

How to Develop Educational Materials to Assist in Student Learning Activities

— Distance Learning and Evaluation —

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This paper deals with methods for developing educational materials to assist in student learning activities from the viewpoint of distance learning. Especially various evaluation methods are described to apply for the development and revision of educational materials. Usually, distance learning does not give enough guidance for students to learn by themselves. Therefore, appropriate evaluations are welcomed by the students in the course of distance learning. To be able to offer information of evaluation in the course of distance learning, it is recommended that the educational materials include items of evaluations such as tests and questionnaires in themselves.

The second chapter mentioned how to implement evaluation in the simple CAI teaching materials and the texts developed by teachers themselves. An idea of implementing evaluation in a system of developing educational materials is also mentioned.

The third chapter describes the characteristics of an authoring system “TOCS (Total CAI System) for windows” developed by Niizuma. This authoring system offers the authors of CAI courseware to use a function of evaluation and history of learning .

In the fourth chapter, results of trial usage of the guidance server system are reported. This system we developed in 2001 connects many server systems and gives useful information for the teachers to develop educational materials by themselves.

The Formation and Subject for the High Technician Course of Polytechnic Colleges

Yutaka YAMAMI

In 1992, the Law of Human Resources Development Promotion was revised in Japan. And then the system of vocational training changed to an ordinary vocational training course and an advanced vocational training course from classification by subject person and an attribute.

Advanced vocational training is for technician-engineers. Polytechnic Colleges train technician-engineers. There are 33 public Polytechnic Colleges and 25 private Polytechnic Colleges around Japan. Polytechnic Colleges are highly appreciated by many industrial companies.

In 1999, a high technician course (2 yeas) began above the present technician course, and 11 Polytechnic Colleges started this new course in 2001.

I think that integrated practical education and the practical ability based up by theory are very important. The subject for advanced vocational training is to find out an educational necessary point of production scene of manufacturing companies. I hope that in manufacturing scene engineers, skill workers and technicians are in the equal footing. Finally I think that it is important for an instructor to study and chase a theme together with students.

Ergonagy as Social Overhead Capital

Tsutomu MURASE and Kazutoshi TANAKA

The purpose of this paper is to recommend the replacement of "Education" in the concept of "Social Overhead Capital" with a new concept, "ERGONAGY", with educational institutions and to try to systematize "Ergonagy" as a concept that includes economics. Ergonagy provides a broader scope and more depth of meaning than does education and therefore such replacement offers an expanded concept. A brief explanation of ergonagy and social overhead capital is provided in the following paragraphs.

Ergonagy: To solve difficulties currently present in educational institutions throughout the world and to establish universal principles regarding education for vocational education and training, Tanaka and Evers (1999) proposed the concept of "ergonagy" which is a compound word which synthesizes "ergon" (work) and "agogus" (to lead).

Ergonagy, the art and science of helping people learn to work, integrates learning gained in school with learning gained through application and experience. It recognizes and supports the concept that general education for life and vocational education and training for work are equal partners in the overall learning processes of human beings. It generates learning that is essentially education for work and education for life. Its innate integrative attributes offer significant potential for merging education and training so that individual human needs for creativity are met.

Work, a major part of life, should enable and empower people to use their innate talents and their education and training for creative purposes. By having society serve the educational and vocational training needs of people rather than educating and training people to serve society we can envision a century where school subjects are equally applicable to life and to work.

Social Overhead Capital: T. Veblen, a U. S. economist, established the foundation for institutionalism with his criticism of traditional economic theory. He tried to replace the concept of people as the makers of economic decisions with a more realistic image of people as influenced by changing customs and institutions. "Social overhead capital" and its administration characterize the institutionalism described by Veblen. The concept of "social overhead capital" owes its origin to Adam Smith's moral philosophy. Its basic idea is that in order for people to lead a life worthy of a human being, it is necessary to regard the natural environment, public facilities, educational institutions, and medical services as common assets of society and carefully administer them.

Presently, education throughout the world - as exemplified by schools of Japan - is facing many problems and difficulties with such things as teacher abuse, bullying, truancy, absenteeism, and a general decline in classroom discipline. Keen competition to excel on entrance or exit examinations places a tremendous amount of stress on students, parents, and teachers alike.

The problems seen to this point, at least in Japan, appear to have resulted from the fact that the system of "Kyo-iku" (the generally applied system of education in Japan) has ignored the fact that students will exit school and enter the world of work and a life of decision-making. In general, Japan overestimates the capabilities of its system of "Kyo-iku." Ergonagy will provide balance to educational systems that can help overcome the problems noted above.

Comparison of Perceptions of the Applicability of Education and Training Subjects to Work and Life in the United States and Japan.

Kazutoshi TANAKA

USA and Japan research group for comparison of education and vocational training.

This survey was conducted so as to identify and compare perceptions of working adults in the United States and Japan as to the relevant applicability of their education, or "schooling", to their work.

The results obtained are as follows.

Evaluation by workers in the United States of school subjects at their terminal education level, or highest level of school, as based on importance to their current job and daily life indicate a higher rating than their counterparts in Japan.

Evaluation by workers in both Japan and the United States indicate that school activities and experiences at their terminal education level, or highest level of school, are more relevant to their current job and daily life than are academic subjects.

The highest evaluation of relevance to workers' current job is not given to subjects presented at school, including public and private compulsory school, high school, special training school, vocational training center, two year college and university, rather the highest evaluation is given to learning obtained through OJT, training, correspondence courses, etc. once in the workplace and employed.

The Accreditation System for Engineering Education in Japan

Masami HIRAYAMA

In this paper, I deal mainly with the Japanese accreditation system for engineering education as the educational structure innovation.

The importance of higher education system for engineering was introduced by Mr. Martin Trow in 1970's.

The historical background and importance of JABEE (the Japanese Accreditation Board for Engineering Education) were discussed.

I concluded that Japanese higher education must reform and try to state remarkable points for the field of a human resources development.