

ABSTRACT

Dwi Rahdiyanta: *Determinant Factors in the Choice of the Mechanical Engineering Expertise Program in Vocational High Schools.* **Dissertation. Yogyakarta: Graduate School, Yogyakarta State University, 2011.**

This study aims to: (1) describe situational factors (family, previous school, and social environments), psychological factors (mastery of VHS information, students' self-understanding of and attitudes towards VHS) and the choice of the mechanical engineering expertise program in VHSs in the Yogyakarta Special Territory; and (2) find out determinations of situational and psychological factors on the choice of the mechanical engineering expertise program in VHSs in the Yogyakarta Special Territory.

This was a correlational study which was ex post facto in nature. It was conducted in state and private VHSs belonging to the technology and engineering group in the Mechanical Engineering Expertise Program in the Yogyakarta Special Territory. The research population comprised 1095 Year X students of VHSs in the Mechanical Engineering Expertise Program in the Yogyakarta Special Territory. The sample, consisting of 300 students, was selected using the proportional random sampling technique by means of the Krejcie and Morgan formula. The data were collected through inventories, observation sheets, and documents. The content validity was assessed through expert judgment. The construct validity was assessed using the factor analysis and the reliability using the Cronbach's Alpha formula. The data were analyzed using the descriptive analysis, regression analysis, and path analysis at a significance level of 0.05.

The results of the descriptive analysis show that: (a) the scores of situational factors (variables of family, previous school, and social environments) are in the high category, with scores of, respectively, 73.9%; 74.1% and 69.3%; (b) the scores of psychological factors (variables of information mastery, students' self-understanding and attitudes) are in the high category, with scores of, respectively, 73.5%; 80.3%; and 83.6%; and (c) the score of the choice of the mechanical engineering in VHSs is in the high category, with a score of 81% of the set highest score. The research hypothesis testing shows that: (a) there are significant effects of family, previous school, and social environments on the students' information mastery with a contribution of 51.3%; (b) there are significant effects of family, previous school, and social environments on the students' self-understanding with a contribution of 31.4%; (c) there is a significant correlation between students' mastery information and their self-understanding ($r = 0.624$; $p < 0.05$); (d) there are significant effects of family, previous school, and social environments, and students' information mastery and self-understanding on students' attitudes towards VHSs with a contribution of 48.3%; and (e) there are significant effects of family, previous school, and social environments, and students' information mastery, self-understanding, and attitudes on the choice of the mechanical engineering expertise in VHSs with a contribution of 53.8%. Based on the partial determination coefficients, the students' attitudes have the greatest contribution to the choice of the mechanical engineering expertise program in VHSs (13.8%), respectively followed by social environment, (6.3%),

self-understanding (5%), information mastery (4.6%), family environment (3.2%), and previous school environment (0.7%). Therefore, the students' attitudes have more dominant effects on the choice of the mechanical engineering expertise program in VHSs. Based on the values of the predictors and constant obtained from multiple regression analysis, the multiple regression equation can be formulated as follows:

$$Y = 12.199 + 0.153X_1 + 0.022X_2 + 0.239X_3 + 0.219X_4 + 0.284X_5 + 0.366X_6.$$

The results of path analysis show that: (a) the choice of the mechanical engineering expertise program in VHSs by junior high school (JHS)/Islamic junior high school (IJHS) graduates is dominantly affected by a situational factor in the form of social environment and the most influential psychological factors are students' self-understanding and attitudes; (b) the effects of situational factors are direct and have not given optimum impacts to the improvement of psychological factors which later affect the choice of the mechanical engineering expertise program in VHSs, and (c) the psychological factors in the form of students' self-understanding and attitudes have significant direct and indirect effects on the choice of the mechanical engineering expertise program in VHSs, while information mastery does not have a direct effect on the choice of the mechanical engineering expertise program in VHSs but it plays a role in the improvement of students' attitudes which later affect the choice of the mechanical engineering expertise program in VHSs by JHS and IJHS graduates. Based on the findings of the study, the following follow-ups are necessary. (a) It is necessary to empower students' parents, specifically in relation to their perceptions of further study especially in the programs available in VHSs and job markets. (b) The previous schools (JHS/IJHS) need to improve vocational guidance programs and to inculcate entrepreneurship by inviting industrial practitioners to schools to give lectures, asking students to visit the world of business/industry, and introducing them a variety of jobs and expertise types in society through the relevant subjects. (c) The students should be encouraged to improve their self-capabilities, especially those relevant to information mastery, self-understanding, and attitude development through the provision of a variety of accesses to information media and through more intensive vocational guidance.

Keyword: Determinant Factors, Mechanical Engineering VHS.