

Factors Affecting Level of Readiness of Teachers in Implementing STEM Education

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Abstract

Purpose – This paper aims to determine whether teacher's gender factor and school type factor influence level of readiness of teachers in implementing STEM education.

Method – An ex post facto research design study was conducted in 99 schools from Johor Bahru district involving 690 primary school teachers (134 males, 556 females). The random sampling method was used to collect data from these teacher participants via an online-based survey instrument that was used to measure the level of readiness of teachers in implementing STEM education. In this study, Statistical Package for the Social Sciences (SPSS) was used for analysis purpose. Mean and standard deviation were used to identify the level of readiness of primary school teachers in the district of Johor Bahru, Johor in implementing STEM education. An Independent T-Test was performed to compare the level of readiness of teachers in implementing STEM education in male and female teachers. A one-way ANOVA test was conducted to compare effect of category of school type on the level of readiness of teachers in implementing STEM education.

Findings – The result from independent ttest revealed the difference between male teacher ($M = 4.06$) and female teacher ($M = 4.08$) was not statistically significant at $t(688) = -0.540$, $p = 0.59$, while there was a statistically significant difference between school type groups as determined by one-way ANOVA ($F(2, 687) = 22.425$, $p < 0.001$). The results of this study show that female and male teachers have the same level of readiness of teachers in implementing STEM education while different school type may be is one of the factors that influence the level of readiness of teachers in implementing STEM education.

Significance – The difference in school type factor influences the level of readiness of teachers in implementing STEM education may be caused by the different school administrator's management while female and male teachers may have the same role in implementing STEM education in their own school. There are important to conclude that teachers' readinesss can affect the effectiveness of STEM implementation. Efforts from the Ministry of Education (MoE) are a vital need to instil and enhance teachers' positive readiness towards STEM education and to fulfill the national interest in producing a competitive generation.

Keywords: Primary school, Teacher, Level of readiness, STEM education.