Moderator Report for 2016

A tendency has been identified for teachers to award marks for effort instead of content. A typical example would be a teacher awarding full marks in criteria A, when the candidate wrote a nice description of the intended solution, without identifying or consulting a client, without describing an actual, existing scenario, with only a trivial reason for the software (for example "Java is multi-platform" without any further explanation why this is a benefit) and a few non-specific Criteria for Success ("It will have an easy interface").

More candidates were able to demonstrate the proper working of their solution within the 7 minutes that are indicated for the video. Candidates who used their Criteria for Success (criterion A) and their test plan (criterion B) to script the screencast, tended to be more successful.

The quality of the solutions showed a wide range and not all solutions had been developed to the level of complexity expected of IB DP candidates. Some examples of trivial products include: Java programs that mainly focus on GUI and not on actual functionality; Java programs that consist of one class only; Java programs consisting of a Greenfoot template with only two methods overwritten; rudimentary versions of freely available games (like Sudoku). Very strong solutions tended to incorporate features from more than one software. For example, website projects that incorporate JavaScript / PHP / SQL functionality, or programming projects that interact with an Access database or with on-line resources.

Candidate performance against each criterion

A Planning – Too many candidates still make a minimal effort to fulfil this criterion. A real-life problem should be addressed for a real client, including the following steps:

- investigate a situation,

- identify client/adviser,

- explicitly consult the client (and/or adviser),

- describe the scenario with explicit reference to key points from the client consultation,

- choose a solution,

- describe the rationale for the solution and also for the software to be used,

- outline comprehensive Criteria for Success for the chosen solution.

Contrived tasks and clients were routinely seen in the weaker samples submitted. Too many candidates had generic success criteria – these criteria must be specific and testable. The Criteria for Success are essential to the project and must be explicitly addressed in the test plan (B) and in the evaluation (E) and can help to structure the script of the video.

B Solution overview – Comparatively this was the poorest criterion, and candidates typically only provided an outline design or even screenshots from the final product (which is incorrect). The structured approach of prototyping together with client feedback allowed some candidates to achieve a higher level. Records of Tasks were generally only partially complete, typically because the final product had not been implemented / fully tested by the client. Some Records of Tasks were preoccupied with tasks related to the writing of the documentation, which is not the intention of this document. A wide variety of test plans were seen. The better ones aligned with the Criteria for Success.

Please note that the use of the proper template in forms.zip is mandatory, to ensure all columns are correct and all information is present – the use of a different version should be discouraged as marks may be lost. If no Record of Tasks is included or if there is no evidence of a design then 0 marks will be awarded for this criterion.

C Development – Most candidates made a good attempt to document the development of their product and the techniques used. However, the quality of the explanations and the completeness of techniques often left something to be desired. The complexity of the product must be justified by the candidate in the write-up. A seemingly complex product without proper explanations of complex techniques used in the product, only achieves moderate complexity. Similarly, high ingenuity must be justified by algorithmic thinking (e.g. explanations of complex data structures, algorithms or macros). Design components have no place in this section and should be added to the criterion B section.

D Functionality and extensibility of product – The video should only show the proper working of the solution as outlined by the Criteria for Success. Many videos focused instead on the development of the solution, which made them too lengthy. Others only showed the working of the interface, without showing actual functionality of the intended solution. There is no need to document extensibility in extended writing.

E Evaluation – The final product (after testing) is expected to be implemented and used / tested by the client before client feedback is given. For full marks evidence of feedback must be included (typically in the appendix) and it must be discussed and referred to in the candidate's evaluation against the Criteria for Success. Recommendations should be realistic in relation to the actual product – for example 'adding network capability' is not a realistic improvement for a low-level product.

Recommendations for the teaching of future candidates

The aim of the Internal Assessment for IB DP Computer Science is to create a working solution for a real client. The consultation (which must be included as an appendix) should be the basis for the description of the scenario, leading to Criteria for Success of a chosen solution. All high scoring projects showed ample evidence of client involvement.

Criterion B should provide evidence of a rigorous design stage with an overview **of all five stages of the project** (including the actual intended use of the product by the client) in the Record of Tasks, detailed layout design sketches that include annotations for complex techniques, evidence of algorithmic thinking (in the form of flowcharts, UML diagrams, pseudo-code), and a test plan that addresses all Criteria for Success. All high scoring projects included a thorough design stage.

Criterion C provides candidates with the opportunity to demonstrate their knowledge and understanding of the tools and techniques used in creating the product. The use of tools/techniques should be explained in relation to screenshots that show their use.

Criterion D does not require written documentation. The video should be around 5 minutes and should only show the proper working of the final solution. The structure of the video should be scripted by the candidate. For example, the video could show the testing of the implemented solution following the test plan from criterion B. Successful videos showed comprehensive evidence of the solution's functionality with lots of data, but were edited to avoid viewing tedious data entry. Candidates are advised to test their videos to ensure the playback is correct.

Extensibility can be evidenced by a detailed design in criterion B, by a detailed description of the creation process in criterion C.

Criterion E should provide evidence of a rigorous evaluation stage. The client feedback (which can be included, in full, in an appendix) should be cited and discussed by candidates as part of their own evaluation of the solution. A table showing the Criteria for Success with a tick for "met" and a cross for "not met" is not sufficient to achieve the highest level.

Recommendations for improvement should go beyond simply restating the success criteria that have not been met.

A word of caution: treating the project as a purely academic exercise typically means that there is no proper client and that the solution is not being implemented, which will likely impact upon the marks in criteria A, D and E.

The recommended word count **for each section** is only for guidance. The **overall** word count of 2000 words however, is a fixed limit and a moderator is not required to read beyond this limit, which may lead to marks being lost in criterion E.