**Investigation 9: Moderator comments**

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| **Personal engagement  x/2** | **Exploration  x/6** | **Analysis  x/6** | **Evaluation  x/6** | **Communication  x/4** | **Total  x/24** |
| 2 | 4 | 6 | 3 | 4 | 19 |

**Personal engagement**

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| **Mark** | **Descriptor** |
| 1 | * The justification given for choosing the research question and/or the topic under investigation does not demonstrate **personal significance, interest or curiosity**. 1 |
| 2 | * There is evidence of **personal input and initiative** in the designing, implementation or presentation of the investigation. 2 |
| **Moderator’s award**  2 | **Moderator’s comment**  No real personal justification of why the research question was chosen.  There is evidence of personal input and initiative in the search for appropriate sources and the selection of data from those sources. |

**Exploration**

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| **Mark** | **Descriptor** |
| 3–4 | * The topic of the investigation is identified and a relevant but not fully focused research question is described. 4 * The background information provided for the investigation is mainly appropriate and relevant and aids the understanding of the context of the investigation. 3 * The methodology of the investigation is mainly appropriate to address the research question but has limitations since it takes into consideration only some of the significant factors that may influence the relevance, reliability and sufficiency of the collected data. 4 |
| **Moderator’s award**  4 | **Moderator’s comment**  The research question could be a bit more focused by including a reference to the countries used.  The background information is mainly appropriate but some link to the biological basis for more developed countries experiencing less TB might have been expected. There is mention of the drugs available to more developed societies, but there could be a focus on the nature of the bacterium and the conditions it needs to thrive. Vaccinations are briefly mentioned, but this could have been explored further.  The methodology is mainly appropriate. An initial trial was run on a few countries before expanding to the whole region.  There are no safety, ethics and environmental issues. |

**Analysis**

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| **Mark** | **Descriptor** |
| 5–6 | * The report includes sufficient relevant quantitative and qualitative raw data that could support a detailed and valid conclusion to the research question. 6 * Appropriate and sufficient data processing is carried out with **the accuracy** required to enable a conclusion to the research question to be drawn that is fully **consistent** with the experimental data. 6 * The report shows evidence of full and appropriate consideration of the impact of measurement uncertainty on the analysis. 5 * The processed data is correctly interpreted so that a completely valid and detailed conclusion to the research question can be deduced. 6 |
| **Moderator’s award**  6 | **Moderator’s comment**  Sufficient data is presented.  Sufficient appropriate processing is accurately carried out.  Uncertainties are considered.  The interpretation is correct and valid. |

**Evaluation**

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| **Mark** | **Descriptor** |
| 1–2 | * Strengths and weaknesses of the investigation, such as limitations of the data and sources of error, are **outlined** but are restricted to an **account** of **the practical** or **procedural issues** faced. 2 |
| 3–4 | * A conclusion is **described** which is relevant to the research question and supported by the data presented. 3 * A conclusion is described which makes some relevant comparison to the accepted scientific context. 3 * The student has **described** some realistic and relevant suggestions for the improvement and extension of the investigation. 4 |
| **Moderator’s award**  3 | **Moderator’s comment**  A relevant conclusion is drawn which is supported by the data and supports the initial hypothesis but it lacks adequate explanation to justify it.  The conclusion is supported by some scientific context.  The evaluation of the strengths and weaknesses shows some awareness of the methodological issues though it does not discuss the weaknesses in the chosen approach. The candidate has not made comments about the spread of data and why there are clearly countries falling well outside the prediction.  Realistic and relevant suggested improvements and extensions are considered though they remain a bit vague in places. |

**Communication**

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| **Mark** | **Descriptor** |
| 3–4 | * The report is well structured and clear: the necessary information on focus, process and outcomes is present and presented in a coherent way. 4 * The report is relevant and concise thereby facilitating a ready understanding of the focus, process and outcomes of the investigation. 4 * The use of subject-specific terminology and conventions is appropriate and correct. Any errors do not hamper understanding. 4 |
| **Moderator’s award**  4 | **Moderator’s comment**  The report is well structured and clear.  It is relevant and concise.  The biological terminology is correctly used and the conventions are respected. |