HOW DOES EDUCATIONAL RESEARCH HELP TEACHERS?

JUKKA LEHTINEN

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Who then is right? Obviously both. We researchers have too often done research, the aim of which has not led to any improvement in the school work, and the language in which it is reported has also been too complicated to be understood by teachers. Because of this, teachers have often avoided reading even those research reports which would have been applicable and useful for them.

Still the everyday work in schools is full of problems. Many of them are said to be caused by the curriculum, which is made somewhere "up-there" without any knowledge of the realities of the classrooms. Plenty of other problems are also crated, or at least presented by teachers or students themselves. How could educational research help those people who are in charge of developing curriculum as well as those who are implementing it? In the following, some examples are given as a response to this question.

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Exploring the starting level

When walking in a strange area, it is important to know where one is in order to know where to go. The same also applies to teaching in schools. The objectives are defined in the curriculum. Teachers know what their students should be able to know and do when the school year is at its end. But it often happens that not all the objectives are reached at the end of the school year. In fact, this is what failures in the national tests often indicate.

Of course, this can be due to many different reasons. But for sure, one is that the objectives have been set unrealistically and are too high compared with the students' capacity to learn during a school year. In this case, teachers are required to perform something which is not reasonable, and students get frustrated when forced to do something overwhelming.

The curriculum is, or at least should be, a logical sequence from Grade 1 up to Grade 12. The topics presumed to be dealt with in each grade should be based on what has been learned earlier, without unnecessary repetition. It is assumed that every student learns everything which is listed in the curriculum for each school year. Is this assumption realistic? Apparently not.

Children vary in hundreds of ways since they are individuals. Also their learning abilities vary greatly from one learner to another as we well know. Furthermore, the learning process is sequential; everything new is based on, and in one's mind, connected with what the learner knew before. In fact, learning ability is not fair in the moral sense: the more one knows, the easier it is for him to learn more; the less one has, the less he can receive. This is always true.

If some differences appear in lower grades, they only multiply in the course of time, and at the end of the school year, differences become much greater.

This is a challenge for educational research. Instead of making certain assumptions about how students perform in each grade, their performance should be analyzed by research. The national tests are not enough to show what is a realistic level of the students' knowledge at the end of each school year. Researchers should take a representative sample and find out the real achievements. Obviously this kind of research would reveal a wide range of knowledge: Some students may know almost everything assumed, others may know only a little part of it, and most of them may be somewhere in between.

Based on information about the students' real achievement level, it is possible to construct a new, better and more realistic curriculum. Implementation of it would give the teachers more joy in their work, and provide students with a greater sense of achievement than failure.

Analysis of the learning orientation and processes

How does learning take place? What factors determine what we learn and how rapidly we learn it? There are innumerable people in situations in which it would be useful to have answers to such questions. We can think, for example, of students looking for better methods of studying, and people in industry seeking for better ways of training workers. We may also consider mothers looking for the best way of raising their children. In all such cases, knowledge about learning processes represents power.

> Children in schools face a bewilderingly complex learning situation... They are influenced in countless ways by the varied aspects of the classroom situation.

They learn much from the teacher, including many things not prescribed in the curriculum, and some things of which neither teacher nor pupils are aware. They also learn from books, from fellow students, and from the physical arrangements of the school. Part of what they learn is measurable as specific knowledge and skills, while another part involves changes.. in attitudes, emotions, social behaviour, and a variety of other reactions (Hill, 1977, pp. 2-3).

Learning styles and orientations have been researched in the world since the 1970's. It was realized that individuals differ a great deal in their ways of selecting information they want to learn, interpret and remember. In principle, individuals want to receive only information which they can deal with in their capacity. Their speed and results of learning are determined by the techniques they apply in learning, i.e. absorbing the content and integrating it with previously acquired units of knowledge. Some learners are inclined to construct entities from fractions, while others necessarily need, first, a view of the whole in order to understand and remember the details, etc. Some learn better by hearing new information, others by seeing things and most by doing things. While some students are orientated to work in the schools and compete for achievements with each other, others see this as a kind of obligation. In addition, the experiences of performance, success and failure, influence strongly the orientation of students (Ropo, 1984).

Every teacher has some intuition about these factors, which are close to his everyday work. But, as usual, such intuitions are not enough, and commonly they are correct only to some extent. If research could be carried out the way students learn, it would help the teacher adjust his teaching methods to suit the learning style. Of course, this is possible only in a few cases, since the large number of classes makes it difficult to undertake research in each of them.

Instead of classroom-by-classroom research, the topic should, therefore, be considered more generally. The results would reveal the wide variety of the learning styles the students use, and the frequencies of each variety. If teachers could get this information, they could apply it to their own student community, and thereby understand better the learning behaviour of their students. They also would be able to change some essential components of the instruction in order to meet their students' needs better in the classroom. The final result would be again: better achievements and more happiness.

Diagnosis of the learning problems

Every teacher knows that even if a teacher applies the best methods and teaching materials in training his students, there will always be several who cannot learn what is taught. For a teacher who feels his responsibility, this is a serious problem. He looks for a fault in himself, and although he cannot find any, he blames himself for the failure of his students. An easy way to ease this problem is simply to accuse the student of stupidity. But this does not make the teacher happy, and, for the student, it often means stigmatization for the rest of his life.

What then is behind such problems? Sometimes the reasons are simple; seeing or hearing disabilities or some special concerns in school or at home which prohibit the student from concentrating on his homework. In some cases, however, the reasons are deeper than these. The student may have learned wrong mnemonic habits or may have misunderstood some important elements of the topic in the previous phases of study or he may have problems in the basic skills of reading, writing or arithmetic. Sometimes a combination of several such

problems may be there.

Whatever the reasons, it is difficult for the teacher to identify them since there are too many students in a class. He just does not have the time to consider the problems of each student. Here again, educational research is needed. As previously stated, an ideal solution would be a thorough investigation of each class separately. But it is not realistic to expect this. Rather, research must be carried out concerning either selected schools, a specific grade, a certain geographical area, or any combination of these. When teachers know what kind of problems there are amongst their students, and the symptoms and causes of such problems, then they can deal better with their problematic students. The final result of this is that teachers can carry out their work more efficiently.

Problems in the medium of instruction

Ethiopia is a country with many languages. In the schools, however, only Amharic, at the primary level, and English, at the secondary level, are used. While this seems unavoidable, it means that only 25% of the students can use their mother tongue in the primary schools and that nobody can do so in the secondary schools. Without any doubt, this affects the efficiency of the school work.

What are the best methods of teaching a new language to children? What is the role of the mother tongue in learning new languages? How can the students be supported, if they can not get help from their parents whose language is not used in the schools? How does it affect the application of knowledge if

all central concepts are learned in a second or third language? What special methods should be applied in order to improve instruction, if neither the teacher nor the students can speak and understand enough English?

Questions like these may be familiar to many teachers in this country. Usually there are in life more questions than answers. But these questions are very important to many individuals who work in schools either as teachers or as students. In fact, they are vital to many students, since such language problems decide the career of many people. Answering such questions necessarily provides areas for educational research. Only carefully conducted researches can lead to facts which will help us over-come language problems.

Conclusion

Described above are four areas of educational research which can help teachers and others working in schools. Other areas could easily be listed.

What then is common to all of these? It is essentially the final purpose of all research: to replace beliefs by facts. In human relationships such subjective factors as emotions, feelings, intuitions etc. are needed. But the basis of education must lie in facts. We need realistic curricula and real knowledge about students' problems and the ways they can be handled in everyday tasks in order to fulfill our responsibilities as educators. And only educational research can guide us in this.

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FACTS AND FIGURES

Participation in Continuing Education (Extension) Programs (1990/91)

	Program			
	Diploma		Degree	
Institution	Planned	Actual	Planned	Actual
Bahir Dar Teachers College	200	238	-	-
Faculty of Education	120	137	80	124
Kotebe College of Teacher Education	335	536	-	-

Source: **Higher Education Main Department Report.** Tir. 1983 (pp. 5-6)

"IER Observes: Why plan conservatively when it is possible to accommodate more? Or, is "business" more important than plan? Or, is it a matter of "pressure" and "elasticity"?

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UNDERSTANDING THE NEEDS OF HANDICAPPED STUDENTS: A FOCUS ON ORDINARY SCHOOL SETTING.

TIRUSSEW TEFERRA

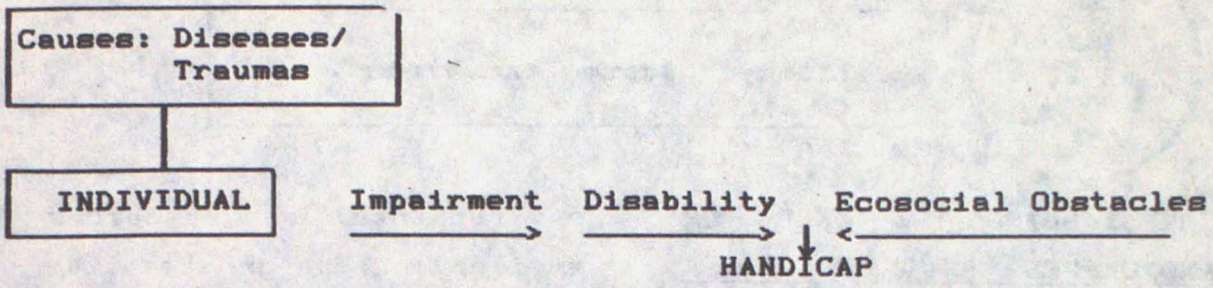
Understanding the Problem

For people who have a disability the consequences of underrating the significance of ecological and social (echosocial) factors as causal attribution are severe. This underrating hinders the realization that circumstances can enormously increase or reduce the extent of the handicap. Empirical studies indicate that the effects or impairment of disability can be compensated for by the abilities and skills the individual has as well as by the support he gains from the environment.

Among the different variables, education is, of course, one of the major environmental resources available. The greater the environmental input to develop the potentialities and possibilities of the individual, the less an individual's disability is likely to result in a desruption of his life style.

A major feature of the current trend is the change in the conceptualization of handicap arising from examining the effects of environmental resources and deficiencies upon the intellectual and social development of children. Accordingly, handicap is no longer considered to be determined by "within child" factors, but as an outcome of an interaction between resources and deficiencies of both the child and the environment. The schema below elucidates basic processes embodied in the development of handicap.

Schema 1.



Individual - The person may encounter an impairment at any time in the entire life span due to prenatal, natal or postnatal diseases/traumas.

Impairment - Objective and lasting organic loss or abnormalities in any part of the body.

Disability - Limitation or lack of capacity to use the body to perform an activity within the range considered normal.

Ecosocial Obstacles - Refer particularly to ecological and socio-cultural dimensions which hinder and limit the development and the performance of the individual.

Handicap - A limitation in the individual's daily and domestic activities and social roles in the socio-cultural context according to age and sex. As indicated in the schema, handicap is the result of an interactive process between individual characteristics resulting from impairment or disability and ecosocial factors.

On the basis of this conceptual framework, biological defect constitutes a necessary, but not sufficient, condition for a handicap. Therefore, in order to offset the influence of the defect and mobilize other aspects of the persons potentialities, developing appropriate educational provisions is a major strategy. To this end, under the umbrella of the theoretical foundations of educational rehabilitation or special education, there are six disability-specific pedagogically differentiated branches. These include special pedagogical approaches for: the deaf and the hard of hearing; the blind and the weak-sighted; the educable and trainable; the behaviorally disturbed; children with motor disorder; and those with speech-language defects. Though, the development of special educational programs for children with such disabilities is dependent upon the socio-economic and cultural context of a country, the modes of application are still debateable as they are under exploration.

In other cases, the pertinent delivery modes include: Special Day Schools, Special Residential Schools, Special Classes parallel to those in Ordinary Schools, Resource Teachers in the Ordinary School Settings and other Hospital or Home-Based Services.

According to the widely accepted principle of normalization, a child with disability shall be placed in the least restrictive environment. For instance, a child should not be placed in a special school if he can be served adequately in a special class, and he should not be placed in a special class if a resource teacher is available to attend to his needs. It should also be noted that in order to optimally promote the learning-teaching process in almost all delivery modes, disability-specific

facilities, equipment and trained personnel should be available.

Helping the handicapped in the ordinary school setting

It is hoped that issues raised in this section are relevant and have practical value particularly for teachers, guidance officers and school administrators in the ordinary school setting. The intention of this article is to draw the attention of teachers to the glaring problems of the handicapped in the ordinary school setting and suggest possible assistance that could be offered within the existing framework.

First of all, I shall raise a few specific questions related to handicapped students in your school.

Do you know which students are handicapped in your class or school?

Do you try to approach handicapped students?

Do you attempt to understand their special needs?

Do you know why some students repeat classes?

Do you know why some students fail to come to classes frequently?

Of course, there are still other questions which deserve particular consideration by classroom teachers, principals, guidance officers as well as unit leaders. Such questions may provoke teachers to question their own practices, and generate discussions among themselves with a view to getting insights about future plans of action.

According to WHO's estimation, 1 in 10 children is born with, or acquire, either sensory impairment, motor disorder, speech-language difficulties, behavioral problems, or intellectual defects. The presence of prenatal, natal and postnatal disabling factors and the absence of

early detracting, assessment and intervention in our country, has brought a phenomenal increase in the magnitude of the problem. Among the suspected school-age children only (.1%) have the opportunity to receive special educational provisions in special schools and in integrated special classes.

Predominantly, the beneficiaries of these services are children with obvious sensory and motor disabilities like the blind and the deaf. Most of these children, after completing grade 6 in their special schools, are placed in ordinary school settings to pursue their studies. The new environment, that is, staff without special training, non-handicapped classmates and a compound without any physical adaptation, demands both psychosocial and educational adjustment for such students. Apart from these group of handicapped students, there may also be others with mild sensory, motor, learning and behavioral difficulties, who have enrolled in ordinary schools without their deficiencies being detected or recognized. Since their defects are not obvious or not easily observable, their problems may not be appreciated by teachers or by their non-handicapped peers. This puts them in a more difficult situation than those with obvious physical disabilities. However, both are students with special educational needs who require due attention and professional back-up support. The children as a group, because of congenital or acquired disabling factors, cannot function and perform certain educational tasks in the same way as their non-handicapped counterparts. For instance, blind students can read and write embossed letters but not blue prints, and the deaf can communicate through sign-language but not in spoken language. Unique learning characteristics such as these and others are the bases which determine

methodological strategies.

The big challenge is how to cater for the special psycho-educational needs of such students in the present ordinary school setting, where:

* teacher: student ratio is very high,
* there are no special facilities, equipment or trained personnel to provide the necessary professional back-up,
* teachers have not taken any course pertaining to the education of the handicapped,
* there is no environmental and classroom adaptation to meet the physical needs of the handicapped (like Path-ways, classrooms, latrines, libraries etc.)

Given the present school situation, the following measures may serve as a starting point for providing back-up support for the handicapped in the ordinary school setting. Above all, in order to initiate and undertake such activities, the goodwill and professional committment on the part of the staff is not only necessary but indispensable.

What the teachers can do:

* Give due attention to handicapped students in classrooms,
  - make hadicapped students feel a sense of belonging to the class,
  - lay emphasis on the assets of the child and the area of immediate development rather than on his disabilities,
  - follow their pace of development; if you force a handicapped child to do something beyond his immediate capabilities, (no matter his age) then this may retard learning by creating feelings of failure in him or her,

- speak slowly and clearly and use mimics and gestures,

- read aloud while writing on the chalkboard and encourage them to participate in class,

- offer them front seats,

- consider the nature and time allotment when setting an examination.

* Organizing Special Arrangements

- fix special consultation hours or discussion sessions for those who need it,

- arrange for volunteer students to assist such children,

- arrange a special time and place for taking their examinations.

What the schools can do:

* Form Handicapped Students Affairs Committee (HSAC) which can develop and monitor activities pertaining to the handicapped,

- explore the means and ways of supplying special educational aids as well as professional back-up support through establishing contact with local organizations such as the Ethiopian National Association of the Blind and the Ethiopian National Association of the Deaf,

- organize a students' welfare club for assisting such students,

- develop regular contact with the parents of handicapped students.

* Identify the number of handicapped students on the basis of the type of their disabilities (Disability - Profile)

- depending on the nature of their disability, exempt students from subjects which they are not able

to do because of their disabilities,

- make sure that the handicapped students are assigned to the schools nearest to their home.

* Ensure free movement for handicapped students by making environmental adaptation so that facilities within the school compound are easily accessible,
  - consider path - ways,
  - make sure that the Classroom Buildings, the Libraries, Latrines and other school services are accessible to them.

These are feasible preliminary actions which thought to be realizable within the existing ordinary school setting. However, the points mentioned should be considered as suggestive rather than prescriptive measures.

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FACTS AND FIGURES

Percentage of Female Participation in Higher Education by Program Type and Level (1989/90)

	Program					
	Regular		Evening		Kirent	
Participation	Dip.	Deg.	Dip.	Deg.	Dip.	Deg.
Enrolment	15.0	8.1	33.3	22.6	6.5	14.1
Graduates	13.3	8.4	37.9	27.4	10.0	10.3

Source: Higher Education Main Department, **Facts and Figures.** Jan. 1991 (p. 21)

*IER Observes: As shown in the Table, a greater percentage of females joined extension programs rather than the regular diploma and degree programs. It would be interesting to know why this is so.

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