Biology EE – Smoking – Examiner's comments

Criterion A – Focus and method

4 out of 6 – The focus of this essay is clearly defined, as the student has a strong hypothesis about the correlation between vital capacity and smoking. The method of conducting the research is appropriate for testing this hypothesis, even though the sample of subjects was very low. The use of secondary sources helps inform both the candidate and the reader of the essay. It would have been interesting to learn more about why she focused on teenagers and their vital capacity. Unfortunately, an experiment with this kind of methodology is rather pedestrian, which would be expected of younger students.

Criterion B – Knowledge and understanding

5 out of 6 - The candidate has good knowledge and understanding of the subject matter. The choice of secondary articles is clearly relevant to the topic. The candidate's understanding of vital capacity and ways of measuring it (spirometer) is useful for testing her hypothesis. Unfortunately she does not know how to find participants for her experiment.

Criterion C – Critical thinking

8 out of 12 – The research is good. The level of analysis of the data is also good. But because there is not much data to analyse it is difficult to award top marks for this criterion. Perhaps the best example is the 'outlier'. The candidate is quick to conclude that this subject has a 'pulmonary disorder', unknown to the candidate or researcher, whereas this could have been a poor measurement or simply an 'outlier'. The height of the subjects is another variable that's considered by research but not by the candidate, because her sample population is too small. In the end it is difficult for the candidate to formulate a reasoned argument when there is not enough evidence to either refute or prove her hypothesis.

Criterion D - Presentation

4 out of 4 - The candidate has gone the extra mile on presentation, especially with regards to graphs and images. She has a good understanding of MS Excel and how to generate charts that depict her findings clearly and accurately.

Criterion E - Engagement

6 out of 6 – It is interesting to read about the origins of her hypothesis, as she questions why athletes smoke. Her RPPF sheds light on the development of her experiment and reveals where and why her frustrations occurred. Unfortunately for her, it seems that time constraints made it difficult for her to find and test more smokers. It appears, nonetheless, that she was engaged and active throughout the process.