Examining Differential Item Functioning and Differential Bundle Functioning

for the GEPT

Abstract

It has been a rising concern whether an examinee's social background (for instance gender and region) and their background knowledge regarding topics that are being tested on an exam affect their test performance. Nandakumar (1993) suggested that although small but systematic differential item functioning (DIF) in individual test items might be statistically insignificant, when these items are combined into an item bundle, they might present DIF at the bundle level. To analyze differential bundle functioning, or DBF, past research often adopted Simultaneous Item Bias Test (SIBTEST).

This study aimed to determine whether the listening and reading comprehension tests of the GEPT (General English Proficiency Test) Intermediate Level Test contains items or item bundles that present DIF or DBF regarding test takers' gender and where they live. We adopted both SIBTEST and ETS DIF Classification to systematically examine the test items and item bundles. Overall, both listening and reading comprehension tests contained very few items or item bundles that had DIF or DBF. However, we had two discoveries. First, when one item showed DIF, the item

bundle that contains that item would likely to show DBF. Second, item bundles that

showed DBF might be composed of items that showed no DIF. The causes of these

two phenomena are worth further discussion and investigation.

Keywords: gender difference, region difference, differential item functioning,

differential bundle functioning, listening test, reading comprehension test