IB Reflections on Planning and Progress Form

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Stanton College Preparatory School

Subject Area: Mathematics

Supervisor: Mr. Martin Doherty

**First Reflection Session: December 12, 2018**

Mr. Doherty pointed me in the right directions and confirmed my intentions, concerning my current development. My concerns about my thesis were about its merits as a functional ToK question, as I could technically answer the question fully by simply pointing at the right parts of the proofs and making the right connections. He told me that in the process of making these connections I would be demonstrating more than what is required for the Mathematics Extended Essay. I believe he was alluding to how I would find the nuance in multivariable calculus that makes the essay worth writing. He also told me that the “contradictions” I would need in my paper were references to cases where the theorems I am comparing do not hold. For citations he told me to be liberal, as it is “Better to do more than less.” On the topic of sources he said I could and should try to find more from textbooks and from the MAA and the AMS, reputable sources.

**Word Count**: 168

**Date**: 12/12/18 **Supervisor Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Interim Reflection: April 2, 2019**

Having finished the majority of my research of the FTLI, I still worried about the style of my essay and the validity of the proofs I formed from my sources. Another concern was about how deeply I had to explain my thesis, especially stylistically so. Initially I was narrative and meticulous, but my supervisor clarified that my proofs were fine, and that I didn’t have to “reinvent the wheel” when writing, that it was unnecessary for me to prove everything or make obvious statements in many places. I feel that I should write in a more formal style, aiming for sophistication rather than slow explanation. I will still aim to be clear and detailed, but will trust in the reader to follow, meaning I can be more direct; especially in my proofs. I may even include more insightful information from more advanced theorems (like Green’s Theorem), in this case.

**Word Count**: 149

**Date**: 4/2/19 **Supervisor Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Final Reflection—Viva Voce: 02/02/2020**

At the end of this journey I feel like I have experienced a little of what it is like to write like a mathematician, with all the stylistic nuances of writing and mathematical formatting as best I could, with my style of explanation added in when needed. Mr. Doherty said that my paper was overall fine, and I agree with that. But I think it was particularly weak in trying to maintain an air of rigor while also trying to explain interpretation deeply – I felt that juggling between the two was not well done, and led to awkwardly placed explanations mid proof that broke the flow of thought. Where my essay did excel was in structure – I felt that tracing the order of the proofs and explanations made sense, as the sections contained exactly what they needed and progressed logically. Moving from single-variable integration to multivariable integration and then into a segment comparing and contrasting them makes for a sensible paper. I did ultimately feel limited by the word count, which is unfortunate.

**Word Count**: 173

**Date**: 02/02/2020 **Supervisor Signature**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_