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Post Graduate Degree

Their importance in computer sciences

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INTRODUCTION

This essay sets about to describe why a postgraduate degree is a valuable qualification to pursue in today's current computer science field. It introduces the computer science field, discusses the focus of postgraduate study (and significant aspects to note) and offers reflections and expectations upon completing this course. The essay concludes with a summary of ideas and references to all consulted sources.

WHAT IS COMPUTER SCIENCE?

According to Nisan et al. (2001), computer science is the study and design of communication contracts and methods that facilitate interaction between computers. Sultana et al. (2017: 88) conclude that computer science focuses on "problem-solving, critical thinking, and teamwork". Wing (2006) adds computational thinking, which she considers founded on computer science principles and includes system design, knowledge of human behaviours and problem-solving.

The authors' common points are that computer science encompasses three aspects: hardware, people, and software. Hardware deals with machines that manipulate and disseminate data; people are physical actors who interact with the

machines to perform data tasks; software is a set of defined operations to instruct machines to operate.

Data dissemination facilitates interaction between computers. It is challenging among an ever-growing number of internet-connected machines (Nisan et al., 2001). From experience, this issue closely relates to the Boundaryless Information Flow (Holmes, 2002) concept found in business domains — one which today's workforce may not be well-equipped to resolve. However, the author believes taking a postgraduate course will equip today's workforce to better engage in critical thinking, data analysis, and general problem-solving skills.

Postgraduate Certificate Study

A postgraduate certificate is well suited to show academic excellence in pursuit of self-improvement because of its duration, outcomes, rigour, planning, and research requirements. The essay shall now summarise points relevant to undertaking postgraduate study.

A postgraduate course emphasises the need for research. The depth of research required depends on the level of postgraduate study. A postgraduate certificate course is not as intense as a postgraduate diploma course and does not require completing a research project or dissertation. A postgraduate certificate remains in line with a master's degree level of study: students critique and test information, use problem-solving techniques and reflect on their research and learning.

Students have access to online research databases. Study institutions provide access to online research databases with different content sources, such as e-journals, ebooks, magazines, and peer-reviewed articles. When selecting research content, students must be mindful of two concepts: reliability of sources and plagiarism. However, these points have not (in the author's experience) played a significant role in work experience because software development is collaborative and focused on achieving results as soon as possible.

Research information must be academically reliable. Peer-reviewed journals or articles prioritise over other sources; however, students should use techniques (such as CRAAP) to test the credibility of source content. Fielding (2019) notes that without context to assess a site's credibility, the CRAAP test is insufficient.

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A student's research must be their own, not plagiarised. Students must acknowledge every author whose ideas, words, or inventions they reference in their research to avoid plagiarism. Avoiding plagiarism stems from an idea expounded by Vance (2019) that the western world views humans as capable of creating thoughts that can, if chosen, be leverage for a reward.

This essay considers that postgraduate study fosters integrity and credibility. Students learn to attribute ideas, encourage debate, and know that expressing their ideas or solutions will likewise be credited.

POSTGRADUATE STUDY EXPECTATIONS

One expectation is that with a postgraduate qualification one has access to better pay. However, the author has observed (in software development) no apparent link between academic qualifications and pay. Experience has shown that employers generally favour experience above qualification, leading to the conclusion that soft skills, not just academic, are vital to success.

Another expectation is the personal intellectual benefit gained from this course and related work opportunities. The desire is that the course will foster improvement in the ability to analyse and critique information, to meet new friends during the course, and obtain a broader, well-rounded view of the computing field above software development or architecture.

CONCLUSION

Computer science concerns itself with three components: machines, data, and people. Several authors have ideas on what the field encompasses, and no single idea dominates. A postgraduate certificate aims to incorporate computer science components into students' academic expansion by encouraging critical thinking, analysing ideas, learning from fellows, establishing research credibility, and being open to ascribe credit to original authors. Postgraduates advance the computer science field through academic rigour to test well-accepted ideas or practices, leading to potential innovation if such ideas are no longer suitable. Therefore, a postgraduate

certificate and computer science complement each other in the pursuit to create well-educated and valued employees.

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