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SEAMEO VOCTECH Journal

The SEAMEO VOCTECH Journal, the official journal of SEAMEO VOCTECH Regional Centre for Vocational and Technical Education and Training, is published twice a year in June and December.

It is a medium of sharing and disseminating information and experiences in vocational and technical education and training (VTET) to all. We believe that much can be gained when there is a focal point where information is sought and utilised to enhance vocational and technical education and training, particularly in Southeast Asia.

The editorial objectives of the SEAMEO VOCTECH Journal are as follows:

- To provide all readers involved in VTET with current practices, ideas, news and research on major issues in the area.
- To inform readers on major developments in VTET to enable sharing of experiences.

The following areas are covered in the journal:

- Innovations in vocational and technical teaching and curriculum development
- Human resource development in VTET
- Technological advancements and practices in VTET
- Researches in VTET.

Readers and contributors wishing to submit manuscript for publication should refer to the guidelines and details on the inside back cover.

SEAMEO VOCTECH would like to emphasize that all opinions expressed in the published articles are those of the authors of the respective articles and do not necessarily reflect the views of SEAMEO VOCTECH or any member government of the Southeast Asian Ministers of Education Organisation (SEAMEO).

DIRECTOR'S MESSAGE

The SEAMEO VOCTECH Journal, with the objectives of stimulating research and development at the same time facilitating dissemination of research findings to the region and beyond has published its edition, December 2005 Issue.

In line with the theme of “Vocational and Technical Education and Training in the Era of Globalisation,” this Journal has included a number of contributors that have integrated such a view in their articles, while others applied the theme directly in their discussions. The articles, nonetheless, identifying the authors’ varied expertise in vocational and technical education and training are views that reflect their wide range of knowledge and expertise.

The Journal, comprising articles contributed will hopefully generate interest among readers - the educators in Southeast Asian region and beyond. The SEAMEO VOCTECH Regional Centre, through its Research Division, will be awaiting any information on research-related attempts for further collaboration, etc. Also, as the theme signifies, SEAMEO countries, in fostering team-spirit and cooperation, must gear proactive and forward-looking efforts in today’s era of globalization.

To all contributors of articles to this SEAMEO VOCTECH Journal-December 2005, I sincerely thank you for sharing to us and all readers your intellectual and professional VTET knowledge and perspectives. I wish to thank all members of the Editorial Board and Reviewers and to all staff concerned.



MOHAMAD BIN ABU BAKAR

“Together We Excel”

EDITORIAL

Dear Readers of SEAMEO VECTECH Journal,

After awhile, finally we are back on track again to carry on the SEAMEO VECTECH Journal publication with the December 2005 edition. We are pleased to publish this edition after almost one year of absence due to the vacuum of positions in the Editorial Board. As planned, the journal will still be published twice a year, June and December 2006 editions.

This edition covers various topics under the broad theme of Vocational and Technical Education and Training (VTET) and Globalization. The first article by Kenneth C. Gray and Sang Hoon Bae addresses the issue of skills shortages partly due to educational policies and personal choices that put much emphasis on higher education over vocational and technical colleges. Various data show that labor markets need more technical workers with diploma or certificate from technical colleges than those from 4-year universities. This fact contradicts the present international phenomena that more countries are focusing more on higher education, 4-year degree or above, than on vocational and technical education. Consequently, most countries are having over educated workforces but lacking of necessary skills to enter labor market. This article offers alternatives to face with the dilemma.

The second article by Susan Dawe explains the process of systematic reviews of research in vocational and technical education and training for decision making tool for policy and practice. Using Australian example from the National Centre for Vocational Education Research Ltd. (NCVER), the author describes step-by-step of the whole process of research reviews.

The third article is the report on the impact of industry exposure or industrial attachment on the skills development of technical areas. Using the Philippines example the author, R. Lyndon H. Roble, focused the study on impact of industry exposure on Machine Shop skills development. The findings support the idea of incorporating industry exposure into vocational and technical areas. The impact of industry exposure is not only on improving the participant's knowledge and skills but attitudes and habits as well.

The fourth article is a cross-national analysis of when and how formal vocational and technical education (VTE) is offered. Using examples of countries representing Southeast Asia, Europe, and the Americas, the author, Paryono, described the salient reasons for offering VTE at certain grade levels and for administering the programmes whether they are separated from or combined with the general education. The author also explained the pros and cons of the selection.

The fifth article discusses a new learning technology called Multi-Channel Communication (MCC) that utilizes three types of human intelligence: Figural, Symbolic, and Semantic. Based on the research conducted at Motorola manufacturing facilities in Southeast Asia, the author, James R. Frasier, suggested that the traditional way of presenting instructional materials in Semantic format, commonly used in Australia, Europe, and North America may be inappropriate for Southeast Asian populations because such materials are not in line with the Symbolic and Figural learning strengths of Southeast Asian Learners.

The sixth article written by Alison Anlezark, Tom Karmel, Koon Ong attempts to measure the success of Vocational Education and Training in Australia based on student retention rate and employment or further study after graduation. The findings show that the participation in VET programmes have not led to a significant increase in retention. There was a poor connection between the types of VET programmes studied at school and the requirements of work or further study.

The last article written by Ogbonnaya Chukwu describes two models of curriculum reform, Centre-Periphery Model and Research, Development and Diffusion (R, DKD) model. The DACUM process, currently used in Brunei Darussalam, is also discussed. The paper also examines the relevance and the effectiveness of the models and processes in Brunei context followed with some suggestions

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SKILLS SHORTAGES, OVER-EDUCATION, AND YOUTH: THE INTERNATIONAL DILEMMA

Kenneth Gray, D. Ed.

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Abstract

Worldwide, a paradox is hindering economic growth. Many nations have severe shortages of technicians concurrent with high rates of over-education among four-year college graduates. The fundamental causes are over-investments in university level education that result from labor market/social misconceptions by policy makers, youth, and parents regarding the global high-skills/high-wage labor market. Eight recommendations are made to solve this dilemma. All speak to the importance of technical vocational education (TVE) in creating economic growth and individual opportunity.

Keywords: Skills shortages, vocational and technical education, economic growth, labor market, educational dilemma, educational policies

SYSTEMATIC REVIEWS OF RESEARCH IN TVET: THE BEST AVAILABLE EVIDENCE FOR POLICY AND PRACTICE

Susan Dawe

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Australia

Abstract

This paper reports on the key steps in the conduct of a systematic review of research in technical and vocational education and training (TVET). It draws from the recent experience of the National Centre for Vocational Education Research Ltd. (NCVER) in Australia in undertaking a systematic review of research on the extent to which education and training makes a difference to the participation of older workers in the labour market. The review process allows for different studies to be weighted for relevance and quality of findings to answer a given question. The ultimate effect of this is that research can influence a review's conclusion only when based on agreed guidelines, and when the reviewers have confidence in the research. This approach uses a team of reviewers to reduce potential bias and the outcome is a collective one. A balanced and relevant synthesis of the findings ensures the best available evidence is reported.

Key words: Research reviews, vocational and technical education, Australia

I

IMPACT OF INDUSTRY EXPOSURE ON MACHINE SHOP SKILLS DEVELOPMENT

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Abstract

This study made use of pre-post research method using descriptive statistics. It aimed to determine the impact of the industry exposure program on machine shop knowledge, attitudes, habits and skills development of mechanical engineering students from selected academic institutions in Davao Region, namely: the University of Southeastern Philippines (USEP), the Ateneo de Davao University (AdDU), the University of Mindanao (UM), and the Rizal Memorial Colleges (RMC). Paired t-test was used in treating the data to determine the significance of the level of machine shop skills and knowledge and attitudes and habits. Twenty Six, 4th year mechanical engineering students who were enrolled in the industry exposure or on-the job training (OJT) were the respondents of the study. The findings of this research show that: (1) Level of competency in over-all skills of the students was rated Low before the industry exposure. After the industry exposure the students obtained Moderate level in the over-all skills. In the shaper and milling operations the students got High rating scale. These results indicate that the industry exposure contributed significantly to the students' KASH Machine Shop. There is a significant difference on the levels in all areas of attitudes and habits before and after the industry exposure.

Key words: Industry exposure, student attachment, skills development, vocational technical education.

This technical paper was presented during the Seminar – Workshop on Curriculum Evaluation for Relevance to Industry on April 4-8, 2005 at Tower Inn, Davao City. This was sponsored by the University of Southeastern Philippines and SEAMEO VOTTECH.

A CROSS-NATIONAL ANALYSIS OF WHEN AND HOW VOCATIONAL EDUCATION IS OFFERED

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Abstract

Throughout history, hot debates have raged over whether or not to emphasise vocational education over general education at the secondary level. Different countries have different views on when and how vocational education is offered. Some offer vocational education as early as at 7th grade and others at 10th grade or even later. The way vocational education is offered, whether as elective courses in general schools or in different track as in separate institutions also varies from country to country. By using a case study of Southeast Asian countries and other countries in Europe and the Americas like Germany and the United States, this paper will discuss the pros and cons related to when is the best time to offer vocational education and how this type of education should be administered. Based on the common reasons used in the case study, the author concluded that economy is not the dominant factor influencing the policy and practices of when and how vocational education is offered, but rather due to the interactions of several factors including history, social, economic, and cultural background.

Keywords: vocational and technical education, education policies, trends, and issues

MULTI CHANNEL COMMUNICATION - A NEW LEARNING TECHNOLOGY

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Abstract

Multi-Channel Communication (MCC) is an adaptation of Guilford's research on the nature of human intelligence that emphasizes three types of intelligence: Figural, Symbolic, and Semantic. Research conducted at Motorola manufacturing facilities in Southeast Asia indicates that Semantic intelligence is of least strength and Symbolic and Figural intelligence are of most strength among manufacturing employees. Research results also indicate training materials designed using symbolic instructional design methods can: 1) reduce the actual training time of manufacturing operators by 50% (i.e., actual time away from work for non-OJT type training); and 2) increase learner retention of information by 800% when compared with results of a control group that did not receive MCC designed training. These research results suggest the traditional way of presenting instructional material in Semantic formats (that is, formats traditionally used by Australian, European, and North American educational systems) may actually be inappropriate for Southeast Asian populations because such material is not in alignment with the Symbolic and Figural learning strengths of Southeast Asian learners.

Keywords: multi-channel communication, learning technology

HAVE SCHOOL VET PROGRAMS BEEN SUCCESSFUL?

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Abstract

The introduction of Australian school VET programs to provide more diverse pathways to work and further study for young people has been successful in terms of participation. Since the inception of school VET programs in Australia in 1996, there has been a rapid uptake to the extent that, in 2004, around half of all Australian secondary students participated in school VET programs, predominantly in Years 11 and 12. However, this research finding suggests that for students who participated in Australian school VET programs in 2000, the proportion of students with successful outcomes was not uniform. In this research, 'success' is defined, firstly, in the school context as retention to Year 12, and secondly, outside the school context in terms of full-time engagement with employment or learning, or part-time study combined with part-time work. Overall, this research found that school VET programs have not led to a significant increase in Year 12 retention. Participation in school VET programs has a small positive impact on retention from Year 10 to Year 11 but this is offset by a negative effect on Year 11 to Year 12 retention. We found a positive impact on post-school outcomes for students who participated in school VET programs in Year 11, but did not go on to complete Year 12. These gains were more sizeable for girls than boys, but over time this positive effect was diluted for both genders. School VET programs provide a clear post-school VET pathway for some students, particularly for boys studying in the areas of building and engineering. However, for most students, the pathway was not so direct. For most students, there was a poor alignment between the types of VET programs studied at school and the requirements of work or further study.

Keywords: Vocational technical education, student outcomes, pathways, post-school outcomes, student retention, Australia

For full details of the study, including more detailed statistical appendices, please refer to <http://www.ncver.edu.au/publications/1654.html>.

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