Discuss the importance of a postgraduate degree in the Computer Science field.

Technology is integral to virtually every industry, including health care, finance, manufacturing, retail and agriculture. (NAP, 2018:p12) The technology sector is the fastest growing industry today and the importance of a computer science master's degree is clear.

As a teacher of Computer Science in post 16 education I am pursuing this MSc Computer Science to deepen my subject knowledge and bridge the gap between industry practices and educational content. Computer Science is a diverse and evolving field with many branches such as Artificial Intelligence (AI), data mining, graphics, Human Computer Interface (HCI), cloud computing, and cyber security. These technologies are integral to everyday life used to perform basic task, such as communication, entertainment or just manging daily tasks. Helsper and Enyon (2009) state that technology is now used to such an extent that anyone born in the last twenty year is now considered a 'Digital Native.'

The increase in exposure to technology and the growth of the industry has led to an increase in students completing undergraduate degrees in Computer Science. According to Gov.uk (2024), "67.0% of working age (16-64 years old) graduates were in high-skilled employment in 2023, compared to 78.9% of postgraduates and 23.7% of non-graduates." This trend has diminished the value of an undergraduate qualification, and more employers are now asking for post graduate qualifications. Postgraduate qualifications often provide better salary and enhance career progression.

As technology continues to advance, new trends emerge in the industry. Trends such as networks and network security, animation and games, current treads point towards AI and cyber security. Education aims to keep up with the fast changing technology sector but often falls short. For example, the OCR A-level Computer Science curriculum was last updated in 2016. As technology advances quickly educational programs can lag and create skill gaps that companies need to fill. Postgraduate study can allow the student to focus on a specialisation and provide industry with qualified individuals.

This skill gap can also be a lack of basic computing skills. The concept of the ‘Digital Native’ has led to assumption that the current generation has all the necessary skills to work with technology. While it is true that, “younger people do have a greater range of ICTs in their household, tend to use the Internet as a first port of call, have higher levels of Internet self-efficacy” (Helsper & Enyon, 2009), their use of technology varies widely.

Recently an update to antivirus software caused a global outage of MicroSoft Windows. (BBC News, 2024) The update was pushed out to all users and an error was missed. This not only shows how dependant society is on technology but the extent of fear towards cyber attacks. A lot of attacks can be prevented through education of the users, but some require more secure measures. Constant updates are required to ensure the security of networks and data. Higher education programs in cybersecurity, computer science, and information technology equip students with the knowledge to identify vulnerabilities, implement robust security protocols, and respond effectively to cyber threats.

Postgraduate education can provide several advantages including the development of critical thinking and problem solving skills. It provides opportunities for networking with industry professionals and exposure to new and emerging technologies. Additionally, postgraduate programs often include practical experience. Pursuing further education demonstrates a commitment to lifelong learning and professional development, making candidates more attractive to employers.

In summary, pursuing a post graduate degree in computer science offers a significant advantage in today's fast pasted technology industry. It not only deepens subject knowledge but also aligns educational outcomes with industry needs, addressing skill gaps and preparing students for future technological challenges.

References

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