Industry Review of Dr Rod Lamberts (Week 5) and Dr Lincoln Wood (Week 7).

Introduction

Professional Practice 1 and 2 included a series of lecture sessions presented by professionals from ANU, government and industry during Week 2 to Week 10. This review critically evaluates ethical decision making in two industry lectures:

1. *Ethics*, Rod Lamberts (Centre for the Public Awareness of Science (CPAS)), (Week 5), and
2. *Decision Making*, Lincoln Wood (Engineers Australia (EA)), (Week 7).

Summary

The two lectures this semester were similar in their emphasis on ethical practice as a professional. Wood (2018) analysed ethics as part of decision-making, which he described as an essential component of professional judgement and as an experience-based learning activity that develops over our career span. Lamberts (2018) referred to ethics in relation to research practice. The lecture focused on designing ethical questions for surveys and avoiding bias. These lectures related to making justifiable, ethical decisions when writing, researching and performing professionally.

Critical Review of Lecture

Ethical decision making involves expert judgment and critical reasoning and reflection. These skills need to be applied consciously as engineers while studying at university and in our professional career.

Engineering design requires expert knowledge and application of ethical decision-making. Expert knowledge is […definition + ref]. Wood (2018) argued in his lecture that ethical decisions need to consider the human side of engineering. Humans are key elements in designing any engineering product (Balters & Steinert, 2017). When a product stems from an empathetic human-centred design process, like design thinking (which we study in PP1), engineers produce new, sustainable technological solutions that meets the user's needs (Dam & Siang, 2018). According to Dam and Siang (2018), developing empathy involves Responsible Research and Innovation (RRI) practices like "observing, engaging and empathising with people to understand their experiences and motivations". This is unlike Lamberts who also….

As engineers, undoubtedly we need to better understand our user but we also need technical knowledge, and knowledge of laws, regulations and professional expectations when making design decisions. For example, Engineers Australia [EA] (2018a) and EA Code of Ethics (EA, 2018b) 2.3, 4.1 and 4.2 state that an engineers should act only on well-informed decisions that consider the well-being of the community, stakeholders and the environment. This means, [….]. As engineers, without emotional engagement to complement our technical understanding when making decisions and designing solutions to complex problems we may not be able to create real value for our clients. […] Ethical decision-making, therefore, needs to consider engineers as experts who make decisions using both analytical and emotional processes. As Wood (2018) concludes, we need to develop these professional skills as they are critical building blocks that form the DNA of engineers and our role as professionals.

One element lacking from Wood's lecture (2018), however, is how the engineering professional needs research. Lamberts (2018) fills this gap by outlining the importance of developing professional skills through responsible research practices. While outlining the importance of professional developing an understanding of users through surveys, Lamberts (2018) emphasised that decision-making processes needed for survey skills may be influenced by emotional bias. …

Title including speaker and company (not included in the word count)

Introduce the topic and outline the structure of your critical review (~ 50-70 words)

Use sub-heading as needed

Briefly summarise the content of the Industry Lectures relating to the skill(s) that you will critique

Reference the speakers

(~80-100 words)

Critique the skill(s) (eg., ethical decision making) in relation to the lectures (eg., academic integrity, research and professional practice)

Start your paragraph with a main idea, or topic sentence. Include definitions of key words where necessary Use references to support your evaluation.

Compare key points from different lectures

Start a new paragraph for new idea.

Analyse why the skill(s) are needed by engineers or computer scientists.

Present alternative views, where relevant, to critique the lecture presentation

Conclusion

Engineering education lays the foundation for developing professional decision-making competencies. The professional practice courses help in developing our professional judgement capability and assist in researching ethical decision-making strategies. All the courses in our Master's program, which is accredited by Engineers Australia, help us embed the initial professional competencies necessary for our future careers.

Conclude the importance of the skill(s) and the main points evaluated. (~50-70 words)

References

Balters, S., & Steinert, M. (2017). Capturing emotion reactivity through physiology measurement as a foundation for affective engineering in engineering design science and engineering practices. *Journal of Intelligent Manufacturing 28*(7), 1585-1607.

Dam, R., & Siang, T. (2018). 5 stages in the design thinking process. Retrieved from https://www.interaction-design.org/literature/article/5-stages-in-the-design-thinking-process.

Engineers Australia (2018a). Stage 1 Competency Standard For Professional Engineer. Retrieved from https://www.engineersaustralia.org.au.

Engineers Australia. (2018b). Code of Ethics and Professional Conduct. Retrieved from https://www.engineersaustralia.org.au.

Snowball, T. (2018). *ENGN/COMP6250 Professional Practice 1, Week 2, Industry Expert Lecture*. Academic Integrity [Video File]. Australian National University, 6 March 2018. Retrieved from ANU Wattle.

Lamberts, R. (2018). *ENGN/COMP6250 Professional Practice 1, Week 6, Industry Expert Lecture*. Ethics [Video File]. Australian National University, 3 April 2018. Retrieved from ANU Wattle.

Wood, L. (2018). *ENGN/COMP6250 Professional Practice 1, Week 10, Industry Expert Lecture*. Professional engineering judgement and decision making in engineering education [Video File]. Australian National University, 10 May 2018. Retrieved from ANU Wattle.

Use the heading 'References' List the sources that you referred to in the Industry Review using APA, Harvard or IEEE.

FINAL NOTES

Remember to include a footer in your assignment document, including the course name, course code, your name and ANU UID, and page numbers.

Remember to name your file using this format: Assessment number_ANU ID_Family Name