interconnections and back-and-forthness.
- The political model. Research findings are used as ammunition to defend a particular point of view. It is often the case that policy-makers have already made up their mind about taking a particular course of action and should there be research results that legitimise this, then they will use it.
- The tactical model. This is a negative approach in that it is a way of deferring any decision. Thus, a controversial issue can be buried or postponed by policy-makers calling for more research or further analyses.

- The enlightenment model. According to Weiss (p.428) this is the model where social science research most frequently enters the policy arena. Research can "enlighten" policy-makers because as research results become available they sensitise informed public opinion about ways of thinking of educational problems and come to shape the way in which people think about social issues. This is sometimes known as the percolation effect. People are helped to redefine problems through research so that they begin to think of the problems in a different way.
- Research-oriented model. Weiss refers to this as the "research-as-part-of-the-intellectual-enterprise-of-society' model. Social science research together with other intellectual inputs, such as philosophy, history, journalism and so on, contribute to widening the horizon for the debate on certain issues and to reformulating the problems. This is somewhat akin the to the enlightenment model outlined above.

Shavelson (1988, pp. 4-5), when dealing with the utility of social science research, sought to reframe the issue of "utility" by suggesting "that the contributions lie not so much in immediate and specific applications but rather in constructing, challenging, or changing the way policy-makers and practitioners think about problems". He suggested that one cannot expect educational research to lead to practices that make society happy, wise and well-educated in the same way that the natural sciences lead to a technology that makes society wealthy. The assumption that "educational research should have direct and immediate application to policy or practice rests on many unrealistic assumptions" (pp. 4-5). Among these are relevance to a particular issue, provision of clear and unambiguous results, research being known and understood by policy-makers, and findings implying other choices than those contemplated by policy-makers.

It is, thus, the "enlightenment model" that has been the major way in which research has had an effect.

Some examples

It is relatively easy to identify some research that has had an enlightenment effect. The work of Piaget in identifying "stages of development" began to have an effect on work in curriculum development by the end of the 1950s. Bloom's "Taxonomy of Educational Objectives" and "Model of School Learning" had a marked effect on many later research projects the results of which entered the market place and influenced educational thinking. Coleman's "Equality of Educational Opportunity" produced the concepts of "school climate" and later "social capital", both of which entered educational thinking. The "Plowden Report" in England produced the concepts of parental attitudes and "educational priority zones" both of which entered the general educational thinking. Carroll's "model of school learning" and later his "human cognitive abilities" research both influenced how educators thought of school learning. But, in all of these cases, the process took a long time. In some special cases in Sweden in the late 1950s and early 1960s research studies lead directly to some action especially in the revision of the curriculum. But, the direct effects examples are rare.

In the first two decades or even more of the work of the International Association for the Evaluation of Educational Achievement (IEA) (Postlethwaite, 1994), a massive amount of effort went into attempting to identify the major determinants of educational achievement in each of the participating countries. It was to the chagrin of the research workers that very little attention was given to the results. It was rather the "horse race" national mean achievement levels that gained the attention of the Press and the policy-makers. In Italy in the 1970s the then Minister of Education talked of the results being like an electric shock because they

showed that the gap between north and south Italy was much larger than had been expected. The Third International Mathematics and Science Study (TIMSS) of IEA in the 1990s only presented aggregate estimates for the test scores and selected questionnaire variables in their first set of publications and did not present analyses identifying the major determinants of either between country differences, or between-school or between-student differences within countries. Nevertheless, it was these aggregated estimates that attracted enormous media publicity and comment. In some cases the comment was appropriate such as about the high achievement scores in Japan but the low attitudinal scores towards the learning of the subject. In other cases, several of the journalists' comments and even those of some ministry officials proffering policy suggestions assumed that the relationships between certain variables between countries would be the same as those within countries i.e. they were guilty of committing the "ecological fallacy" (Ross, 1997). The question must be asked as to why the Press and the ministries seem to be more interested in the mean score differences rather than in the determinants of such differences. Is it possible that an interface of persons skilled in translating research findings into policy suggestions is needed?

The "third way"

By the beginning of the 1990s, some progress was being made in the attempt to have educational planners and administrators work more closely with educational researchers in order to have more direct links between research and policy-making. One international study in the 1990s had the strategy of working out in conjunction with ministries of education the research questions at the beginning of the study and then working out the actions to be taken as a result of the findings. This latter step was undertaken *before* the research reports were finalised for publication. This study was that of the Southern Africa Consortium for Monitoring Educational Quality (SACMEQ). The last chapter of each national publication listed the suggested policy actions categorised by cost and time needed for implementation. An example is given in Table 1 of selected suggested policy actions for the Mauritius report (Kulpoo, 1998, pp. 86-92). There were 38 policy suggestions in all. (Table 1)

It should be noted that the units undertaking the research study were units within the ministry of education and not special research units either within the ministry or in higher education institutes. The actual suggestions were checked, and in one or two cases modified, by the senior Ministry personnel before the book was published. To what extent the suggestions were implemented is not yet known. On the other hand, there was a similar study in Zimbabwe with similar policy suggestions in 1991 and a report documenting the implementations of the suggestions has been published (Ross, 1995). Despite the fact that certain of the suggestion were implemented there was no improvement in Grade 6 reading achievement by 1997 (Shumba, 1998). It is unclear whether the implementation was not well conducted or whether only some of the easier but not crucial suggestions were implemented. This will also apply to the other SACMEQ reports.

The very large sample survey of Grade 5 achievement and its determinants that is underway in Vietnam has also taken this approach. The Ministry first decided on the policy questions that it wanted. Some of the many policy questions that it had have been presented in Table 2. It can be seen from the table that reference is made to the dummy tables and questionnaires referring to the particular policy questions. The data analyses will only be conducted in late 2001 (some six months after this speech) but should result in a series of policy suggestions in the same style as the Mauritius example given earlier.

Table 1: Selected Policy-Suggestions from the SACMEQ study in Mauritius

Policy suggestion	Relevant department(s)	Time	Cost
Consultations with staff, community, and experts			
1. The Ministry should ask the Staffing Branch to meet with Teacher Union representatives to discuss the potential "conflict of interest" that arises from the current practice of allowing the teachers of around 80 percent of Grade 6 pupils to receive high financial rewards for teaching their own pupils as Private clients outside of school hours.	Staffing Branch and Teacher Union	Short	Low
Reviews of existing planning and policy procedures			
2. The Inspectorate should be asked to review and, if necessary, establish benchmark standards for the educational environment that are deemed to be "reasonable for the proper functioning of primary schools".	Inspectorate	Short	Low
Data collection for planning purposes			
3. The Supply Branch of the Ministry should investigate the reasons for the relatively high percentage of Grade 6 pupils in Rodrigues who reported that they lacked basic learning materials.	Supply Branch	Medium	Low
Education policy research projects			
4. The Planning Unit should undertake an investigation into the practice of grade-repeating in Mauritius in order to determine whether the extra year of schooling being received by the "average Grade 6 pupil" can be justified on either educational or economic grounds.	Planning Unit	Medium	Low
5. The Ministry should plan to undertake a follow-up survey of the same target population employed during SACMEQ's initial project in order to examine changes in important educational indicators over time.	Planning Unit	Medium	Moderate

Pre-requisites for the "third way" to work well

The key element in this process is the first step of the Ministry and researchers establishing the policy questions. The researchers have to be able to put themselves into the way of thinking of the Ministry people. The Ministry people have to be able to stand back from their daily tasks and think past today's crisis to what the longer term goals for the education system are. This is not an easy role change for either side. In my experience it is best to have the heads of divisions in the Ministry for a good half day. The minister should be able to arrange this and chair the meeting. It is also desirable if the researchers listen carefully and then draft what they think the meeting was suggesting for the policy questions. The notion of integrating research and training is also important. Assuming that the researchers are part of the Ministry this integration lays the basis for this in Ministries beginning to think about "informed solutions to policy issues" rather than "inspired guesswork". This approach provides a more genuine Ministry "ownership". Where the research is international it is clear that the researchers involved can learn from each other. They learned by doing not only in terms of new tech-

niques but also in terms of ways of operationalising questions about educational issues. Those international projects that "dump" centrally designed studies on countries where the role of the researchers in the countries has been reduced to that of glorified field workers are to be deplored.

The demand by Ministers of Education to be involved in SACMEQ was high. In a relatively short time there were 15 Ministries of Education from 15 countries that were members of SACMEQ. But governments change and Ministers change. The new Minister did not necessarily have the same learning experiences as his predecessor. In two of the SACMEQ countries the new Ministers did not allow their researchers to participate in Phase 2 of the study even though there were several senior members of the Ministries who said that they needed the information that the study would have yielded. On the other hand there were other countries in different parts of the world where the Ministers were saying that they should be involved in such studies. In general this model of doing research is very popular with Ministries of Education.

In some cases the implication of the question is spelled out but in other cases this has not been done because it is felt to be self-evident.

It should be noted that the governing body of SACMEQ consists of the 15 Ministers of Education. It is the governing board that decides on the kinds of research projects that SACMEQ will undertake. The ministries participating in the study set the research questions. The instruments and data belong to SACMEQ. The International Institute provided certain technical expertise for Educational Planning (IIEP), a UNESCO institution.

The "third way" has advantages and disadvantages. The advantages are:

- It is the Ministry's research questions in which they have an immediate and direct interest that are posed
- Over time the senior members of the Ministries become accustomed to reflecting on the educational issues in their countries and setting the research questions
- Over time the researchers become used to having to undertake research strictly based on Ministry questions
- The Ministry ensures that all selected schools actually participate
- Funds are made available to carry out the study
- The Ministry is waiting for the results and, where possible, the members of the ministries help in the interpretation of the data
- The Ministry, where possible, acts on the policy-suggestions made
- This form of research becomes to be taken as a continuing exercise

The disadvantages are:

- It is only Ministry questions that are asked. There may be other very important questions that could be asked but that were not posed by the Ministry personnel. This raises the question of whether other groups should also be involved in setting the research questions. If so, then which groups?
- It is typically the Ministry's planning unit that is involved in the conduct of the research. Quite often these planners need training in research techniques. Once trained and they have acquired certain skills they leave and go to the private sector. This requires that Ministries establish career possibilities such that skilled persons do not leave.
- Ministries are capable of suppressing publication of results if the results are embarrassing for the Ministry.

Table 2: Policy questions, tables and questionnaires for Vietnam Grade 5 study

Tabulation of policy questions, tables in chapters addressing them, and references to questions in the questionnaires*

Group	Question number	Policy question	Table reference	Questionnaire reference
		Pupils		
01		**What are the characteristics, including home background, of the Grade 5 pupils? What actions do these characteristics require the Ministry to take? Do these characteristics and the home background have an influence on achievement?**		
	1.01	What is the age distribution of Grade 5 pupils? Are there distribution patterns requiring corrective action and/or having an influence on teaching methods and/or the curriculum?	3.1	P02 D
	1.02	What is the sex distribution of Grade 5 pupils? Are there imbalances in the enrolment of male and female pupils requiring corrective action?	3.1	P03 D
	1.03	What is the ethnic group of the children?	3.1	P05 D
	1.04	How regularly do Grade 5 pupils eat meals?	3.1	P10
	1.05	What percentage of Grade 5 pupils speaks the language of the test at home?	3.2	P04 D
	1.06	What is the level of the parents' education of Grade 5 pupils? (Add)	3.1	P11 D, P12 D
	1.07	How many books are there in pupils' homes?	3.1	P06 D
	1.08	What is the socio-economic status of the pupils and their parents? (Measured in terms of possessions, parental education, and books at home)	3.1	P07 D and R, P06, P11 + P12, R for ses
	1.09	Do the pupils have a quiet corner at home in which to work?	3.2	P08
	1.10	How many hours per day did the pupils have to work to help their families?	3.2	P09 D
	1.11	How many minutes do pupils have to travel to school?	3.2	P13
	1.12	On how many days were the pupils absent from school in the previous month?	3.2	P14 & 15
	1.13	What percentage of pupils had repeated at least one grade?	3.2	P16 D
01.1		**What was the situation about homework?**		
	1.14	To what extent did pupils get in their home regarding homework and interest in their school work? To what extent was the homework corrected by teachers?	3.3 In text	P24 D, P25 D, P26, P30, P33, P31 D, P34 D
01.2		**How many pupils had extra tuition, was it paid for and who taught it?**		
	1.15	How many pupils had extra tuition, was it paid for and who taught it?	3.4	P27 D, P28 D?, P29

* P = Pupil questionnaire D = Derived variable to be computed (see Vietnam: recoding of variables)
TQ = Teacher questionnaire R = Rasch score to be computed S = School Head questionnaire

Group	Question number	Policy question	Table reference	Questionnaire reference
05		**How did the schools' conditions match the Ministry's benchmarks?**	**MOET to produce benchmark information to be used**	
	5.01	How did the schools meet the Ministry's benchmarks (and other benchmarks) for total enrolment, class size, classroom space, total space and staffing ratio?	7.1 7.2	Use derived variables
	5.02	How did the schools meet the Ministry's benchmarks (and other benchmarks) for sitting places, writing places and a board?	7.3 7.4	TQ15.1, TQ15.2, TQ17.2
	5.03	How did the schools meet the Ministry's benchmarks (and other benchmarks) for classroom supplies?	7.5 7.6	P21.01, P21.02, P21.03, P21.04, P21.05, P20.01, P20.03, P20.06, P20.10
	5.04	How did the schools meet the Ministry's benchmarks for the academic and professional qualifications of both teachers and heads?	7.7	S25, S 26, S8 S9
06		**To what extent were material and human resources allocated equitably among provinces and among schools within provinces?**		
	6.01	What was the resource distribution variation among schools within provinces and among provinces for classroom furniture, classroom supplies, a classroom bookcase, classroom space per pupil, and school resources?	8.1	Use derived indexes for the measures.
	6.02	What was the resource distribution variation among schools within provinces and among provinces for teacher and school head qualifications (academic and professional), years of teaching experience, experience as a school head, inspectors' visits and the pupil-teacher ratio?	8.2	S25, S26, S8, S9, S34, TQ7.1+7.2 Derived variable for P-T ratio
07		**What was the achievement in reading and mathematics (and various sub-scores in these two subjects for provinces, the country as a whole and various sub-groups of pupils?**		
	7.01	What were the scores in the various domains of reading and total reading for each province and for Vietnam?	9.5	Narrative score R Expository score- R Documents score- R Total score R Province ID
	7.02	What were the scores in the various domains of mathematics and total mathematics for each province and for Vietnam?	9.6	Number R Measurement R Space and data-R Total R Province ID
	7.03	What were the scores in reading for the essential items, minimum, and desirable levels?	9.7	Essential Read Minimum Read Desirable Read Province ID
	7.04	What were the scores in mathematics for the essential items, minimum, and desirable levels?	9.8	Essential Math Minimum Math Desirable Math Province ID

My overall impression is that whichever form of relationship exists between the users and producers of educational research, it can be very fragile. Much depends on the prior knowledge of the senior members of Ministries of Education. But this "third way" would appear to work well in many countries. Would it work well in Hungary? Does the Hungarian Ministry have the pre-requisites that I have outlined above? Is it open to other ways of looking at problems? How many secondary analyses of existing data sets has it undertaken itself? Does it encourage participation in international research endeavours? Does it hold regular seminars for its staff members on research findings and their implications for the Hungarian system of education? And so on. Equally how do the researchers in OKI and elsewhere in the country operationalise their policy suggestions based on their research in ways similar to those exemplified in Table 1 earlier in this speech?

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