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TREATISE

- Career Development on Mechanical Skilled Worker and
Theme of Public Up-grading Training K. TODA
- Two New-Type Courses of Upgrading Training and An Ability
of Cutting Work in NC-Machine Age . . . T. OBARA
- The Training Needs in Automation of Production System
(2nd report) Y. NISHIMI
- A Consciousness Survey on CAI and The Vocational Training
. . . . I. KITAGAKI, Y. TANIGUCHI, S. SAKURAI
- A Training of Digital Electronics for Adult Learners by Using
CAI Method ~An Evaluation of CAI System by Study
Records~
Y.SAIJO,T.OHOKAWA,K.HIRAMATU,M.ITO,T.HORII
- A study for The Methodology of Productive Technology
Education (2) ~Abstraction of Teaching Activity by
Anulysis for Teaching Case~ K. MORI

RESEARCH NOTE

- A Study of Woodworking Trainability Testing
. . . K. TODA, A. EBINA, I. TOMIOKA, K. TOBIKI

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Career development on mechanical skilled worker
and theme of public up-grading training.

Katsuya TODA

The article argues for the theme of public up-grading on the career development as mechanical skilled worker.

- 1) What was his career on mechanical skilled worker after he had completed the basic training course on YAMANASHI advanced vocational training centre ?
- 2) What had he experienced on the education and training, during the twenty years ?
- 3) What was his expectation for public up-grading training ?

Two New-Type Courses of Upgrading Training and An Ability of Cutting Work in NC-Machine Age

Tetsuro OBARA

In these days, NC-machines in the cutting machine work become frequently to be used . And the number of the workers who work at NC-machines don't have the knowledge of cutting work. They also lack the experience of handling of general purpose machine. On the other hand, many of the experts cannot operate NC-machine and cannot make use of their knowledge of cutting work which they learned by their own experiences of general purpose machine.

In the field of machine work, we developed two new training courses, one is "Cutting work for NC-machine workers", and the other is "Lathe-machining skill clinic". The former course is to teach the foundation of cutting work for the younger NC-machine workers. The latter course is for the skilled expert workers -- most of them in middle ages --, who got their skill of cutting through 'On the Job Training'. This course is called "re-grasp" course. In this course, through 'diagnosis' and self-learning, they can get the technical knowledge and correct their own mannerism of cutting work .

These two courses are very popular where they are made into practice. It is our purpose to get a general significance of these course-program and make them widely spread all over Japan. This paper deals with the results of the questionnaires which ask machining factories about their worker's ability especially in the area of cutting-knowledge. We sent these questionnaires to 900 factories in Nagano, Yamanashi, Tochigi prefectures. And we got the answers from 170 factories. They have 5000 machining workers. We can see that the problem which we note above is a very important in machining-industry today.

The Training Needs in Automation of Production System (2nd report)

Yasunori NISHIMI

The author analyzed production stages by using the concepts of "condition", "transition" and "event" and made it clear the features about automation technique of production system. At the same time, we discussed the algorithm how to implement the control by means of event-driven system. The control contents of production system are divided into two parts, one is the function to drive stage transition, the other is the function to obtain safety and to restrict of control.

On the function to drive stage transition, we discussed about the difficulties of representing process for control contents. This work suggests to set a worthy up-grading training course.

A Consciousness Survey on CAI and The Vocational Training

Ikuo KITAGAKI, Yuhji TANIGUCHI and Shinji SAKURAI

CAI has been widely administrated in schools and companies. In the vocational region in Japan too, the training method introducing CAI has been regarded as political level since 1985. As the related matter, it is desirable to learn the trainees' impression on the sophisticated method.

We here execute a consciousness survey of CAI Which was forwarded to the trainees in several vocational training facilities. The topics of the courseware were “programmable logic controller”, “moment in physics” and so forth. Based upon the date, we extract the characteristics of the impression, which will suggest the viewpoints on the way of introducing CAI to the vocational training.

keywords : CAI, vocational training, consciousness survey

A Training of Digital Electronics for Adult Learners
by Using CAI Method
—An Evaluation of CAI System by Study Records—

Yoshikazu SAIJO, Tokio OHOKAWA
Kenji HIRAMATU, Mituru ITO, Tadasi HORII

A trial study of digital electronic control techniques is presented, which is aimed to educate adult learners who live in the Sagamihara city. The outline of the courseware is essentially same to that of usual lectures on electronic controls held for engineering staff of minor industry and annually sponsored by the chamber of commerce and industry in the city. The lectures of this year are experimented by tutorial multimedia CAI method which are arranged with "Learn-up" authoring system produced by UNISYS Co. Ltd.

Study records of each learners are gathered and piled up onto the memory of main frame computer through CMI system in the learn-up program.

Some of the results are analyzed so that important experiences and knowledges are obtained. A few of which are presented.

From responses of learners some of evaluations of courseware are given below :

- 1) what is inexplicable to understand.
- 2) what is difficult to know whereabouts the contents of the courseware are being understood.
- 3) what reveals problems on the appropriate method of expression and contents.
- 4) what is impossible to understanding for learners.

Those problems can not be picked out by the course of conventional lecture process held in usual classrooms.

Through the CAI method , it is cleared that the real state of the learners and thier psychological image by those data, which analyzed data will give impotant guidance to make coursewares and their design to dvelope new CAI systems.

A Study for The Methodology of Productive Technology Education (2)
—Abstruction of Teaching Activity by Analysis for Teaching Case—

Kazuo MORI

We have needs to develop the new methodology for technology and skill that correspond to the technology innovation. Previously we described the whole image about the methodology for productive technology education. This methodology is planned to apply OJT and Off-JT, and all training level of productive technology education.

We tried to realize this methodology by abstraction of trainers' teaching activity and their combination. In this report, we try to clear up abstraction process of teaching activity, and contents of activity by case study of lecture. We collected lesson plans and teaching materials and audio visual record. And made pattern of activity with these materials. Objects of analysis for lecture are 9 cases, these themes are "soldering practice for electronic device", "hardness test of metal", and "shaving practice by CNC machine".

From this analysis, we described 5 activities in detail, that consist of lecture. And we could show the characteristics of lecture by the examination for combination of teaching activities.

Our methodology has following characteristics, comparing with another methodologies.

- 1 : Methodology does not have teaching stages, and combines with teaching activities cope with teaching object, contents and trainees.
- 2 : Teaching activities are limited to only trainee's study.
- 3 : Developing methodology is made to find the principle of teaching, inducted from teaching cases.
- 4 : Methodology does not have prerequisite of teaching pattern.

A Study of Woodworking Trainability Testing.

K. TODA, A. EBINA, I. TOMIOKA, K. TOBIKI

Train ability assessments were designed for understanding the trainee's personal traits in the woodworking basic training course of vocational training centre.

The trainability testing was composed of a test piece, error check list, and instructional manual.

The results showed that the testing were successful, to find out trainee's learning difficulty.