

Pre-vocational Courses on Primary Education

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Abstract

Vocationalisation as process introduction of practical subjects in the world of work need to introduce beginning primary education by means of precise pre-vocational courses. Introduction the practical aspects world of work on primary education including development of fundamental skills dan generic work skills. Fundamental skills can cover: (1) basic skills i.e. listening skill, reading skill, writing skill, speaking skill, and math; (2) personal qualities i.e. responsibility, integrity, moral, and character. Generic work skill covered how to used resources, use technology, relate to others, and work on teams. Pre-vocational courses are referred to as contributing to the "life-preparation" tradition. The importance of the pre-vocational courses was supported by the argument that it is crucial to develop general capacities: the processes of learning how to learn, of problem solving, of building expertise, of fostering creativity, of co-operating, of making connections across disciplines and of enquiring.

Keywords: vocationalisation, pre-vocational, primary education

1. Introduction

Vocational education has diverse purposes [1,3,15,14]. The purposes that are focused on: (i) the preparation for working life including informing individuals about their selection of an occupation [3]; (ii) the initial preparation of individuals for working life, including developing the capacities to practise their selected occupations [3]; (iii) the ongoing development of individuals throughout their working life as the requirements for performance of work transform over time [3]; (iv) provisions of educational experiences supporting transitions from one occupation to another as individuals either elect or are forced to change occupations across their working lives [3]; (v) traditionally, direct preparation for work [14,15]; (vi) develop skills, abilities, understandings, attitudes, work habits, appreciations needed by workers to enter and make progress in employment; (vii) to make people self-employable and to be a vehicle of transition for individuals to the world of work; (viii) in the ideal case, vocational education leads to self-employment and income generation which is expected to contribute to the individuals and their communities well-being [4,5,6,7].

Dewey (1916) in Billet' publication stated the purposes of vocational education include advising about, preparing for and sustaining individuals' vocational practice, and extend to their life beyond work. Dewey proposed two key purposes for education for vocations: first, to identify the occupations individuals are suited to and, second, to assist them in developing the capacities to be effective in their occupation [3]. The purposes is very essential and contains a very broad meaning, comprise the development of the content,

procedures, process, understanding and dispositions required to practise the occupations [3]. They also include supporting individuals as they cope with changes to occupational practices across their working lives [18]. Vocational purposes include (i) assisting individuals engage effectively in working life; (ii) securing personal or societal emancipatory changes; (iii) supporting the sustainability of particular enterprises and (iv) supporting national economic performance [3].

Thompson (1973) claims the occupational purposes of education can be found across all its sectors. For instance, in primary education, students may learn about the world of work as a set of cultural practices and the implications for those who practise them; in general education, students may consider issues associated with the development of skills on the problematic nature of working life; and in adult education, students may develop the capacity to help themselves and to assess and further develop their capacities [17].

In Indonesia, the formulation purposes of vocational education is changing. Government Regulation "PP. No. 29 Tahun 1990", stipulates that vocational education preparing students to enter the world of work and develop a professional attitude". Then the goal outlined in the Decree of the Minister of Education and Culture number 0490/U/1990 are: (a) prepare learners to continue to pursue higher education or expand primary education; (b) improve the ability of learners as members of the community in entered into a reciprocal relationship with the social and cultural environment; (c) enhance the ability of learners to be able to develop themselves in line with the development of science, technology and the arts, as

well as; (d) to prepare students to enter the world of work and develop a professional attitude.

Formulation the objectives of vocational secondary education implies that almost of the same which prepares students to work professionally and develop the existing and potential learners for the benefit of themselves, the environment, community, nation, and country. So that learners can develop their potential and the existence and sustainably grown in different types of jobs that exist, then all students should be able to determine the choice of courses carefully expertise. This is very important as part of improving the effectiveness of vocational education in Indonesia.

According Billet [3] positioning vocational education: that is, education assists individuals in realising their goals and the ambitions associated with the activities to which they are drawn and are of worth to them, their affiliates and communities. Vocational colleges and schools that constitute the broad field of vocational education are broadly associated with developing and sustaining individuals' capacities required for work and working life. That is, their educational purposes are primarily concerned with (i) identifying the knowledge required for effective performance in an occupation; (ii) organising experiences for the learning of that knowledge; then (iii) finding ways of enacting the experiences so that learners can become effective in occupational practices and (iv) also be sustained in that effectiveness across working life including transitions to other occupations.

This paper discusses the concept of vocational education, vocationalisation and pre-vocational courses. Then how the conditions pre-vocational in primary education programs implemented so that the junior high school graduates who want to continue to pursue vocational school, had a good preparation and knowledge to choose a variety of courses. The current state of the average junior high school graduates across Indonesia in ability and knowledge to choose different courses of vocational schools is still very low. They do not have the readiness and good knowledge about the development of various types of employment and education and training programs in vocational schools. As a result, junior high school graduates who go on to vocational school, still a part of it. This situation would be bad both for vocational education institutions, and also for students themselves.

2. Vocational Education

According Hansen in Billet (2011) the word vocation is derived from the Latin word “**vocare**” which refers to a call, summons or invitation to a particular way of life. These are referring either to (i) an occupation or (ii) as something which describes an individual's key interest or ‘calling’.

Vocational education can be seen as needing to focus on securing individuals' personal goals and pathways of development to assist them in engaging in education in ways that realise their fullest potential and also their aspirations. Here, vocational education is directed to understanding individuals' interests and capacities. Thus, it comprises an education to assist individuals in identifying their calling or vocation and then to assist them in realising their vocational goals. Vocational education is the education to prepare and equip individuals and groups for working life whether or not in the form of paid employment. Vocational education is education in which the content is intentionally selected, wholly or largely by what is needed to develop in the students some of the most important abilities on which professional competence depends. Vocational education is a practice that emphasises the development of knowledge, skills and attitudes that relate to a student's future participation within the economic sector of one's community and nation [3]. Vocational education comprises a system of education which has subject matter the knowledge used within certain trades, occupations or professions [3,9,15].

The key focus within these definitions is on preparing and equipping learners for working life. Vocational education is seen as a provision of education that occurs prior to individuals or groups commencing their working lives, and which prepares them for it. The reference to particular forms of working life, paid or unpaid, and also the concept of equipping individuals emphasises the importance of developing the kinds of capacities that will permit them to be effective in the specific set of activities, most likely in paid employment. These definitions explicitly refer to particular kinds of work within particular occupations [9,3]. Dewey (1916), the term ‘vocational education’, the initial preparation and equipping of individuals to participate in their preferred occupation, had to be preceded by an educational process that informs individuals about the qualities, attributes and requirements of the occupations to which they are drawn. In some instances, Dewey's first consideration has been taken up in a specialised form of education within schooling systems: career education. However, the degree by which this educational focus is comprehensively enacted and in what ways that focus is effective remains an open question.

Vocational education needs to much more than teach skills or prepare for entry employment. It needs to make social contribution to the worker's life. Thompson (1973) suggested, in the secondary school level, vocational education has never attempted to produce graduates with a complete array of skills for highly skilled and technical jobs. Graduate were prepared for entry employment.

3. Vocationalisation

According to Week (2005) vocationalisation differs from school-based vocational education and training (VET). Under VET, a student's timetable is dominated by practical skills learning and by directly related theory. Under vocationalisation, the bulk of the students' timetable consists of general education subjects, and the main purpose of their course is general education [18,3]. Vocationalisation is the introduction of practical subjects into the world of work through industrial visits, providing vocational guidance and provision of teaching and hands-on training to the people who need jobs. Introduction into the world of work issues include the development of vocational competence, personal competence, social competence, soft skills, business skills, technical skills, vocational career, payroll systems, systems of work, safety, regulatory and employment law and so on.

In the field of technology and engineering community is getting to know how competency standards of construction steel, construction wood, stone and concrete construction, drawings, furniture, plumbing, sanitation, surveying, mapping, power generation, distribution and transmission of electricity, electrical installation, industrial automation, refrigeration engineering, metal fabrication, welding, machining, metal casting, motorcycle repair, repair light vehicles, heavy equipment repair, maintenance and improvement of audio-video, mechatronics, and so on. In the field of information and communication technologies, multi-media introduced competency standards, software engineering, computer networking, animation, production television broadcasting, radio broadcasting and production. Introduced in the health sector health nursing competencies, dental nursing, health analyst, pharmacy, nursing social, and perhaps also the competence of herbal medicines.

The main goal of vocationalisation is improved relevance of the vocational education [9,10,3]. In practice this has meant how vocational education program suited to the needs of society and the needs world of work. A more practical and applied way of teaching general education subjects can also improve the relevance of education for work. Guidance, counselling and study visits are other examples. Vocational courses will usually also include some general education objectives. But their main objective is to prepare for work in designated occupations, clusters of occupations and more generally for the world of work. The goal of improving relevance of the vocational education within stake holders is the most important reason why governments introduce vocationalisation [9,10,2].

Vocationalisation definition refers to efforts by schools to include in their curriculum those practical subjects that are likely to generate among

students some basic knowledge, skills and dispositions that might prepare them to think of becoming skilled workers or to enter manual operations. The inclusion of practical or industrial arts subjects especially in the curriculum of secondary schools as part of a programme of general education is considered an essential element in the vocationalisation of education [18,9].

Lauglo and Maclean (2005) argue in favour of a vocationalisation of secondary education refers to a curriculum which remains overwhelmingly general or 'academic' in nature, but which includes vocational or practical subjects as a minor portion of the students timetable during the secondary school course [9,8]. Vocationalisation differs from school-based vocational education and training (VET). Thus, a distinctive feature of vocationalised secondary education is that vocational subject matter takes only a minor proportion of total curriculum time [9,8].

The vocationalization of secondary schooling is a process that is advancing all around the globe. In developed countries a number of initiatives have been used to introduce the idea of making school education more relevant to the needs of the economy and the workplace [14]. The introduction of vocational courses, pre-vocational courses, the use of key competencies and the development of systematic approaches towards work education are evidence of endeavours in this direction. However, as was argued in this chapter, technology education is also an important component in the vocationalization of secondary schooling [15]. The nature of the discourse on technology and approaches towards technology education internationally demonstrate that changes associated with innovations in science and technology, the requirements to prepare knowledge workers, and the changing nature of the working world pose challenges to vocational education that could be successfully met by technology education [14,15].

Changing patterns of economic competition and work organisation have led to a greater call for soft skills such as teamwork, work ethic, and a preparedness to be flexible and to embrace change. The flexibility and adaptability that is required by industry is not developed by current vocational education courses in schools. The introduction of vocational courses in secondary schooling has not been able to meet the needs of vocationalisation: to provide students with a better preparation for their vocational life. As the limited role of vocational courses in the vocationalisation of secondary education has been recognised internationally, broader approaches to vocationalisation have been trialled around the globe [15].

Vocationalisation is defended and justified based on a number of expectations, including that it: (i) will be cost effective and facilitate economic development by developing skills, through training

people to replace expensive expatriates; (ii) will equip youth to return to their community or villages ('back to the village' syndrome) where they would become engaged in self-employment or job creation in the informal sector; (iii) would help to solve the 'time bomb,' the spectre of the unemployed school leaver who joins the revolutionary opposition; and (iv) would serve to stem urban drift [18].

Some developing countries continued to pursue vocationalisation policies in the 1990's [9]. The reason developing countries doing vocationalisation related to the goal of personal development goals, socio-cultural goals, political goals, and economic goals [9]. Vocational education should develop attitude, moral, aesthetic, physical, and practical capacities, not just cognitive knowledge. Practical subjects can have the additional justification that they allow students to learn from more active 'doing' than what is typical in academic subjects. Under this perspective, the teaching of practical skills and familiarisation with the 'world of work' do not need to be justified only as preparation for specific occupations.

Implementation of vocationalisation in developing countries has serious constraints [9]. Vocational or practical subjects tend to have complex tooling-up, staffing, and servicing/logistics requirements, the training and recruiting of teachers; the setting up and maintenance of facilities, equipment, and tools; the supply of materials and consumables; and the implementation of assessment appropriate to practical subjects. Because these requirements in all too many cases have not been met in a minimally adequate way, vocational subjects have suffered from run-down facilities and inadequate pedagogy. Compared to academic subjects, most vocational or practical subjects have considerably higher unit costs due to facilities, equipment, materials, consumables, less optimal utilisation of available teaching loads, and smaller classes. Vocational subjects will not receive enough time and attention to give credible 'entry-level skills', given that they are only minor portions of the total timetable [9].

The pedagogy in vocational subjects as reinforced by the methods of assessment used, fails to develop problem-solving skills. It places excessive emphasis on memorisation and working to instructions. 'Familiarisation' and 'orientation' goals for vocational subjects are too diffuse to give much guidance to what should count as learning. When vocational course options run parallel to academic ones, social inequality can be reinforced by children of the elite going for the academic options while those from disadvantaged backgrounds gravitate towards vocational subjects. Lack of industrial support can complicate the implementation of the vocationalisation program.

4. Pre-Vocational

Pre-vocational education is education especially designed to be preparatory for vocational education and training [18,9]. In Jordan provision of pre-vocational education is intended to achieve a variety of general objectives, such as: inculcating positive attitudes towards manual work and workers, enabling students to acquire practical and applicable skills with economic and social benefits, providing the students with the opportunity to discover their affinities and aptitudes in order to facilitate their selection of prospective career based on informed and realistic experiences. Pre-vocational covers education that is mainly designed to introduce participants to the world of work and to prepare them for entry into further vocational or technical education programmes. Successful completion does not lead to a labour market-relevant vocational qualification. For a programme to be considered as pre-vocational, it should comprise at least 25% of vocational or technical content [6].

Pre-vocational courses are referred to as contributing to the "life-preparation" tradition, which is implicitly critical of both the academic and vocational traditions. The importance of the pre-vocational courses was supported by the argument that it is crucial to develop general capacities: the processes of learning, of problem solving, of co-operating and of enquiring, students personality. The emphasis in this new approach is not on the content to be covered, as in the traditional academic model, nor on specific competences, as in the vocational tradition. These general capacities or generic competencies are oriented towards the increasing employability of students. Pre-vocational seems clear that the former option would allow for better forecasting of future vocational enrolments [5]. In Botswana [18], pre-vocational education established as education especially designed to be preparatory for vocational education and training (VET). Attention was paid to aspects preparation for subsequent vocational training as well as to the risks of vocationalisation.

Contents of pre-vocational education vary by level of education. Pre-vocational orientation in Senior Secondary Schools: to facilitate the orientation of schools to the world of work; the localisation of the examinations; the assistance of the Curriculum Development Unit in the development of practical and business subjects (syllabi and materials), and to emphasise integration across subjects; continuous assessment should be weighted in the final grading of students; there should be more practical and work-related subjects in the curriculum; management structures should be strengthened; links between the school and commerce and industry should be established; the research unit should conduct regular tracer studies of school leavers to assist career guidance

and curriculum development; all senior secondary school teachers should acquire computer literacy and the supply of an adequate number of computers to schools is required; practical and business subjects in senior schools should build on what will be taught in junior schools in the future; all teachers should receive training in guidance and counselling and exposure to commerce and industry at Teacher Training Colleges; the reliance on expatriates should be reduced; adequate budgets for practical and commercial subjects are required; supervisory staff need to be retrained to achieve an orientation to the world of work; revitalise guidance and counselling at the schools (office, reduced teaching load, dedicated classroom, relevant material); practical subjects clubs and clubs that support work should be encouraged [18]. The goal of preparing senior secondary students for the transition to further education and training, and for working life, is to be achieved by providing them with a sound general education, coupled with strategies which develop their awareness of the world of work, particularly through guidance and counselling [9,18].

The *Berufsvorbereitungsjahr* in Germany is a pre-vocational programme taken in a vocational school designed for students with nine or ten years of general education who have not obtained an apprenticeship contract in the dual system. The programme lasts one year and prepares participants for vocational training at ISCED 3B [6]. The pre-vocational *Brobygning* (bridge-building) course in Denmark was introduced to facilitate the transition from basic school to the vocational training system for those who have not yet decided on their type of further education. Likewise, the classes 'preparatoire' apprenticeship in France is a one-year programme usually taken in a secondary school (college) designed for students aged approximately 14 years to help them decide on future training [6].

Republic of Korea and Taiwan made a high priority on specific vocational education as they entered the industrial era. Multilateral assistance to vocational and technical education has often concentrated on physical facilities for formal technical vocational schools and to the diversification of secondary education through the integration of the quality of basic education is being promoted through curriculum reforms. Since 1998, pre-vocational education and the MOE's newly introduced life-skills curriculum have been redesigned and expanded, particularly in lower and upper secondary formal (general) education. To guarantee a broad view of competencies during the basic system, co-curricular activities are primarily focused on the three main areas basic communication skills; expansion of knowledge and skill; and attitudinal development in both the lower and upper secondary school systems [9,10].

5. Pre-Vocational Courses on Primary Education in Indonesia

Vocational education in Indonesia carried out at the level of upper secondary education as vocational high schools (VHS). VHS is a vocational education with the 3-year study period for students fourteen years age. Furthermore, at the level of higher education, vocational education is called polytechnics. Vocational education system mentioned above, require pre-vocational education at the basic education level in elementary school and junior high school.

Spectrum of vocational education in Indonesia consists of six vocational areas of expertise, namely: (i) Technology and Engineering; (ii) Information and Communication Technology, (iii) Health, (iv) Arts, Crafts, and Tourism; (v) Agribusiness and Agro technology; and (vi) Business and Management. In 2013 there are 10 054 SMK in Indonesia. The development requires the handling of pre-vocational and vocationalisation well-structured.

We know that innovation and development of quality vocational education in the era of knowledge-based industries are expected to: (i) move the students to think critically, responsible for managing information and knowledge; (ii) mature emotional, mental, and moral students to work each other in managing and solving the problems of life; (iii) use of new technologies (ICT) in an interactive, effective, efficient, and responsible; (iv) raising the quality of the individual student as a whole, (v) building a culture and entrepreneurial spirit in the work, learning and serving as a productive; (vi) contextual [3,4]. The development on the quality of vocational education needs support a good process of vocationalisation and pre-vocational since primary education.

Innovation and development of vocational education need process of vocationalisation and pre-vocational. Both are an important part in the development of the quality and relevance of vocational education. The selection of the level of education in the implementation of pre-vocational program, depending on the needs of the educational system of each country. Pre-vocational undertaken to develop an appreciation and attitude of students towards vocational field. Pre-vocational learners can develop the capacity to be effective in selecting and practicing job they pursue. Thus pre-vocational functioning to prepare students to be able to realize this work goals in a professional manner.

Pre-vocational subjects designed to support the vocationalisation process. Pre-vocational subjects mainly introduce vocational education programs and the types of works that the students started to have a positive awareness and appreciation of the world of work. Pre-vocational subjects must be facilitate the students in the education transition from primary education to

vocational high school. Elementary education graduates are expected to determine the appropriate options for vocational education programs.

The main purpose of pre-vocational program is to develop the relevance of vocational education at VHS to the needs of working life. Pre-vocational to improve the suitability of the learners in selecting programs held at VHS. Pre-vocational subjects are general which includes insights on the world of work and educational introduction to the world of work or vocational education. Competencies that are taught include the development of knowledge, skills, and attitudes or fundamental skills and generic work skills. Fundamental skills can cover: (1) basic skills i.e. listening skill, reading skill, writing skill, speaking skill, and math; (2) personal qualities i.e. responsibility, integrity, moral, and character. Generic work skill covered how to used resources, use technology, relate to others, and work on teams.

Development of pre-vocational subjects in basic education in Indonesia requires strategy and a structured program. Key competencies are appropriate subjects taught in elementary schools and junior high schools. It specified both personal attributes and key competency skills which could be developed through pre-vocational courses and programmes and that contribute to a person's employability: (i) communication skills that contribute to productive and harmonious relations between employees and customers; (ii) teamwork skills that contribute to productive working relationships and outcomes; (iii) problem-solving skills that contribute to productive outcomes; (iv) initiative and enterprise skills that contribute to innovative outcomes; (v) planning and organising skills that contribute to long-term and short-term strategic planning; (vi) self-management skills that contribute to employee satisfaction and growth; (vii) learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes; (viii) technology skills that contribute to effective execution of tasks [15].

Learning strategies must involve student activity and contextual learning. Pre-vocational learning should pay attention to the following matters: (i) activity based teaching and learning; (ii) social skills; (iii) communication skills; (iv) team work; (v) critical thinking and problem solving skills; (vi) independent working and thinking; (vii) personal organisation; (viii) self study. Modern ICT based pedagogical tools will be used to enhance teaching and learning in class and make it more attractive to the students. Students will also visit industries, work organisations, hotels, plantation, agriculture, fisheries, animal husbandry, banks, hospitals, offices etc to gain insightful knowledge into potential areas of future employment.

5. Conclusion

Pre-vocational implemented on the primary education to support vocationalisation process of the vocational education. Pre-vocational subjects are general to build students' appreciation of the work life. At the elementary school level students began to be introduced how to identify the work, recognizing talent and interest in, the types of vocational skills program so that after graduating from secondary school can choose the right vocational skills program. Competencies that are taught include fundamental skills, generic work skills, and key competency. Pre-vocational learning should pay attention aktive learning dan contextuel learning.

ACKNOWLEDGMENT

Acknowledgements presented to the entire committee of international seminar on primary education with trust for writing this paper. Hopefully this paper can support the theme of the seminar "Empowering Primary Education For a Brighter Generation".

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