

# THE EFFECT OF ANCHOR ITEMS DIFFERENTIAL FUNCTIONING ON THE ACCURACY OF OTIS LENNON MENTAL ABILITY TEST VERTICAL EQUATING

**Rateb Sayel ALkider ALRuhail**

**Ministry of Education, Jordan**

**Abstract-**This study aimed to investigate the effect of anchor items differential functioning (DIF) due to gender on the accuracy of Otis Lennon Mental Ability Test Vertical Equating. For this Purpose a Jordanian version of Otis – Lennon Mental Ability Test (OLMAT) intermediate level and Advance levels form "K" was used. The sample consisted of (1001) students (500) of intermediate level and (501) of advance level of ability. Mantel – Haenzel procedure used for determined the DIF items vertical equating of two test levels conducted using common items – non equivalent groups design by using BILOG- MG Program according to item response one parameter model. Vertical equating of two test level conducted in two cases; first: when the DIF anchor items included in two test levels and second when DIF anchor items excluded from two test levels. Ability scores used for equating. For the purpose of comparing the two equating cases cross – validation coefficient was used as a criterion for studying the extent of stability of the results for equated scores and as the accuracy index of vertical equating. The results indicated that the DIF items affect the accuracy of equating, so that, when DIF anchor items excluded from two test forms to be equated, the accuracy of equating increased depending on cross – validation coefficient.

**Keywords:** Item response theory, one parameter model, differential Items function, Vertical equating, Cross-validation.