Lessons learnt from embedding and integrating communication skills in two discipline-specific courses

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Outline

- A brief literature review on embedding and integrating communication skills into discipline-specific courses

- Two case studies with different degrees of embedding based on two courses developed and taught by the author in a public university in Singapore

- The lessons learnt from implementing these courses

- Implications that could motivate communication skills teachers to embark on embedding and integrating communication skills

The paradox

INDUSTRY - Consistent employer demand for graduates with highly developed communication skills (Commonwealth of Australia, 2006; Conference Board of Canada, 2014; Council for Industry and Higher Education, 2008; Education and Manpower Bureau, 2010; National Association of Colleges and Employers, 2016; Singapore Workforce Development Authority, 2015)

ACADEMIA -

▶ Little scope for the teaching of communication skills in the crowded higher education curriculum, may not be regarded as core competency (Barrett-Lennard, Chalmers & Longnecker, 2012)

▶ No national framework developed yet for communication skills in higher education that would parallel the national framework developed by professional accreditation bodies

There is hope …

▶ There is a growing consensus that the development of communications skills occurs most effectively in the context of disciplinary study (Arkoudis & Starfield, 2007) and that communication skills need to be embedded in the curriculum

▶ TEQSA's English language standards advocate 'contextualisation within disciplines and integration of language development across the curriculum' (AUQA, 2012, p.8), as well as 'embedding language development through curriculum design and assessment' (AUQA, 2012, p.8)

Best practice principles in embedding communication skills

McWilliam and Allan (2014)

- Institutional support
- Cooperation and collaboration
- Guidance over remediation
- Multiple approaches to embedding
- Student-centred focus

Institutional support

- Arkoudis (2014), best practice principles include the following:
  - communication skills should be promoted as a core competency
  - communication skills strategies should develop students' English language proficiency, and also writing, speaking, reading and interpersonal skills
  - communication skills development should be discipline-specific and ensure both readiness for study and engagement with disciplinary learning

Cooperation and collaboration

- Jones, et al 2001 - The degree of embedding ranges on a continuum
  - Adjunct (weak) - Provide learning support outside the timetabled unit,
  - Adjunct (strong) - Provide discipline-specific support outside the timetabled unit,
  - Integrated - Provide workshops or lectures integrated within the timetabled unit, subject expert may not be present; or
  - Embedded - Co-develops the skills with a discipline expert, CS staff does not teach it

Guidance over remediation approach

▶ Guidance approach suggests building and developing students' disciplinary writing skills via embedded academic writing support (Caterall & Ireland, 2010; McWilliams & Allan, 2014)

▶ Remediation approach suggests deficit-model thinking, "fix-it" approach (Hill et al, 2010). Current help provided on students' writing are remedial in nature (Jackson, Taylor and Adam, 2010; Chanock et al.,(2009)

Multiple approaches to embedding

- Literacy initiatives are likely to be more effective if different approaches are developed to suit the discipline requirements of a particular group of students (Hill et al. 2010; Leach et al. 2010)

- Knoblauch and Matsuda (2008) identify five key approaches that have contributed to embedded academic-literacy initiatives: current and traditional rhetoric, process approaches, critical pedagogies, cultural studies and pragmatic pedagogies

  - It appears that significant benefits accrue to students using the critical pragmatic approach as it develops critical thinking skills, while at the same time exposing students to the intended conventions and discourses of their discipline. It is widely accepted that there is a clear link between effective critical-thinking skills and competent academic writing (Catterall & Ireland 2010; Wingate, Andon & Cogo, 2011).

Student-centred focus

▶ This approach tends to complement embedded initiatives that encourage students to critique their learning and question their knowledge, beliefs and understanding, and in so doing, develop greater self-reflection skills, autonomy and self-efficacy (Fenton-Smith, 2012)

▶ Content lecturers and academic-literacy specialists can work independently or collaboratively to assess students' prior knowledge and develop resources and tasks that lead to more-positive learning outcomes for students (McWilliams & Allan, 2014)

Key resources in embedding comm skills

1. Communication skills rubrics providing a common language for both staff and students across disciplines and guidelines for learning, teaching and assessing communication skills

2. A community site for staff on the university's LMS complementing the workshops and providing online resources for teaching and assessing communication skills

3. Professional development workshops and one-to-one support for staff on embedding communication skills into teaching and assessment;

4. Diagnostic and self assessments for students enabling students to identify particular needs and access appropriate support

5. Online modules for students enabling both independent learning online, as well as blended delivery in workshops or incorporation into disciplinary units

1. Providing a common language for teaching and learning (example)

- ▶ Valid Assessment of Learning in Undergraduate Education (VALUE) is a campus-based assessment initiative sponsored by the Association of American Colleges and Universities (AAC&U) as part of its Liberal Education and America's Promise (LEAP) initiative

- ▶ VALUE rubrics or scoring guides
  - ▶ provide needed tools to assess students' own authentic work, produced across their diverse learning progressions and institutions,
  - ▶ determine whether and how well students are meeting graduation level achievement in learning outcomes that both employers and faculty consider essential.

2&3. Online shared teaching and learning site and professional development workshops (example)

▶ The University of Western Australia Communication Skills Framework is a broad conceptual framework for communication skills development across the curriculum, is the first of its kind in Australia. It includes written, oral, critical information literacy and interpersonal skills dimensions.

▶ For each dimension, four levels of progressive skills development are included: beginning, developing, advanced and professional (Figure 1).

Framework to demonstrate that communication skills is developed progressively over a major

		GENG1003
Dimension 1: Students demonstrate writing that is clear, well structured and appropriate to audience and purpose	Curriculum Content	1 Developing engineering reports and project design proposals
	Pedagogy	Lectures and tutorials
	Assessment	Problem-based assignments (PBAs)
Dimension 2: Students give oral presentations that are clear, well structured and appropriate to audience and purpose	Curriculum Content	1 Delivering oral presentations
	Pedagogy	Lectures and tutorials
	Assessment	Individual and group presentations
Dimension 3: Students demonstrate critical information literacy skills that are appropriate to context	Curriculum Content	1 Developing investigative research and referencing skills
	Pedagogy	Lectures and tutorials
	Assessment	PBAs
Dimension 4: Students demonstrate interpersonal skills (e.g. listening attentively, negotiating) that are sensitive and appropriate to context	Curriculum Content	1 Working in teams, applying ethical, social and cultural understandings in engineering contexts
	Pedagogy	Lectures and tutorials
	Assessment	Tutorial participation, PBAs and presentations

Dimension scale: *Blank-Not Addressed, 1-Addressed at a Beginning Level,*
2 -Addressed at a Developing Level, 3-Addressed at an Advanced level, 4 Addressed at a Professional Level

4. Diagnostic and self-assessments for students (example)

Diagnostic and self assessments for students enabling students to identify particular needs and access appropriate support

- ▶ Dunworth and Briguglio (2010) – initial compulsory English diagnostic assessment and provision of structured supplementary English language tutorials to those in need

5. Online/blended modules for students (example)

▶ Online modules for students enabling both independent learning online, as well as blended delivery in workshops or incorporation into disciplinary units

▶ Chanock (2013) – blended learning approach with subject expert helps to familiarize communication skills staff sufficiently with the focus, scope, structure and approach of each subject to which we contribute; show students that what we offer is relevant and appropriate for all of them, rather than remedial

Wicked problems in embedding communication skills

‣ Academics may not see the teaching of academic literacies as part of their role, may be considered as separate from disciplinary knowledge (Jones, 2008)

‣ Movement towards horizontally structured programs inhibits systematic mapping of literacies and planning of literacies development (Green, Hammer & Star, 2009)

‣ Very large teaching teams and students across campuses (Green, Hammer & Star, 2009)

‣ Development of a shared vocabulary in developing academic literacies e.g. attributes and skills may not be understood in the same manner conceptually by academics. Attributes are understood as clusters of skills (Thies, 2012)

‣ Process of collaboration itself and difficulties related to differences in teaching philosophies, power relations and institutional priorities (Jacobs, 2005, 2006; Arkoudis and Starfield, 2007)

‣ Variation in 'quality' (Kraus, 2012) and

‣ The assessment of 'soft' or 'wicked' competencies (Knight, 2007).

SingaporeTech (SIT)

- SIT is Singapore's fifth autonomous university.

- Established in 2009, gazetted as a university in March 2014

- Degree programmes are grouped into five clusters – Engineering (ENG), Chemical Engineering and Food Technology (CEFT), Infocomm Technology (ICT), Health and Social Sciences (HSS), as well as Design and Specialised Businesses (DSB)

- Caters primarily to polytechnic graduates. The polytechnic students have taken discipline-specific communication skills courses of varying intensity in their respective polytechnics

Centre for Communication Skills – degrees of embedding

The degree of embedding offered by CCS ranges on a continuum where communication skills staff provide guidance in

- Academic writing and speaking
- Professional communication
- Writing in the disciplines
- Career Skills
- Communication Helpdesk

Case Study 1-Bachelor of Accountancy (Hons)

- Three years direct honours programme

- Some of the highlights include the **Integrated Work Study Programme** (IWSP) which runs through peak auditing periods.

- Following the IWSP, students will undertake a business Capstone module and modules in their focused area of interests such as Audit or Tax.

- Students will also have Regional Exposure to Accounting Practice (REAP).

- Practice-oriented training will be provided by industry experts

- Two communication skills courses – Writing in the Workplace, Career and Professional Development

Bachelor of Accountancy (Hons)

Accredited with the following professional bodies:

- Singapore Accountancy Commission (SAC)
- Chartered Accountants Australia and New Zealand (CAANZ) - Accredited, April 2016
- CPA Australia - Accredited, Feb 2016
- Institute of Chartered Accountants of England and Wales (ICAEW) - Accredited, Feb 2016

ACC2903 Writing in the Workplace

Credit Value: 2 credits

Pre-requisite: Nil

Result/type: Pass/Fail (Graded from AY2017)

Duration: 2 hours x 10 weeks workshops

Follow-through: Integrated Work Study Program (8 months)

Class size: 20 students per tutorial group

Type of embedding: Independent course solely taught by communication skills staff, assignments designed in consultation with accountancy lecturer and post-IWSP interviews with students

ACC2903 Assessment

Assessment Task	Weighting	Tentative week/due date
Assignment 1: Students are required to write individually, a summary of 400 words on a specified company to a supervisor to reflect their understanding on the company's business.	20%	Week 4
Assignment 2: Students are required to write in pairs, a memo to client's file on an audit question posed by a manager in the client company. This memo is sent via email.	30%	Week 7
Assignment 3: Students are required to write in groups of three, a recommendation report of 1500 words to the management of the client company.	40%	Week 10
Class participation	10%	Weeks 1-10

ACC2903 Teaching and learning activities

- Independent and collaborative activities which involve discussions, presentations, writing and peer reviews.
- Assignments adopt a case study approach with a focus on a specific company throughout the trimester
  - writing a summary (understanding a company's profile to their supervisor)
  - a memo to client's file (explaining an accounting concept to client) and
  - a recommendation report (providing business solutions to client)
- Focus on mastery of competencies, not skills per se
- Peer and teacher feedback before submission of each assignment
- Compulsory reflection on what has been learnt, unlearnt and relearnt in the process of writing the assignment

ACC2903 Learning outcomes

By the end of the module, the students should be able to:

- Consider the purpose, audience, style and tone when writing different types of documents to different audiences

- Analyze, synthesize and interpret information from various sources

- Plan their writing so that they can present a logical flow of information to the audience

- Write effective paraphrases and summaries for a specific purpose

- Write memos to client's file to clarify client's doubts on audit issues

- Write emails in the appropriate style and tone for business writing

- Write recommendation reports based on objective evidence

- Revise their writing for clarity, conciseness, coherence, and fallacies in argumentation

- Cite sources correctly using the APA citation style

- Design their document so that it is reader friendly

Lessons learnt

- Use of Annual Report builds on previous skills they have learnt in their accounting subjects; and provides authentic context and information – relieves communication skills staff of the burden of providing credible learning materials

- Use of discussion forum for peer review – students uploaded their first draft for review by their peers

  - Advantage – each student's assignment is visible to everyone in the class – they want to maintain standards, forum reduces uploading of sloppy work

  - Advantage – communication skills staff has a preview with regard to what are the important points that students picked out in their review, which could be further elaborated on during the teacher feedback session; communication skills staff is not seen as nit-picking on 'minor, unimportant details as they are not subject experts'

Lessons learnt

▶ Focus on good writing organization (coherence and cohesion) during the teacher feedback session - students already checked and commented on the accuracy and relevance of the technical details during the peer review stage

▶ Feedback is primary to students' learning process; and where students feel communication skills staff help the most

▶ Reflection on each assignment (what has been learnt, unlearnt and relearnt) provides teacher with insight on how to adjust teaching to further improve students understanding of what makes good writing

Case study 2 - Bachelor in Pharmaceutical Engineering (Hons)

- Four-year direct honours program
- Interdisciplinary curriculum that intersects engineering, life sciences and chemistry
- First in Singapore – students trained in development and manufacture of biologics and small molecule drugs
- Integrated Work Study Program and capstone project in Year 3, Trimesters 2 and 3, Graduate after Year 4 Trimester 1
- Two communication skills courses – Technical Writing and Communication; Career and Professional Development

PHE2014 Technical Writing and Communication

- This module aims to train students to independently write scientific/technical reports to communicate effectively scientific/technical findings to a broad community of readers

- Through this module, students will be taught the skills required to communicate complex scientific or technical information into content that a specific audience can easily understand.

PHE2014 Context

Credit Value: 5 credits

Pre-requisite: Nil

Result/type: Graded

Duration: 3 hours x 12 weeks

Class size: 20 students per tutorial group

Types of embedding:

- 6 weeks on the writing of the lab report (based on lab report submitted last trimester to subject lecturer)

- 6 weeks on writing and presenting the current good manufacturing practice report (CGMP).

  - Curriculum schedule for the Technical Writing and Communication module is aligned to the CGMP module which is run concurrently and taught by the subject lecturer.

  - Assignments are set by the CGMP lecturer. Different rubrics for the CGMP (focuses on content) and Technical Writing (focuses on coherence and cohesion) modules. Lecturers for both modules are aware of the rubrics for both modules.

PHE2014 Assessments

Assessment Task	Weighting	Tentative week/due date
Assignment 1: Students are required to write individually a laboratory report.	25%	Week 6
Assignment 2: Students are required to write individually a summary of one page identifying a GMP problem in a non-compliant pharmaceutical company.	15%	Week 8
Assignment 3: Students are required to write in groups a CGMP report.	30%	Week 12
Assignment 4: Students are required to present in groups their CGMP report orally.	20%	Week 12 or 13
Assignment 5: Class participation	10%	Ongoing

PHE2014 Teaching and learning activities

- Independent and collaborative activities which involve discussions, presentations, writing and peer reviews.

- Assignments adopt a case study approach with a warning letter students choose from the FDA, US website

- Peer and teacher feedback before submission of each assignment

- Compulsory reflection on what has been learnt, unlearnt and relearnt in the process of writing the assignment

PHE2014 Learning outcomes

By the end of the module, the students should be able to:

- Consider the purpose, audience, style and tone when writing and speaking to different audiences
- Plan their writing so that they can present a logical flow of information to the audience
- Write an effective laboratory report that describes research procedures and interpret technical data
- Write an effective summary for a specific purpose
- Analyze, synthesize and interpret information from various sources
- Write a report based on objective evidence
- Revise their writing for clarity, conciseness, and coherence
- Present technical presentations effectively
- Cite sources correctly using the APA citation style
- Design reader friendly documents

Lessons learnt

- Constraints in designing the curriculum due to the synchronized assignment submission deadlines

- Initial strong resistance to communication skills staff teaching technical subject matter

- Seen as mainly grammar expert

- A lot of coordination is required to ensure consistency in instruction

What worked

- Genre approach
  - Needed to help students see how the writing of the lab report is fundamental to the writing of other technical reports e.g. experimental reports, CGMP reports, capstone project reports
  - Stress internationally accepted conventions in technical writing
- Feedback and reflection are very important components to help students improve in their writing and speaking
  - Primarily how and where students can see that communication skills staff makes a difference

Implications

▶ The teaching of communication skills as a core competency

▶ Argue for discipline-specific communication skills modules due to students' polytechnic background – students will be more motivated to learn when they can see the direct relevance of the module to the workplace and disciplinary studies

▶ Independent communication skills instruction is a deliberate consideration where extensive coordination in curriculum design and assessment with the subject lecturer is a prerequisite i.e. not every module can be integrated effectively

▶ Subject expert could be equipped to teach writing in writing intensive courses

Implications

▶ Use of the genre approach – internationally accepted conventions, widely researched, consistent interpretation for each discipline in online resources

▶ Use of technology like discussion forum for peer review so that communication skills staff can focus on the coherence and cohesion aspects of students' writing, without worrying too much about the accuracy of the technical details

▶ Feedback and reflection are primary to helping students improve their writing and speaking

  ▶ Teach less content, so that students can focus on improving their writing and speaking based on feedback given by their peers and teacher

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