BRIDGING UNDERGRADUATES WITH WORKPLACES: DEVELOPMENT OF STATISTICAL REASONING FRAMEWORK

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ABSTRACT

The role of statistical ideas have become integral part of everyday life in the current information laden society. Malaysian universities therefore have an important role towards preparing tertiary students enroll in statistical program for optimum learning opportunity that are most valued by workplaces. This study aim to contribute at bridging the knowledge gap between statistical application at workplaces and tertiary learning experiences. This study used interpretative multiple case study where data were primarily qualitative. Eight industries were visited in various part of Malaysia to survey their statistical applications. Site visits and face to face interviews with participants from eight industries selected were the main data used. Secondary data were obtained form company leaflet, brochures or official informations. Data were later analysed each cases and between cases to categorise them systematically. By combining Abraham (1999) and Gal & Garfield (1997) statistical category and reasoning framework, type and categories of statistical applications were identified and compared to undergraduates statistical curricullum content. Findings of this study suggested that tertiary learning experiences ought not to focus entirely on formal techniques and procedures from textbooks. Rather quality of statistical learning must be improved by incooporating application of real life problems, project work, case studies where students can generate their data and solve related problems.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

Statistical ideas and skills such as interpreting data, constructing economic trends, understanding businesses and social issues have become an integral in everyday life applications. Ability to comprehend and deal with uncertainties, variabilities and statistical information ensures individual are able to effectively participate in the current information-laden society (Gal and Garfield, 1997). In Malaysian formal education system, Malaysian school starts introducing statistical ideas such as reading charts and calculating mean as early as in Primary four. While in higher institutions basic statistical ideas and reasoning has been associated with backbone indicators in creating quality learning at higher institutions among graduate students (MAA,2006). MAA proposed that exposure to quality learning experiences would ensures that tertiary students are fully prepared to perform their jobs effectively when they graduated.

Currently many graduates are faced with global competitions and public arising concerns about competency levels of their skills (Khir, 2006, Junaini et.al. 2008).To improve on this trend Malaysian Ministry of Higher Education encourages all public higher institutions to come up with better learning opportunities to improve students employability (MOHE Report,2008).

1.2 PROBLEM STATEMENT

The ability to reason sytematically about data in complex interdiciplinary settings is considered as one of the most important skills in everyday context as well as academic and professional. Abundance of data related