DEVELOPING STATISTICAL REASONING THROUGH A STATISTICAL RESEARCH PROJECT

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Students and learners learn statistics by doing statistics (Halvorsen, 2010). This implies the solving of a real world problem through the statistical investigation process which entails four main phases: formulating a statistical question, collecting and analyzing data, drawing conclusions and making predictions to enable planning for the future (Friel & Bright, 1998). Statistical reasoning refers to the way students reason with statistical ideas and how they explain statistical processes and interpret statistical results (Ben-Zvi & Garfield, 2004:7). A statistical research project in which students had to employ the statistical process was used to develop statistical reasoning of BEd Honours students. Analysis of one student's project shows the development of statistical thinking in the explanation of statistical processes and interpretation of results. Student motivation and engagement increased and less capable as well as most capable students developed some degree of statistical reasoning and gained a sense of achievement, which correlates with research reported by Forster & McGillivray (2010) and Halvorsen (2010).

The poster includes diagrammatical representations of the statistical process, stages in the research project, and the student's use of multiple visual displays in the drawing of conclusions and making of predictions.

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