SUMMER 2014

LEVEL 3 CERTIFICATE IN STATISTICAL PROBLEM SOLVING USING SOFTWARE

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The number of centres entering candidates for this new qualification was small. However, the number of overall submissions was greater. The submissions covered the whole range of grades and investigations providing the opportunity to develop resources and feedback to support teachers in the future.

Most of the samples submitted had the assessment criteria marked on candidates' work where these had been met. This was very helpful.

All assessment sheets were fully completed and all criteria bands awarded were annotated to support the overall assessment. Teacher comments were concise and very helpful to the moderator. All candidates presented their findings in their written report and observation sheets were used for every student to evidence their use of statistical software.

Several candidates completed different investigations during the controlled assessment. These had been approved by the WJEC Principal Moderator and were very interesting problems. The results were well presented, the problem being investigated was clearly stated and the problem solving cycle was strictly followed with a conclusion linking back to the original problem.

Although many candidates tackled the same problem, they collected different data by different methods and used different statistical methods to solve the problem.

AC 1.1, 1.2

All candidates stated the research question or problem they were investigating. The majority of candidates gave a detailed rationale to explain the purpose of the research.

AC 2.1, 2.2, 2.3, 2.4

All candidates explained the use of the statistical problem solving cycle to investigate a problem.

All candidates wrote a detailed plan but there was some repetition.
The explanation on how data had been collected and why was covered extremely well in most candidates' work. There was, however, some confusion about the target population and how their sample related to this and also the type of sampling method used.

When data are given to the candidates it is useful to know their source and how they have been collected. It is helpful where possible to have the raw data and a copy of the questionnaire (if used) included as appendices.

Statistical methods used were generally well explained; however there was little or no mention of assumptions for significance tests. For example the t-test was used incorrectly as the assumptions were not checked.

AC 3.1, 3.2

The evaluation of the collection of data was covered well by most candidates. All candidates stated some strengths and weaknesses.

AC 4.1

All candidates used Minitab efficiently to analyse their data.
Candidates correctly identified outliers then removed these without further investigation.
Some candidates incorrectly stated a p-value = 0.000 instead of p-value < 0.001.

AC 5.1, 5.2, 5.3

All candidates referred to the initial problem when stating their conclusions.

The level of presentation was high. Also, charts and tables included in the candidates work were labelled clearly and referred to in the text. A small point is that some charts were very small to fit into the text. This made the charts difficult to read and interpret.

All candidates evaluating the effectiveness of their conclusions and most commented on strengths and weaknesses. Points such as sample size, repeating the investigation with a different sample and using secondary data were mentioned by many candidates.