Teacher-centered and Learner-centered Instruction

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Teacher Education: Concepts

Teacher education or teacher development can be considered in three phases: preservice, induction, and inservice. The three phases are considered as parts of a continuous process (see Induction of Beginning Teachers, Inservice Teacher Education). While the education of professionals like medical doctors, engineers, and agronomists, is to a great extent basically similar all over the world, the nature of teacher education, often limited to teacher training, is strongly dependent on the level of economic development and the social context. Furthermore, it is deeply influenced by the local culture and history. That is why one can find in the contemporary world the full range of institutionalized teacher-education schemes or programs that developed throughout the history of humankind, from no specific preparation at all to sophisticated university education.

This is a nearly perfect instance of a situation that cannot be understood and interpreted without some historical background.

1. Historical Perspective

While compulsory schooling is a twentieth century phenomenon, generalized school education mainly goes back to the nineteenth century in the West. In the past, instruction was linked with socioeconomic status (SES), the majority of peasants, artisans, and other "small people" learned their skills on the job, while the educated minority in power was privately instructed in the line of its social function. Religious education, certainly the most widespread, was again limited for the majority to inculcation of beliefs and rules. With the joint philosophical influence of eighteenth century Enlightenment (to know has a moral value) and the growing pressure of the emerging Industrial Revolution (to know has an economic value), this situation changed.

During the nineteenth century, the structure of our modern school systems developed, strictly parallel to the social order of the time. Primary schools were mainly for the lower-class and for lower-middle-class children; they were schools for the "people" and their teachers were also of lower social origin. The lower-secondary schools (middle schools) educated future middle-class members who needed knowledge and skills for civil servant service, clerical jobs, and commerce. Hence the practical orientation of these schools was entrusted to non-university-trained teachers (mostly coming from the middle class). At the beginning of the twentieth century, vocational schools, of very low status too, were strictly separated from general education. Finally, grammar schools—called "learned schools" (Gelehrienschule) in Germany because they prepared for university education—were entrusted to university-trained teachers.

The current primary and nursery schools appeared in the nineteenth century first under the name of asylums—that is, a place where poor pre-school children found shelter while the mother was at work. (The Italian cradle school is still called asilo nido today.) For several decades, the women in charge of an "asylum" had no specific education and often lacked any basic instruction. Their qualification was about the same as today's car park attendants and their job was somewhat similar: they watched parked children.

The evolution of primary-school teacher training is also striking. Until the beginning of the nineteenth century, education could be provided in elementary schools by anyone who had a certain command of reading, writing and arithmetic (the so-called three R's). Similar situations could still be observed in some parts of the world not so long ago. Soon after

1800, however, the institution of the Austrian Normal school appeared. The institution was to prepare teachers for teaching others (see the introduction to the Napoleonic Code, p. 7). It was only natural that the first logical course to be added was the study of philosophy or science in many Western countries, especially the autonomy of the academic world. The German Lehrerbildung, in the current form, became normal schools, a prerequisite for becoming an official teacher in many West European countries.

It must be emphasized that this "normal school" was an institution, and that the educational methods: experimental, showed how it was done and not how it was to be done in the job.

At the beginning of the nineteenth century, especially in Prussia, the primary school— as the autonomous, were the elementary schools, sending their students around the country in a kind of a "normal school" (Waisenhäuser) to teach them the basics of education. The idea was to create a disciplined work force for the growing industrial society.

Typically, girls were not admitted to these schools; they were given work which was expected to be done by men. The main purpose of the schools was to prepare them for adult life in an industrial society. The curriculum was designed to teach them how to read and write, but not to think critically. The curriculum was divided into three main subjects: religion, reading and writing, and arithmetic. The emphasis on religion was particularly strong, and the curriculum was designed to instill a strong sense of patriotism and loyalty to the state.

From this point on, the curriculum of the primary school was designed to prepare for the next level of education, which was the secondary school. The curriculum included the study of science, history, geography, and a variety of other subjects that were considered necessary for a well-rounded education.

There were different patterns of instruction in different countries. For example, in Germany, the curriculum was more focused on science and mathematics, while in France, the curriculum placed a greater emphasis on the humanities and language arts.

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specific preparation for elementary education.

The norm of an emerging situation that was not reinterpreted without some significant change.

The rise of a twentieth century school training mainly in the West. In the growth of socioeconomic injustices, artisans, and their skills on the job, the power was privately being function. Religious in particular, was again the practice of education and the influence of eighteenth century France, to know a moral or social dimension of the emerging French revolution has an economic component.

The historiography of the structure of our society until the mid-nineteenth century, the system mainly parallel to the increasing of primary schools were not for the lower-middle-class citizens, but for the people and later sub-social origin. The grammar schools (gymnasia) educated the young people needed knowledge to do clerical jobs, and the middle, the child was orientated to become a non-university-trained person (also in the middle class). At the end of the eighteenth century, the school system was strictly separated into the two main types—grammar schools—(gymnasium) in Germany, or university education—and nursery schools (vorschule) for lower-middle-class children. The middle class was the one that could afford the education of their children. The nursery school was for children from families where poor financial conditions prevailed, while the mother was not employed or had not the time to take care of the children. The nursery school is still called 'Vorschule.' The middle-class women who wanted to give their children specific education and training at the nursery school had to be willing to pay for the education of their children. The qualification of the nursery school teacher was not the same as that of the nursery school teacher, which is much lower than that of the primary school teacher. The nursery school children were divided in elementary and secondary education. The nursery school was for children of the so-called children of the lower class, and the nursery school teacher training was provided in elementary schools.

The training of the nineteenth century was provided in elementary schools. The training had a certain command of the craft. Therefore, the nursery school teachers (the so-called three teachers) still being in existence today. Soon after 1890, however, specific training institutions appeared. They were based on the eighteenth century German Normalschule and the German Lehrerseminar. The Normalschule was not an independent institution, but consisted of a short course of a few weeks or months for teachers or aspirant teachers, given in a model elementary school (De Vroede 1981 p. 7), and called Normalscule because of the pedagogical courses given there. The eighteenth century German Lehrerseminar was not an independent institution either, and the curriculum of the "seminars" varied a great deal from place to place. It was, however, the model of the Schullehrerseminar that became normative in the nineteenth century and its parallel was surprisingly to be called "normal school" in many Western countries (école normale, escuela normal, scuola normale, normal-skolan).

It must be emphasized that the eighteenth century "normal schools" were essentially training in teaching methods: experienced primary-school teachers showed how they taught; something akin to recipes were given which were then tried and imitated on the job.

At the beginning of the nineteenth century, especially under the influence of Francke and Niemeier (Wanserhaus in Halle, Germany), the model of the autonomous seminar appeared and spread first over Prussia, to be soon imitated in the whole Western world.

Typically, a Lehrerseminar or "normal school" was open to pupils having completed primary school: it had a three-year theoretical and practical curriculum, a boarding school system, and its own practice school (De Vroede 1981 p. 7). The basic components of the curriculum were: religious and moral education, content and skills to be taught later on, and teaching practice. Any "learned" instruction—be it philo- logical or scientific—was avoided and even forbidden (Minister von Raumer's order, Berlin, 1856). Primary-school teachers were lower-class members who had to educate lower-class children in the respect of religion and social order and equip them with the tools for their life. Hard fights were fought by progressive educators like Dietserweg to obtain a significant enrichment of the general education curriculum (De Landsheere 1967) and, even later, the study of psychology and theoretical pedagogy.

From an administrative point of view, the typical normal school was part of the primary-school system; it had the status of a lower-vocational school. A teacher certificate was practically equivalent to a lower-secondary school certificate; consequently it did not give access to college or university. This situation was still common in many countries in the middle of the twentieth century.

There were of course some exceptions to this pattern. For instance, in about 1840, a rich curriculum including Latin and high-level general education were adopted by some English and Welsh training colleges (Alexander 1979) but were soon pushed down to elementary level.

Some nineteenth-century United States normal schools were of the German type (Massachusetts), while in Wisconsin, they were conceived as "multipurpose" educational institutions and were in fact the original public secondary schools (Herbst 1979). The situation was totally different for grammar-school teachers or the equivalent; they would have a full college education in a field of specialization and some, mostly philosophically oriented, introduction to psychology and pedagogy. Teaching skills and methods occupied little place, if any, in their preparation. Again, this situation can still be found in many countries today.

As for university professors, they would have insisted as a sort of insult any obligation to study educational theory and practice. A reaction that has far from completely disappeared yet.

This background information should help clarify how various strategies to deal with schools and the growing number of students is to be handled. In these countries, the teacher education is of college level and all primary- or secondary-school teachers have at least bachelor degrees. Even then, there are still doubts and debate about the optimal solution: autonomous teachers colleges, or university-integrated teacher education, or—as in some cases in England and Wales—close cooperation between teacher colleges and university. As for internship or its equivalent, there is also much discussion about its length, its nature, and its best time within the training process.

But before these questions are discussed further, this dimension of the teacher education problem must be remembered. Everywhere—that is nearly everywhere now—globalized schooling exists, many thousands of teachers are immediately needed. This is the quantitative dimension. Furthermore, how can most developing countries afford to college-train enough teachers while most of them cannot afford the few dozens or hundreds of university-trained professionals they need in medicine, engineering, agriculture, finance, administration, and so on?

2. Normative View

How can teacher education be conceived in the light of the present advancement of social sciences? (See Teaching: Definitions.)

A first distinction must be made between initial and further training. A second distinction is between teachers who choose this vocation as their first and only career, and others who either acquire a rich experience in a craft or a profession before turning to the teaching profession. It is obvious that educating a college-aged future teacher or a mature adult already
possessing much experience will call for different approaches.

While, in many countries, putting kindergarten, elementary–secondary, and vocational–school teachers on the same footing would have been considered as sheer utopia a few years ago, a trend towards unification of the status of all members of the teaching profession can now be observed. The perspective generally adopted by the Organisation for Economic Co-operation and Development (OECD) is typical in this regard: "All structural differences between teacher categories must be abolished. Most teacher unions or associations want, for all teachers, an initial education of the same duration (at least four years at postsecondary level)" (Enderwitz 1974).

2.1 Principles

The trend is universal: in future, all teachers will enjoy higher education. This is implied by another trend: in all developed countries, basic or fundamental education for all tends to include completion of high school. This extension of general education and the retardation of a vocational specialization are needed in a very rapidly changing culture.

For psychological, educational, socioeconomic, and strategic reasons, all teachers of the future should have university status. The psychological and educational justifications of this principle will be analyzed with the presentation of the curriculum. Socioeconomic and strategic reasons only are discussed here.

In many countries, only the senior-high-school teachers hold a full university degree and are paid accordingly. As a consequence, and especially where provision is made to help access for the gifted to higher education, only the less gifted choose the preprimary–or primary-school career. This situation differs radically from the past when the summit of ambition for most bright lower-class children was becoming a primary-school teacher. This explains why Western Europe primary schools for about a century (roughly 1840 to 1940) were staffed by elite teachers.

Today, while the crucial impact of the first years of schooling is acknowledged, the qualification of the teachers responsible for the lower-school levels is rather low in many countries. There, of course, some individual or local exceptions, but this phenomenon definitely exists. Even when equal basic salary is granted to all teachers, a difference of prestige— and consequently of attraction—remains between training in colleges and universities. Research shows that the schools of education are far from being the first choice of high-achieving secondary-school students. As a conclusion, real professionalization of the teacher is not only a qualification need (as will be discussed later) but also a necessary recruitment strategy.

The foundation of university education is also general education. The faster knowledge advances, the less valid is a narrowly conceived initial education. That is why at university level also, initial teacher education should be primarily focused on laws, basic principles, understanding of processes, skill learning, as well as research methods and techniques in the field of study and in the related fields. More specialized knowledge would be gained as a result of illustration of more universal approaches and as something needed for practice. The place of field work and internship should be more important than in the past.

This does not mean that specialized knowledge can be superficial; on the contrary, to make general and high-level specialized education possible, curriculum reform will be needed in many universities where advanced and encyclopedic education still remain synonymous (see Curriculum Reform).

Teacher education should normally comprise general education, specific subject mastery, strong psychological background (including educational psychology), and good command of instructional methods and techniques in the broad sense of these terms. Not only are all those components rapidly advancing, but they also represent such a learning load that a four- or five-year university curriculum cannot suffice. This is why initial teacher education must now be conceived in direct relation to further education.

The model (Frey 1971) portrayed in Fig. 1 illustrates the way teacher education as a whole can be conceived. Frey's model shows how, after completion of two year's full-time university theoretical studies, teaching practice begins and gradually increases, from 10 percent to 90 percent of the working time. During the remainder of a teacher's career, 10 percent of the time is devoted to further education. Another main characteristic of this model is the continuity between initial and further education.

2.2 The Curriculum

Any teacher education should always come back to four basic questions and should offer opportunities to pose them in a great variety of educational situations:

![Figure 1](source: Frey (1971))
What are the objectives of education? How do the objectives vary from individual to individual? How can the objectives be achieved? How does one know that they are achieved?

All the components of teacher education should help in answering these questions and are thus to be learned in an integrated, interdisciplinary curriculum, building upon life experience. It must be stressed that future teachers will be able to make their pupils independent in learning and in everyday life only if they too enjoy the same independence during their training. Lasting learning only occurs if the learner solves meaningful problems and that to that purpose feels the need to appropriate the curriculum content. As long as content learning is an objective in itself, it does not influence field behavior. That is why psychological and educational theory learned by the students just to pass their examinations have so little influence on actual teaching practice.

The components of teacher education can be characterized under the headings of general education, specific subject mastery for preprimary-, primary-, and secondary-school teachers, psychology, and educational theory and practice.

(a) General education. This is understood as the set of knowledge, skills, and affective and psychomotor behaviors learned to contribute to a harmonious development of an individual in a given environment. The individual must learn to understand his or her environment, to modify it, to analyze it critically, and this not only to his or her benefit, but also to the benefit of society.

In this perspective, it is hardly thinkable that the level of general education should vary among teachers according to school levels. For instance, what could justify a poorer command of the mother tongue by preprimary teachers than by high-school teachers? If a difference were acceptable, and considering the critical influence of preschool development, the strong side should benefit the younger pupils.

General education is no formalistic encyclopedia but a critical discovery and acquisition of meaningful factual knowledge, of principles and methods in the domains of health, science, literature, aesthetics, philosophy, politics, and ethics. It includes the development of higher cognitive skills, of ability to communicate, to obtain information, to work independently and in groups, to socialize, and so on.

It is also knowledge and understanding of the way of life of others. Teachers have to educate children coming from different social backgrounds and even from foreign cultures. Unfortunately, many teachers have never really left the school environment: as soon as they ceased to be students, they became educators. Except for their own family background, they have, as a consequence, no experience of life in a factory, in business, of social contexts differing much from their own.

Of course, general education must continue after university graduation and cannot and should not be standardized. But its level should be high for all.

(b) Specific subject mastery. In the nineteenth century, full university specialization was deemed necessary for grammar-school teachers, while content learning could be limited for primary-school teachers to what they had to teach.

As Woodring (1957 p. 71) puts it, the ideal teacher for a self-contained classroom of elementary-school children "would be possessed of an impossible combination of virtues": mastery of understanding the learning process; ability to arouse and sustain the interest of children from a wide variety of social, economic, and intellectual backgrounds; capability of effective communication with children of IQ's ranging from 50 to 150 or higher; scholarly knowledge of varied school subjects; warm, sympathetic personality; mastery of clinical psychologist skills; ability to establish cordial working relations with colleagues; and an ability to cooperate effectively with parents. Of course, few people can play so many roles effectively. Teams of professionals helped by aides and technicians are needed.

Specific aspects of preprimary-, primary-, and secondary-school teacher education will now be examined; also the case of individuals coming to teaching after practicing another vocation.

Considering the critical importance of the early development, it can be said that the most decisive battle for equality of opportunities and democratization of education is to be won at preschool level. Some of the main tasks of the preprimary teacher are:

(i) to create an affective climate providing security;
(ii) to create favorable situations for cognitive, affective (including aesthetic), and psychomotor development;
(iii) to enrich the social experience of the child;
(iv) to enrich the cultural background of the child;
(v) to promote language development;
(vi) to help in acquiring the basic concepts of time, space, and quantity;
(vii) to foster readiness for primary instruction;
(viii) to help the family in its educational task.

That is why the study at university level of developmental and clinical psychology can be considered as a prerequisite. Special room must also be made for the study of psycholinguistics, and of the foundations of mathematics.

As for primary teachers, it seems that two types of primary teachers should be distinguished: for the age group 5 to 8 and for the group beyond age 8. The first group is at the transition of preprimary and
primary education, and for that reason should be nongraded. The teachers should have practically the same preparation as the preprimary teachers plus a high-level training in the teaching of reading and writing, in oral communication, mathematics instruction, and in diagnostic and remedial techniques (see Early Childhood Education, Teacher Education for). The education of teachers for the age group 8 to 12 or 8 to 15 or 16 should be conceived in a team perspective. This is justified by the fact that, contrary to old beliefs, high-quality teaching of elements requires advanced knowledge of the subject. For instance, before teaching arithmetic basic skills, the teacher must be aware of the nature and content of more advanced mathematics to prepare for its acquisition. Similarly, it is not acceptable that early foreign language teaching could be the duty of teachers with superficial, or even incorrect command of the language. That is why future teachers for this age group should major in one of following: (a) mother tongue and history; (b) mathematics (including computer technology) and physics; (c) natural sciences and geography; (d) art; (e) one of the following: foreign language, music, physical education.

The case of high-school teachers can now easily be dealt with. While the preparation of junior-high-school teachers has been sketched above, senior-high-school teachers would major in one subject and have a much stronger training in psychology and education than they have had so far.

How can education be conceived for people who become full- or part-time teachers after several years of practice of teaching in another field, or other jobs or professions? There is no reason why their teacher education should be poorer than the education of "first career teachers." But it is also obvious that the members of the first category are more mature people, and have, in many cases, a rich social experience on which it is possible to capitalize. In this case, a tailor-made teacher education program should be defined in close cooperation with the "student." The credit system common in Anglo-Saxon countries appears here as the most satisfying and efficient solution. The individualized curriculum to be mastered within certain time limits, but at individual pace, would normally include wherever needed: (i) general education; (ii) development of the expression and communication skills; (iii) psychology and educational theory and practice; (iv) eventually more advanced subject matter study in an instructional perspective.

(c) Psychology and education study. Knowledge of the laws of behavior, of learning processes, of development, and of the ways of guiding it, is a prerequisite of education. Furthermore, an active introduction to experimental psychology should help understanding of learning processes and prepare teachers to be critical consumers of psychological research data.

Ethological and participant observation is the key; using tests and other evaluation techniques, it will continuously swing between qualitative and quantitative analysis. Cultural anthropology will help in interpreting socially bound behavior. Introduction to group dynamics should also be a part of the teacher training. It must be emphasized that the study of psychology will influence and enlighten teaching behavior only if it is grounded in personal experience, and in participation in situations in which the individual is involved and in which he or she feels concerned.

The main psychological aspects of the teacher's intervention are:

(i) Self-expression—to avoid censorship of expression of feelings sometimes creating earnest internal tension, the learner must be able to express problems and feelings, and become tolerant to the feelings of others.

(ii) Empathy—to learn to understand the others, to accept them as they are.

(iii) Positive perception of others while developing positive self-image.

(iv) Feedback—informing others of the reactions of self to their behavior.

(v) Autonomy, including tolerance of, and positive reaction to, aggression and negative evaluation from others.

Like medicine, teaching is an art and a science (see Teaching: Art or Science?). Pedagogy is the set of theories and rules governing teaching practice. With the quick development of educational theory in the twentieth century a growing number of specific disciplines have emerged and piled up instead of integrating functionally: philosophy of education, educational foundations, history of education, teaching methods, comparative education, educational psychology, sociology of education, technology of education, measurement and evaluation, educational planning, and so on. Studying all these (important) subjects in a sort of encyclopedic mosaic has had little impact on teaching theory and practice. There is a growing tendency to stress the total structure. To that effect, the training strategy is the thematic approach or the educational project method.

In this integrated perspective, the field of education can be structured in three domains: (i) foundations of education, integrating philosophy, history, sociology, and comparative education; (ii) empirical research and development—research methods, measurement, evaluation; (iii) applied education—teaching methods, technology, and internship.

Before possibly modifying it, education is first the expression of a society trying to conserve, and to reproduce itself. The ends and aims of education that are the keystone of the teacher's task, the expression of the content and values. Understanding the essential role of the process, the essential coherence by which practice should be based, is the educational foundation.

There is today a great need for teachers to be regular consumers of products, and also to play a role in the production of research and developmental work. It is now more apparent than ever that the only efficient way to research and developmental work is to involve teachers in the necessary statistical work. Effort to do this is the framework and then the teachers participate in the process: from the formulation of the problem to the definition of the project, the form of the hypothesis to the conclusion, the report writing. As for the discovery of the necessary instruments, analysis, and interpretation (see Researchers).

Opportunity should not be lost to search for a new approach for teaching and research.

3. Applied Education

Applied education is useful for practice and action and development: the basic education.

After philosophizing, it is now time to run school and make decisions about how to put all the many pupils and teachers to use. This is the purpose of the educational system and its educational goal is to be transferred from the university and the high school to the elementary school.

Curriculum development is a part of applied education, the education of practical work and to prepare the school for the changes and the elements of curriculum, selecting the subject and the sequence, choosing the appropriate organization of the school, the necessary material, and summative evaluation (see Formative and Summative Evaluation).

Practice in laboratory is a very important role in
Observation is the key: by developing techniques, it will free the teacher from the tentative and quantitative character of the old pedagogy. Observation will help in the development of the concept of the teacher. Introduction to the technique of the microteaching is a part of the teacher education method. The student teachers must be able to observe the microteaching and be able to relate the experience to their personal experience, thus discovering how he or she feels towards the elements of the teacher's role.

The technique of microteaching is based on the principle of observation: the microteaching creates an environment for the observation of teaching competence. The student teachers must be able to observe and comment on the observations of the microteaching teacher. They must understand the others, to observe and comment on the implications while developing a methodology of the reactions of the students.

The technique of microteaching, therefore, is a positive evaluation of the student teachers, and at the same time it serves as a tool to help the student teachers to understand the principles of pedagogy. The teacher is not regarded as the only source of, and positive evaluation is based on negative evaluation.

Teacher Education: Concepts

Applied education is understood as the set of studies and actions developed for instruction and independent learning. After philosophizing and researching, the problem is now to run school on a day-to-day basis, that is, making decisions and fostering the development of the many pupils and students in the school system. This is the purpose of teaching methods founded on human experience and intuition, if scientific knowledge is not available to solve problems arising here and now.

Curriculum development and evaluation are part of applied education and teachers should be trained to prepare the instructional activities along the stages of curriculum development, that is: defining objectives, selecting content of learning experiences, choosing the appropriate method and classroom organization, gathering or developing the necessary material, and making decisions about formative and summative evaluation (see Formative and Summative Evaluation). Practice in laboratory schools and internships play a very important role in teacher education. In this regard, many systems exist: they go from gradual familiarization with the school context and increasing instructional practice, to systems where future teachers are first immersed into schools for several weeks or months before being given any specific training.

There is no clear evidence of the superiority of any system. The most important thing is that educational theory relies on field observation and teaching practice, and that observation and practice are analyzed in the light of theory.

It is now generally accepted that microteaching is an efficient training technique. It should develop in three stages:

(a) analytical instructional training—small group animation, practice of specific skills, critical observation of teaching behavior;
(b) self-evaluation of teaching session;
(c) initiating microsituations of problem solving and cooperative research in the classroom (see Microteaching: Conceptual and Theoretical Bases; Peer Evaluation of Teaching; Self-evaluation of Teaching).

The Frey model introduced above shows how teaching practice takes a growing part in teacher education.

An often neglected aspect of practice and internship is the subject level at which it is to take place. Of course, the choice of the level or type of school for which the future teacher specially prepares must be made. It seems, however, that some teaching practice or, at least, observation at other levels fosters a better understanding of the teacher role and of the corresponding curriculum development.

4. General Versus Competency-based Teacher Education

The type of teacher education described so far is general or empirical; this commonsense or idealistic curriculum seems to work. However, in most instances, a direct relationship between that sort of knowledge and teacher effectiveness is difficult, if not impossible to demonstrate.

Competency-based teacher education is a reaction against this vagueness. Such a program specifies the competencies to be demonstrated by the student and makes explicit the criteria to be applied in assessing the student’s competencies. The word competency is here taken in the broad sense of knowledge, attitudes, skills, and “behaviors that facilitate intellectual, social, emotional, and physical growth in children” (Weber 1972). At the conclusion of such a program, the critical success criterion is not the achievement on essay or oral examination, but mainly the student’s ability to do the job for which he or she is preparing.
Definite advantages of this approach are: functional learning, clarity of objectives, easiness of modular individualized instruction, and a more objective evaluation. The danger of this system is that it can be rather mechanistic, that its content and construct validity is not easy to establish; furthermore, it can be feared that in a rapidly changing culture, the teacher could lack flexibility and transfer ability in new unexpected educational situations.

There is so far no clear answer to this question. Since "competency" can also be flexibility, creativity, critical spirit, the difficulty just mentioned could be overcome. However, it is hard to imagine that, for instance, flexibility could be developed in one or a few learning units; it should rather be fostered in all, as one of the components also including creativity, critical thinking, and so on (which could bring us back to the general approach) (see Competency-based Teacher Education).

5. Inservice Education

The need for further education during a teacher's entire career has been recognized. For teachers who have enjoyed an education of good quality, further education can be limited to reading the disseminated information, to periodical seminars, short refresher courses, and, of course, postgraduate study (see Inservice Teacher Education).

There are cases, however, where the teacher's education has become obsolete (at least to a significant extent) or has practically never existed in certain aspects deemed important for their job. Examples of such situations are the introduction of a "new mathematics" curriculum when teachers have never studied it themselves, or the introduction of teachers to educational research methods and techniques when they had no place in the initial training program. In such a case, further teacher training is often called "recycling" (see Teacher Recyclage).

6. Conclusion

Enjoying the same social status and prestige as all those who eminently serve society, today's or tomorrow's teacher must be a professional, whose educational program and level should be more and more comparable with the physician's education. The teaching profession must unify; we would not dream of less education or less pay for pediatrics than for doctors who look after adults.

The teaching profession has and will keep having its "generalists" and its "specialists." Most "generalists" will probably be entrusted the education of younger pupils; with time, their role may appear so crucial for the future of humanity and society that they may become the most distinguished members of the profession.

See also: Inservice Teacher Education; Microteaching; Conceptual and Theoretical Bases; Competency-based Teacher Education

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Teacher Expectations and Instruction

"Teacher expectation," "self-fulfilling prophecy," and "teacher faith" terms are associated with the hypothesis that teachers create realities commensurate with their perceptions of students. The corollary is that the learner, in turn, makes his or her other reality—a reality substantially grounded in the reality of the teacher. This describes the mediating phenomenon which may lead teachers to bring about these expectancy phenomena. It is suggested that teachers act on their perceptions about individuals so as to provide differential treatment to them, and that such treatment can interact with pupil self-expectations to produce expected outcomes.

A landmark study by Rosenthal and Jacobson (1968) stimulated both interest and controversy when they announced to the educational world, findings that pupils mirror teachers' expectations in their school performance. The researchers submitted to elementary teachers a list of randomly selected "academic bloomers" who were given an intelligence test, ostensibly to norm the test. According to the researchers, this externally imposed information induced expectancy turn, were reflected into the intellectual gains in "acorns.

Publication of this study has created immediate excitement in the community but many questions were raised. The concepts continue to fascinate, muddle, and controversy. The overuse, misinterpretation, and misunderstanding of the construct, with its resultant practical implications, have made classroom instruction extremely controversial.

While investigations of the self-fulfilling prophecy suggested evidence concerning the social psychology of classroom interaction, it should bear in mind the fact that the concept has been clouded by divergent interpretations. While the self-fulfilling prophecy is an understandably induced expectancy phenomenon, it is only one of the results of some of the research. It is due partly because they have been associated with self-generated expectancy phenomena in relationship to the environment of the intellectual scale, learning of children.

Perhaps, the most significant context should be the social dynamics involved in the two noninteracting conditions. While research suggests a significant effect on children, it is the extent to which might develop. The attributes the attributes: (a) teachers' self-esteem; (b) teachers' self-confidence; (c) the curriculum's objectives; and their self-expectations.

The purpose of the present research is not to be so detailed, the processes underlying classroom interaction. It is the development of the process, Cooper (1979), Brophy (1980).

1. The General Teacher Expectations

The mediating mechanism (teachers) beliefs and how they are realized in different contexts of a cyclic science...