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*The Need for Theoretical Advance
in Education and in Language Education*

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In this paper I argue our need to have a better theoretical grasp of the nature of education in general and of language education. The paper is based on fifteen years of work on curriculum and curriculum evaluation at the Finnish National Institute of Educational Research, and reflects my interest in epistemological questions and also my training in linguistics, education, and English as a second language within a European frame of reference. It is a personal view which makes no claim of being fully applicable to the American scene. I hope that it provides some new perspectives to the discussion about language education.

1. Need for Models and Theories

There are several reasons why we need models and theories in education and in language education. Education in general and the teaching of different subjects are so complex as systems and processes that we need models (1) to help us understand and explain how they function, (2) to guide and inform our thinking, planning, and actions without determining them in detail, (3) to help us evaluate their performance and make required changes, and (4) to help us foresee future problems and developments.

A major development in education over the past few decades has surely been its institutionalization: it has evolved into an established social institution and social system. Education has become more and more organized: roles and role-relationships within the educational service

are more and more clearly specialized. It has also become more systematized; it is not totally dependent on particular individuals and their independent activities. Education has been stabilized; it is not dependent on interest or support of particular individuals and their voluntary actions. Whether we like it or not, education is not only the activity of individual teachers. In our time it is a system of activities, an institution consisting of a number of sub-systems and of their activities, ideally supporting each other. In order to understand education as a system of activities, we must be aware of its boundaries and embeddedness in a larger context, of its central purposes, and of its internal structure (see Figure 1).

2. The Nature of Education as Science and Practice

An interesting angle to the question of theory and practice can be derived from John Stuart Mill's discussion on the logic of art. According to Mill, the imperative mood is characteristic of practice or art, as distinguished from and opposite to science. He says:

Whatever speaks in rules or precepts, not in assertions respecting matters of fact, is art; and ethics or morality is properly a portion of the art corresponding to the sciences of human nature and society. The Method, therefore, of Ethics, can be no other than that of Art, or Practice, in general (p. 616).

Mill notes a difference between the case of a judge and a legislator. The judge is bound by the laws, explicit rules, whereas the legislator has to take into account the grounds for rules and maxims of policy. A legislator who goes by rules rather than by reason is, according to Mill, "rightly judged to be a mere pedant, and the slave of his formulas." *Mutatis mutandis*, that applies to education and teaching as well.

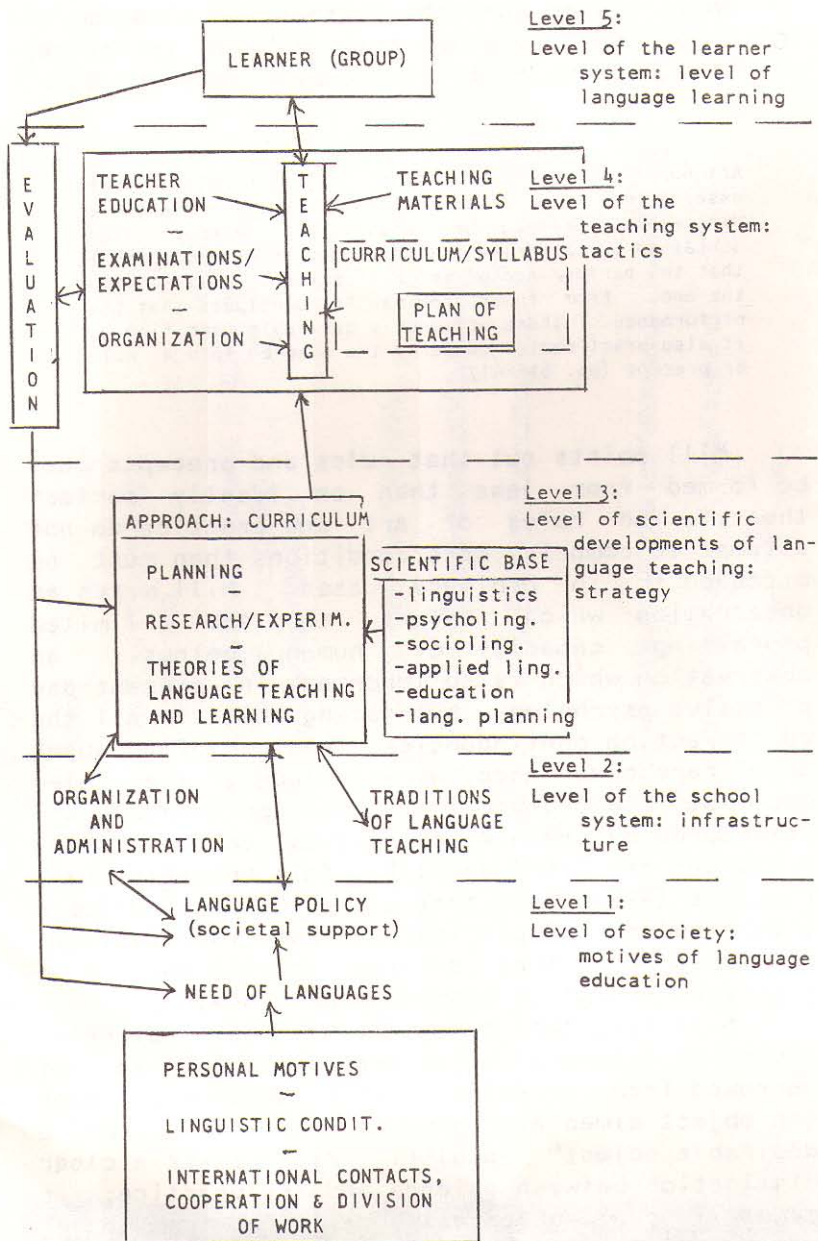


Figure 1. General Model of the Language Teaching System

Source: Takala, 1980

Mill argues that the reasons for a maxim of policy or for any other rule of "art" (practice) are the theorems of the corresponding science.

The only one of the premises, therefore, which Art supplies is the original major premise, which asserts that the attainment of the given end is desirable. Science then lends to Art the proposition (obtained by a series of inductions or of deductions) that the performance of certain actions will attain the end. From these premises Art concludes that the performance of these actions is desirable, and finding it also practicable, converts the theorem into a rule or precept (pp. 616-617).

Mill points out that rules and precepts must be formed from less than an ideally perfect theory. The rules of art and practice do not attempt to comprise more conditions than must be attended to in ordinary cases. Mill makes an observation which refers to the limited processing capacity of human beings, an observation which is so important in present-day cognitive psychology, by stating that "if all the counteracting contingencies, whether of frequent or of rare occurrence, were included, the rules would be too cumbersome to be apprehended and remembered by ordinary capacities, on the common occasions of life" (p.617). This resembles Karl Popper's (1976) idea that all successful science also requires simplification and idealization. Mill also notes that a wise practitioner considers all rules of conduct provisional.

Mill says that every art has one first principle, or a general major premise, which is not borrowed from science: "that which enunciates the object aimed at, and affirms it to be a desirable object" (p.619). Mill makes a clear distinction between science and art/practice: is and will be are generically different from ought or should be.

For Mill, there are not only first principles of knowledge but also first principles of

conduct: The promotion of happiness of mankind, or rather, as he says, of all sentient beings. (This latter extension is usually neglected in quoting Mill.) The promotion of happiness is the justification of all ends and it should control all ends, but it is not the only end. It is the ultimate standard by which other ends and conduct are to be judged.

For Mill the art of arts is the Art of Life, which has three "departments": Morality, Prudence or Policy, and Aesthetics, i.e., the Right, the Expedient, and the Beautiful or Noble in human conduct or works. All arts are subordinate to the Art of Life, thus also education. Teleology (also called the Doctrine of Ends or Practical Reason) defines the general aims, which together with the laws of nature disclosed by science constitute every art or practice.

Surely the purpose of education must be to promote the Art of Life in the Millian sense: a sense of what is right, what is true and wise, and what is beautiful. But as Mill himself pointed out, since the scientific knowledge related to any art (practice) is always deficient and since we may not find his definition of the ultimate principle or standard of conduct unproblematic, we would be well advised to regard both the aims of our profession and its scientific basis as provisional. Thus, rather than accepting even Mill's ideas as such, we need to keep defining such central concepts as "education," "teaching," "learning," and "curriculum" in order to discover and rediscover the nature of our profession. As Bronowski (1976) has said, a true profession is never merely empirical but fuses the empirical and the rational methods, as has been later emphasized also by Resnick (1976). A true profession can also clearly demonstrate progress and improved performance.

Surely, each generation must keep defining what is right, what is true and wise, and what is beautiful. Paraphrasing a statement by Alfred

North Whitehead, who deserves to be read by all people interested in the promotion of the art of life, education (politics, religion, etc.) will commit suicide if it finds its primary source of inspiration in dogma, unquestioning abidance by custom and precept. The art of progress, in his opinion, is the ability to maintain order amidst change and the possibility of change amidst order. The maintenance of respect for important symbols is important, but there must be a freedom to revise them. Different ideas and different alternatives are to be seen, as Whitehead says, not as enemies but as godsend. If such an attitude is prevalent, facts no longer are cold facts but include all the possibilities entailed by them to put them to some good use. Thus, e.g., facts about learning may be very exciting because they imply a number of ways to improve teaching and learning at school.

3. Towards a Conceptualization of Schooling and Teaching

3.1. Links Between the Theory and Practice of Education

The central purpose of schooling may be taken to be the transmission of knowledge--the transmission and promotion of the competency of reflective thinking, critical attitude, problem solving, and theoretical generalization and self-understanding. This competency cannot be offered to students only as a ready-made result. It is essentially a process that can be taught and can be acquired. The success of schooling is manifested in a student's personal reflective thinking, which can also turn against and criticize what and how the student is being taught (cf. Juntunen and Mehtonen, 1977).

There must necessarily be a close link between education as a science and educational practice. Practice without theoretical foundation and self-reflective attitude is largely

determined by unanalyzed traditions and norms. It is an unquestioning application of norms, precepts, and a-theoretical generalizations. Such teaching does not solve problems, because it is largely incapable of problem detection, analysis, and statement. Such teaching deals largely only with what is and not what might be: the actual, the present, freezes out the potential. Such activity is unreflective and exhibits a flawed theoretical self-understanding.

On the other hand, education as a science loses its meaningfulness if it loses its contact with practice. All science, particularly all human sciences, become objectified (Husserl, 1962) if they are not anchored in practice, in the deep sense of the word. As Husserl says, the concepts and methods of science have to be based on their practical meaningfulness (Sinnesfundament) in human life (Lebenswelt). Educational sciences will land in a state of crisis--or depending on one's viewpoint, remain in crisis--if they do not become fully aware of their inalienable bond with practice. In human sciences, it is necessary to be self-reflective: to be aware and critical concerning the use of concepts, methods, ideals of science, etc. As a theoretical basis of teaching, educational sciences always need to attend to the question of validity contrary to Mill. It is not enough to describe what principles and methods have been used and are used in educational sciences and in educational practice (what is); we also need to ask what principles and methods are valid in educational sciences and in educational practice (what ought to be). The validity issue has to be discussed and redefined or reaffirmed by each generation. It cannot be settled once and for all.

Education is largely an "artificial"--not a "natural"--science (Calfee, 1981). "Artificial" refers to the fact that education, school, curriculum, are the products of the human mind

(artifacts), not natural phenomena. Thus education is an example of what Simon (1981) calls "sciences of design," dealing with the interface between the inner and outer environments, how goals can be attained by adapting the inner environment to the outer environment.

3.2. Factors Affecting Teaching

One of the recurrent findings in empirical studies of teaching and teacher behavior is how little change there has been over the years. Teacher-led instruction tends to dominate interaction in class. Sometimes when one reads reviews of research on teaching there is a subtle undertone of disapproval about the finding. One seldom, if ever, reads any attempts to explain why this is so and why it should be so.

It seems to me that in the course of teaching there has been a kind of natural selection of methods so that a relatively small subset has evolved that are believed to be applicable in different circumstances (depending, e.g., on the size of the class, the subject-matter, the objectives). The reason for this selection is likely to be found from the defining characteristics of teaching and the implicit/explicit objectives of teachers' behavior in class....[Here the author cites Hirst (1974), Calfee (1981), Clark and Florio (1980), Shavelson and Stern (1981) in his definition of the tasks. He cites Leech (1979) to identify contrasting teachers' commitment to "formalistic" or "functional" view of language. The author then discusses other general contextual influences on teachers. For brevity if not courtesy, we refer you to his bibliography and continue the paper with the next section. Eds.]

4. On the Domain of Educational Linguistics and Language Education

In trying to build up the scientific basis for curriculum construction in language education, it is useful to take account of the model presented by Halliday (1973) (see Purves in this volume) and the views on educational linguistics presented by Spolsky (1978). In order not to have an unrealistically limited view of language and language education, we need to see language as a system, as behavior, as knowledge, and as art. Concentration on any one form results in a neglect of the other aspects, necessarily leading to a limited view with a limited descriptive, explanatory, and predictive adequacy.

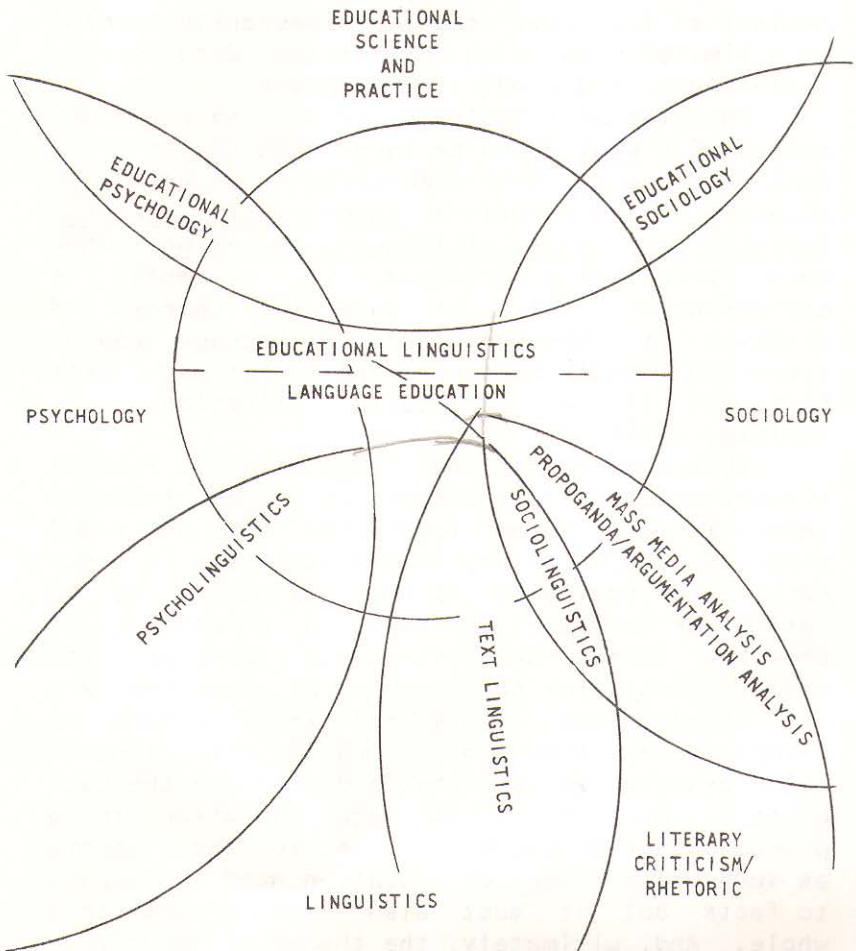
Educational linguistics is ultimately concerned with what would be taught and how it might best be taught. When theoretically oriented, it attempts to construct a theory of language teaching or a theory of language education. When more practically oriented, it attempts to define--on the basis of both the theory and practice of language teaching/language education--what should be taught and how it might best be taught in a particular situation (cf. Spolsky, 1978).

Even when educational linguistics is theoretically oriented, its purpose is to construct a theoretically sound foundation for a sound practice. Thus, theory in education and in educational linguistics is not primarily to be tested for verification, but to guide action: show how things are, structure thinking, and create a basis for anticipation of problems and for predictions. This functional aspect of theory in education and in educational linguistics deserves to be emphasized, because the task of education and of language education is to produce desired results, and not to test theory as such. The theory of education must correspond to facts but it must also form a consistent whole. And, ultimately, the theory of education must work.

In educational linguistics and in its asso-

ciated "practice," language education, several disciplines must be drawn upon in order to keep constructing an adequate theory of language teaching, language learning, and language education (Takala, 1981). This is shown in Figure 2.

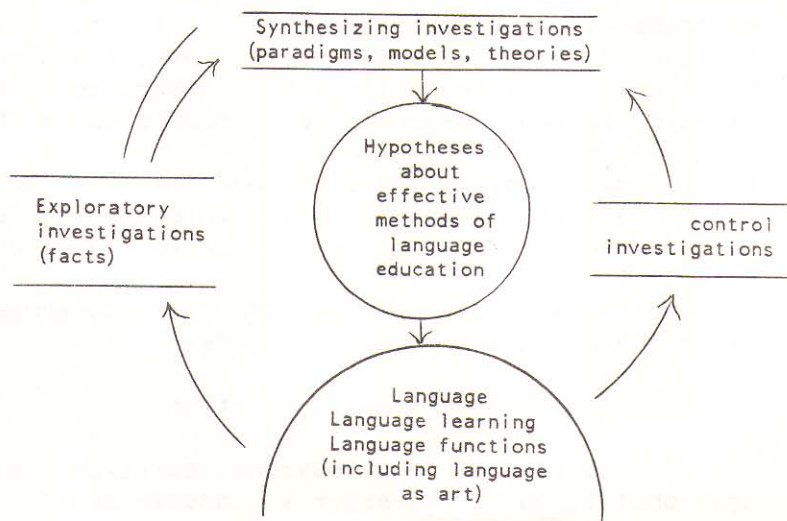
Figure 2. Context of Educational Linguistics and Language Education



Adapted from Leino, 1979.

Thus, synthesis is an important approach in educational linguistics (see Figure 3). The underlying or related disciplines produce facts about language as a system (linguistics), language as behavior (sociolinguistics), language as knowledge (psycholinguistics), and language as art (literary criticism/rhetoric) (cf. Halliday, 1973). It is important to realize that the other disciplines act as exploratory investigations for educational linguistics, and they pose a problem of assimilation to it. However, these other disciplines only produce facts, which have to be interpreted in order to become "fact-meanings" or "facts-of-the-case" (Dewey, 1938). Hypotheses are then derived from the theory, but they need to be tested empirically. Thus a second major approach in educational linguistics is empirical control studies.

Figure 3. Domain of Educational Linguistics



5. What Does Educational Linguistics Expect from Related Disciplines?

The following is a brief description of what educational linguistics expects related disciplines to do for it in the form of exploratory studies that produce facts.

5.1. Linguistics

Educational linguistics expects from linguistics concise synthesis, reviews, on the following points:

- 1) What is or can justifiably be the object of linguistic research? What different conceptions are there about this matter? How can they be assessed?
- 2) Why does language have the characteristics it has? What different conceptions have been presented and how can they be assessed?
- 3) What common characteristics do all languages have? Why are there linguistic universals--or are there?

These questions are such that they can be addressed by general linguistics, linguistic philosophy, and epistemologically oriented linguistics. In addition to epistemological questions, educational linguistics expects from linguistics good descriptive accounts about the following points:

- 4) Systematic descriptions of how certain concepts, notions, ideas, purposes, intentions, etc. can be expressed in given situations and contexts.
- 5) Comparative descriptions of the above-mentioned points (4) between languages.

5.2. Psychology and Psycholinguistics

From psychology and psycholinguistics, educational linguistics expects concise syntheses about the following points:

- 1) What happens when a child learns the first

language? What different conceptions have there been and how can they be assessed?

2) How does the first language influence the learning of a second, or third language? Different concepts and their assessment.

3) How is language acquisition and learning related to other kinds of learning?

4) What is the connection between language and thought?

5) Are there certain natural, hierarchical linguistic sequences learned typically in first language acquisition? Can such sequences, if they exist, be used in mother tongue education or foreign language education?

6) What are the structure and processing modes of memory? How can they be optimally utilized in encoding, storage, and retrieval?

7) What is the contribution of linguistic pathology to educational linguistics and language education?

In sum, it can be said that educational linguistics wants to know how language is learned.

5.3. Sociology and Sociolinguistics

Educational linguistics expects from sociology and sociolinguistics concise syntheses about the following points:

1) What are the main functions and forms of linguistic interaction and how do they develop? What different conceptions have been presented and how can they be assessed?

2) How is linguistic interaction related to all human interaction?

3) What normative attitudes are there towards language and language use? What similarities and differences can be found between different cultures?

In sum, educational linguistics wants to know how and for what purposes language is used in human societies.

5.4. Literary Criticism/Rhetoric

Educational linguistics expects from literary criticism and rhetoric concise syntheses on the following points:

- 1) What are the main functions and forms of verbal art? What different conceptions have been presented and how can they be assessed?
- 2) What happens when a person meets a text? What is the role of the text and of the individual in the individual's response to the text?

6. Some Concluding Remarks

It seems to me very obvious that education in general and the teaching of any subject in school needs to build upon the facts produced by underlying or related disciplines in order to be up-to-date. Education is concerned with teaching the art of life to human beings who are living, thinking, social creatures. The biological, the psychological, the social, and the cultural are all important parameters of education. Thus, all facts about the biological, psychological, and social nature of human beings are potentially important to education. So are transcendental "facts" or beliefs about human existence.

Education cannot, however, just receive the facts and add them to its body of knowledge. They need to be interpreted and put into a wider context of educational theory and educational practice. This accommodation must be done in terms of the essential characteristics of education. Facts must be interpreted so that the possibilities that they entail for the promotion of education are discovered. Facts must be given an educational coloring and integrated into coherent frames or schemata.

This requires model and theory building, active work in educational philosophy. Educators must become increasingly capable of and comfortable with self-reflection, reflective thinking,

and theoretical self-understanding. Educational practice without an adequate educational philosophy and theory is too "practical." Educational theory and philosophy without solid connection with educational practice is too "theoretical" and "objectified." Theory must inform practice and practice must inform theory in education. There is no simple method for doing this. Ways have to be found by constant interaction and cooperation. We have to keep exploring ways to promote this cooperation and interaction so that it takes place both in institutionalized and non-institutionalized ways.

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