Staff, students, and academic integrity in computing assessments

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Prianit - an academic integrity project

- OLT-funded project

- Is academic integrity different for assessments that aren't written in prose text?

- If so, do university policies acknowledge this?

- Interviews with academics

- Focus groups of students and academics in either computing or visual design

- National (Australian) survey of students and academics

- 1315 responses, from all 39 universities

- Data cleaning reduced this to 990

What did we find?

- Lots of stuff, such as
- Loads of uncertainty
- Differences between essays and computing
- Practices that are plagiarism/collusion but acceptable
- Practices that are not plagiarism/collusion but not acceptable
- Practices that are acceptable in the workplace but not in academia
- Nothing is clearcut

- Here are some issues that now arise

Using externally sourced code

- Are there circumstances in which it is legitimate to incorporate externally-sourced code or algorithms in an academic programming assessment?

- If so, is it obligatory to reference that code and those algorithms?

- Does the same referencing requirement apply to code previously developed by the same student?

- *Programming as component assembly*

- *Code reuse vs reinventing the wheel*

- *Knowing sources*

How to reference code

- How is the referencing to be done?
- Can we develop referencing standards that will be applied by the whole computing education community?
- *Standard methods*
- *Teaching*
- *Visibility*

Collusion and help with debugging

- Are there circumstances in which it is legitimate for students doing assessments to seek debugging assistance from their peers or from message boards?

- Is some sort of referencing required? What sort of referencing, and how would we expect students to quantify the assistance received?

- *Nature of help*

- *Immediate need*

- *Internet*

- *Professional practice*

- *Extent of help*

- *Acceptability and policy*

- *Defining collusion*

Outsourcing

- Professional vs academic

Workplace practice and authenticity

- Workplace practice
    - Encouraged outside of assessment?
    - Not permitted within assessment?
- Exams – authenticated but inauthentic

Detection of academic misconduct

- Code similarity detection software
  - cf Turnitin
- For collusion?
- For plagiarism?
- Other approaches?
- Outsourcing
  - detected how?

Explaining vs writing

- Explaining as proxy for writing
- Think of parallels
- Is understanding enough?
- Can students write if they can't read?

Consensus and education

- High uncertainty
- Need for agreement and education
- Uniformity would be nice
- Exemplars, too
- Without them, really clear explanations per item

Policies and procedures

- What does it mean to act with academic integrity in computing?

- Do we need a new definition of academic integrity?

- Then how do we go about getting our institutions to revise their procedures and policies suitably?

Proposition for consideration

- Programming consists of assembling existing components, such as counting loops, search algorithms, file access algorithms, etc

- We expect our students to learn to assemble these existing components to produce solutions to new problems

- We **do not** expect our students to reference these components

Proposition for consideration

- It is standard practice to seek the help of others when developing and debugging code

- Therefore we should not bar this practice to students undertaking assessments

- This leaves us with no way of determining how much assistance a student had with any assessment item

Proposition for consideration

- Student interviews can possibly establish how well a student understands a program

- They cannot establish whether the student wrote the program, or how much of it the student wrote

- They should be used in assessment only when understanding of the program is a specified criterion of the assessment task

Proposition for consideration

- Our institutions' notions of academic integrity, plagiarism, and collusion simply do not apply to many of our assessment items

- We need to work with our institutions to get them to understand this and to revise their policies and procedures accordingly

- That's not much to ask, is it?