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Research Report

What is Quality Curriculum?

Programme Design, Delivery and Management in Singapore's Diploma in Adult and Continuing Education

Centre for
Work and
Learning

August 2013

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INSPIRE, ADVOCATE AND LEAD ADULT LEARNING AND PROFESSIONAL PRACTICE

Published by the Institute for Adult Learning (IAL), Singapore
Research and Innovation Division
1 Kay Siang Road, Tower Block Level 6, Singapore 248922
www.ial.edu.sg

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Table of Contents

Executive Summary 1

  Background ....**Error! Bookmark not defined.**

  Methodology..**Error! Bookmark not defined.**

  Findings 1

  Conclusion ....**Error! Bookmark not defined.**

Introduction.. 5

  Background & context 7

  Why the Diploma in Adult and Continuing Education (DACE)?....................... 7

  ACTA and DACE: the training frameworks 8

    The Advanced Certificate in Training and Assessment (ACTA)................ 9

    The Diploma in Adult and Continuing Education (DACE) 10

  Who is the DACE graduate? 15

  Conclusion 15

Literature review.. 17

  Defining curriculum 17

    Purpose of curriculum 22

  Models for designing curriculum 26

  Curriculum and competence 29

  Considerations in writing curriculum... 30

  Effective curricula, what is it? 33

  Conclusion 36

Methodology 38

  Introduction... 38

  Method 38

- Sample 39
  - Interviews 39
  - Documentary evidence 41
  - Participant observation 42
- Interview method 42
- Documentary analysis 43
- Participant observation and reflection 43
- Analysis 43
- Project limitations 44

What is "quality" curriculum? What we found out 45

- Introduction 45
- The respondents 45
  - The international scholars and Singaporean experts 46
  - The DACE stakeholders 47
- Defining curriculum 48
  - The international scholars 49
  - The DACE stakeholders 51
- Designing, writing and enacting curriculum 55
  - The international scholars: designing, writing and enacting curriculum 56
  - The DACE stakeholders: designing and writing curriculum 59
  - The DACE stakeholders: enacting curriculum 64
- Effective or "quality" curriculum: what is it? 67
  - The international scholars 68
  - The DACE stakeholders 71

Conclusion 74

Conclusion, discussion and recommendations 75

Introduction.. 75

Quality curriculum-making: a summary of the project data 75

A model for continuing curriculum quality within the DACE programme...... 78

Key assumptions 81

The mediated model.. 88

Recommendations.. 89

Recommendations for curriculum designers:.. 89

Recommendations for learning facilitators:... 90

Recommendations for CET Centres and ATO curriculum design managers.. 91

Recommendations for system-wide curriculum design governance 91

Conclusion 91

List of Figures

Figure 1. Summary of the Advanced Certificate in Training and Assessment 9

Figure 2. Summary of the Diploma in Adult and Continuing Education 11

Figure 3. Characteristics of some major curriculum models 27

Figure 4. Pseudonyms for the International Scholars Group 39

Figure 5. Pseudonyms for the DACE Stakeholders Group 40

Figure 6. A model for enhancing curriculum quality within the DACE programme: key assumptions for practice 79

Executive Summary

The *WSQ Diploma in Adult and Continuing Education: Curriculum and Quality Courseware Designers* project arose as a response to stakeholder concerns about the need for Singapore to have a pool of adult educators who are able to design quality courses and courseware. The research team recognises, along with the adult education sector, that quality curriculum is essential to underpin the Singapore's Workforce Skills Qualifications (WSQ) system, which stipulates the competencies required for productive workplace skilling. We believed, then, that it was vital to investigate what informs perceptions of "quality" curriculum and its subsequent encouragement within the DACE programme. Stage One of the project is directed to the issue of quality curriculum on the assumption that teasing out the nuances of curriculum design, writing, facilitation and management will lead to a better contextual understanding of curriculum-making and the possibility of capturing thoughts and strategies that engender better practice.

A qualitative methodology was used using semi-structured interviews of two quite separate groups for comparative purposes. One group consisted of DACE stakeholders and the second group consisted of international academics. In addition we analysed DACE curriculum documents. The data was further supported through notes and reflections of one of the researchers who taught in DACE. Data analysis was undertaken using thematic analysis followed by a process of collapsing themes into higher order categories. Content analysis was undertaken of the documentary data.

Findings

In short, we found that the DACE stakeholders, held a very pragmatic approach to curriculum whereas the international group of scholars based in universities held a craft-based view of curriculum where curriculum is flexible, dynamic and more learner centric.

We labelled the international scholars group; "bricoleurs" because of the eclectic and "craft-based" nature of their development of curriculum-making skills appears to share several key ideas about the definition of curriculum. Foremost in their minds is its conception as a flexible, dynamic and engaging map of learning possibilities guided by a consistent philosophy of learning. Within this framework, they tend to privilege the agential relationship of the learner and facilitator; the learner is to be respected for his or her choices in education as a lifelong journey, and the facilitator is encouraged to view the curriculum as a lens through which to exercise professional judgement and innovation. In a sense, their musings represent an ideal view. Curriculum is imagined as unfettered by institutional or bureaucratic

interventions and undertaken consequently from a position of autonomy where curriculum choices and predispositions are able to be enacted.

For the DACE stakeholders, labelled “pragmatists” because of the practical manner in which they respond to and work within a highly managed programme-making environment, curriculum is defined in instrumentalist, pragmatic and technocratic ways. It is purposive and directed to the skill development needs of the nation. There is a clear market orientation, including an implied one for employers and learners. Curriculum is expressed as a series of practical and measurable outcomes underwritten by the requirements of paid work. Its conception is within a regulatory framework defined and managed by others and has clear links with the idea of underlying assumptions of political purpose within curriculum discussed in the literature review. This appears through the transcripts as a normalised and unproblematised process.

For the DACE stakeholders it is perhaps at the points of programme enactment that most tensions arise in relation to the purposes or intent of curriculum design. To ensure a smooth “transfer” or re-contextualisation of planned content from the designer to the facilitator to the learner, and to meet external stakeholder skill requirements, there is assumed a need for the careful management of programme delivery; facilitators must carefully follow the prepared scripts and stay on task. This linear transfer process makes for easy slippage into adoption of a one-way transmission or deficit model of knowledge and skills delivery, in spite of classroom strategies that explore prescribed topics using exemplary constructivist and social constructivist pedagogies where learners individually and collectively make their own meanings, but within a narrow knowledge and skills base. Within this compliant discourse, experienced and skilled facilitators are placed in the invidious position of being expected to deliver by rote a tightly packaged programme while knowing that significant innovation or variation may be the only way to achieve effective learner meaning making. While educators have always interpreted curriculum this way and most likely will continue to do so well into the future, it is the perception that is not valued as an approved practice that often drives them to conform rather than perish.

For the bricoleurs, “quality” curricula are best practice exemplars of their curriculum definitions and related design, writing and enactment principles. Foremost in their thinking is the quality of the relationship between theoretically informed programme construction and its capacity for interpretation by a full range of educators: from novices who rely on its careful guidance, to experienced facilitators who remain free to incorporate and further adapt its content within an advanced skills repertoire. Learners are implicated in the interpretive paradigm through working with the facilitator to re-read programme outcomes according to their needs and capacities. It is quality curriculum’s potential for flexible and dynamic interpretation that sets it apart from less well-constructed counterparts.

For the pragmatists, “quality” curriculum is judged primarily by its capacity for higher level compliance within a set of WDA system legitimised rules and standards. But quality may also appear within subsets of this imperative. For example, it could be the consistency of alignment between the WSQ competency standards and the curriculum design objectives, the logic of modular or syllabus sequencing derived from the curriculum map, the variety or appropriateness of selected pedagogies, the level of fit between the developed programme and its underlying theoretical assumptions, the degree of interpretive freedom and risk taking – or not – given to the facilitator and learner, the level of economic return measured through increased productivity as a result of training, or the observed changes in learner workplace behaviour. This range of interpretations of quality, it appears, depends on where the respondent is positioned in the curriculum design and delivery process, whether curriculum designer, syllabus writer, quality assurance officer, programme manager, industry stakeholder, or learning facilitator. However, most respondents in the stakeholder group appear united in their support of the “quality through compliance” precept.

As a result of our reflection on the findings we developed a model for enhancing curriculum quality, shown below. The model can be used to enable curriculum developers to reflect on their core assumptions about their orientation, their philosophy, curriculum function, stakeholder relationship, design team, facilitator and designer roles, delivery, learner, assessment and evaluation.

A model for enhancing curriculum quality within the DACE programme: key assumptions for practice

Key assumptions	**International scholars**	**Mediated quality curriculum model**	**DACE stakeholders**
Conceptual discourse	Interpretivist	**Consult stakeholders** **Negotiate**	Compliant
Curriculum practice orientation	Bricoleur – practice based on broad and deep experience in a negotiated environment; eclectic, based on Western scholastic liberalism		Pragmatic – practice based on application of limited curriculum models within a highly regulated environment; specific, based on Competency Based Training (CBT)
Curriculum philosophy	Transformative		Technocratic and instrumental
Curriculum	Curriculum as		Curriculum as

function	process – dynamic and flexible	**curriculum philosophy** **Design curriculum** **Develop courseware** **Facilitate modules** **Assess learners** **Evaluate modules** **Evaluate curriculum** (constant feedback loops) ←	product – static and regulated
Principal stakeholder relationship	Learner (inclusive of generic lifelong learning skills)		Industry (inclusive of just-in-time employability skills)
The curriculum design team	Small, mostly Subject-Matter Expert based; facilitators and learners can play major roles		Small to large, designer often separate from Subject-Matter Expert; facilitators and learners often play minor roles
Designer-facilitator roles and relationship with curriculum-making and delivery	Facilitator and designer often the same; facilitator expected to be scholastic, proactive, innovative; often included in design team		Facilitator and designer often different; facilitator operating in a compliant, risk-averse environment and are rarely included in design team
The learner	Participative, inclusive; emphasis on dialogic pedagogies		Participative, marginalised; emphasis on social constructivist pedagogies within a transmissive framework
Assessment	Broad-based; often includes workplaces		Competency based; non-authentic, rarely including workplaces
Evaluation	Cyclical and structural		Reactive and non-cyclical
↔ Potential for inter-assumption relationships			

Introduction

The *WSQ Diploma in Adult and Continuing Education: Curriculum and Quality Courseware Designers* project arose as a response to stakeholder concerns about the need for Singapore to have a pool of adult educators who are able to design quality courses and courseware. From 2015 all of Singapore's Approved Training Organisations (ATOs) will be required by the Workforce Development Agency (WDA) to employ at least one curriculum designer who is a graduate of the Diploma in Adult and Continuing Education (DACE), a programme that was first introduced to the adult education sector in 2010. The WDA strategy is to ensure that each ATO is able to generate for its learners curriculum design and courseware of the highest quality. It is therefore important that the sector is able to say with confidence that DACE graduates who undertake the Curriculum Development Specialist Track are indeed specialists in their field and can play the important role of enabling quality curriculum development within each organisation.

The research team recognises, along with the adult education sector, that quality curriculum is essential underpinning of the Singapore Workplace Skills Qualifications System (WSQ), which stipulates the competencies required for productive workplace skilling. We noted in the earliest stages of the project design, however, that there was little evidence to demonstrate a shared understanding of exactly what constituted "quality" curriculum among key stakeholders, including the WDA's Quality Assurance Division (QAD), which monitors the standard of WSQ-derived curriculum construction and delivery, Continuing Education and Training (CET) and ATO managers and their curriculum designers, courseware writers and programme facilitators.

We believed, then, that it was vital to investigate the question of what informs perceptions of "quality" curriculum and its subsequent encouragement within the DACE programme. Only from there could we proceed to explore the effectiveness of the longer term development of skilled DACE curriculum design practitioners and their potential impact on the future of adult education curriculum. Stage One of the project is therefore directed to the issue of quality curriculum on the assumption that teasing out the nuances of curriculum design, writing, facilitation and management will lead to a better contextual understanding of curriculum-making and the possibility of capturing thoughts and strategies that engender better practice.

Our approach to the first stage was to interview a range of experienced curriculum practitioners. These included international curriculum scholars and researchers who provided an eclectic base for comparative purposes, and Singaporean-based curriculum designers, writers, learning facilitators and managers. Through semi-structured interviews we sought their views on what constitute “quality” curriculum. From a detailed narrative analysis of these interviews, combined with a literature review, DACE document analysis and observation notes, we describe and analyse practice-based and theoretical similarities and “gaps” between the ideas generated within and between the two groups that suggest recommendations for future improvements in, or affirmation of, contemporary DACE programme review, design, delivery and management strategies and practices.

The outcomes of the analysis will be used to inform the second stage of the study, which explores learner responses to their DACE programme experience and reflections on their perceived progress from novice to expert curriculum practitioners.

To enable us to address the issue of the DACE programme’s capacity to encourage a discourse on “quality” curriculum and the graduation of quality curriculum designers and writers, we ask the following research questions:

1. What does “quality” curriculum mean to different people?
2. How do individuals experience their journey towards becoming developers of high quality curriculum?
3. In what ways do employers of DACE graduates who undertake the Curriculum Development Specialist Track value these employees, and how do they use the skills of these employees?
4. In what ways can the DACE Curriculum Development track be further developed?

Stage One of the research explores Question 1 (this report) with the final three considered in Stage Two.

The remainder of the chapter locates the DACE programme within the context of the earlier development of the WDA and WSQs, and of its predecessor, the Advanced Certificate in Training and Assessment (ACTA). This narrative helps shape the reasons for the development of DACE and its perceived need to offer more sophisticated curriculum design tools and skills. The chapter concludes with a summary of the main points made and a description of the remaining chapters constituting Stage One of the research project.

Background & context

The Singapore Workforce Development Agency (WDA) was created in 2003 and inherited a disparate Continuing Education and Training (CET) sector with a diverse community of trainers, the majority of whom did not have a training qualification. There were a few institutions that provided some sort of training credential but there were no minimum trainer standards. Trainer quality control became a major concern. The WSQ system was developed to increase employability, improve worker performance and align industry needs with training provision. This required a certain level of skills in training, assessment, curriculum, and courseware development not present in the adult educator workforce (Willmott and Karmel, 2011).

The Advanced Certificate in Training and Assessment (ACTA) was introduced in 2005 to offer training using a competency-based approach and provided the first quality standard and credential for trainers. However, it became clear that the competency-based approach of ACTA could not meet the needs of a rapidly changing CET sector. Rather, the CET sector required professionals with the ability to address quite complex workplace training issues and gaps in innovative ways, contextualised to meet the unique needs of specific sectors and employees.

The evolution of vocational training in countries such as Australia, United Kingdom and Canada was moving beyond boundaries of Competency-Based Training (CBT) where there are high level qualifications which articulate to university courses and are less rigidly CBT-based. Cross-accreditation was better served through the creation of graded assessments, which was considered better matched to academic requirements (Clayton, 2009; Simons, Harris and Smith, 2006).

Generally, it was the thinking within sections of the WDA that ACTA was producing graduate cohorts who struggled to see beyond the relatively narrow discourse of CBT curriculum-making and practice. It was felt that the WSQ system, founded on CBT principles emphasising skill preparation for immediate practice rather than future needs, seldom encouraged sectoral change or critique within the body of practitioners then working within the CET sector, a set of skills deemed essential for the sector to prosper. DACE was launched in 2010 to address this perceived inadequacy (transcript of interview with a former senior WDA manager, April 2012).

Why the Diploma in Adult and Continuing Education (DACE)?

DACE encouraged trainers to revise and reflect on ACTA's taken-for-granted assumptions. One of the new modules introduced was *Develop Practice through Reflection*, which encouraged learners to be critically reflective on past curriculum design, writing and facilitation practices.

A further perceived limitation of ACTA was its non-inclusion of a practice-based or practicum component. In many cases this meant that programme participants may never have facilitated a learning session until their first post-graduation class. The lack of an extended practicum provision was due primarily to the inability of the sector to cope with the large numbers studying ACTA and the challenge of finding placements within a CET culture unfamiliar with the practice. A practicum component was introduced into DACE because there was a need to elevate the development of programme participants beyond ACTA to experience meaningful professional exposure through workplace activities emphasising reflective practice and a wider view of assessment. ATOs and CET centres soon recognised, too, that practicum placements were vital to the continuing success of the adult education sector.

DACE, then, was intended to be more than a skills qualification in CBT, the original brief of ACTA. It also introduced learners to specialist study streams such as e-learning, facilitation skills, assessment and research, permitting learners to develop expertise within a range of fields

Moreover, the original "Training Roadmap" (WSQ, 2009), which outlined a range of possible future adult education qualification options, including DACE, and since abandoned, mooted various additional qualifications including graduate diplomas and workplace training certification, in addition to links with two specialist international masters programmes. Indeed, some WDA-appointed consultants believed it was sound preparation to have a DACE or similar qualification placed in a training pathway as ACTA alone leading to a Masters degree was deemed too wide a gap to bridge. To ensure all DACE outcomes were pulled together reflectively in preparation for graduation and adult education practice, with the possibility of further study, a capstone assessment project was included to complement the practicum.

DACE, therefore, was deliberately created as a "value-added" curriculum-making and learning facilitation qualification for the CET sector and mooted as mandatory for future ATO-based curriculum design. ACTA, too, was considered an essential entry-level qualification and from 2010 an equally mandatory qualification for WSQ instruction purposes.

ACTA and DACE: the training frameworks

The WDA's aim for the adult learning sector is to create a professional CET workforce able to assess the needs of potential learners, design appropriate curricula, and deliver training solutions that address sometimes complex, and dynamic workforce challenges. The desired outcome is a more effective and inclusive workforce that increases productivity, facilitates further economic growth and meets the career needs of a skilled Singaporean workforce (Kong, 2011, p. 61). Both the ACTA and DACE programmes are considered pivotal to this process. The following schematically outlines both courses of study.

The Advanced Certificate in Training and Assessment (ACTA)

ACTA facilitates the skills and underpinning knowledge required for learners to be proficient in the design, delivery and assessment of WSQ-based programmes. A typical programme of study offers the following learning pathways based on current WSQ competency regimes:

- *Recognition of Prior Learning (RPL)* or the process of recognising learner competencies expressed through formal or informal training, education, work and general life experience. Recognition may make the learner eligible for RPL-assessed competencies expressed through a Statement of Attainment (SOA).

- *Facilitated Learning Pathway (FLP)* or learning through attendance at classes with a recognised CET or ATO organisation.

- *Practicum Pathway (PP)* which may include an option of six hours expert mentoring time with a training expert. The expert guides the learner through the application of module content from theory to practice. This may include training delivery, curriculum development, assessment development or an assessment delivery practicum.

- *Specialisation Tracks* may be offered that enable participants to opt for one of two specialisations, as follows:

Figure 1. Summary of the Advanced Certificate in Training and Assessment

Facilitated Learning	**On-the-Job Training**
A specialisation that will certify ability in developing competency-based training programmes: delivering them in a classroom-training environment; assessing trainees' competency levels.	*A specialisation that will certify competence in developing and conducting OJT programmes as well as assessing the competency level of workers in performing a specific job function*

<table>
<tr><td colspan="2">Competency Unit (CU)1 – Interpret the Singapore Workforce Skills Qualification (WSQ) Framework</td></tr>
<tr><td colspan="2">CU 2 – Apply adult learning principles and code of ethics in relation to training</td></tr>
<tr><td>CU 3A – Design and develop a WSQ facilitated training programme</td><td>CU 3B – Design and develop an on-the-job training programme</td></tr>
<tr><td>CU 4A – Prepare and facilitate classroom training</td><td>CU 4B – Prepare and conduct on-the-job training</td></tr>
<tr><td colspan="2">CU 5 – Develop a competency-based assessment</td></tr>
<tr><td colspan="2">CU 6 – Conduct a competency-based assessment</td></tr>
</table>

Learners are encouraged to embark on modules CU 1 and CU 2 before the other modules as they provide a basis for understanding the content of the later modules.

Assessments for the modules (30–90 minutes, depending on the task) are conducted in purpose-constructed assessment booths or in standard classrooms and consist of one or more of the following:

- Written assessments
- Practical performances
- Oral questioning
- Project work
- Desktop reviews and oral questioning.

Classes are delivered in blocks of half-day or full-day sessions (details for the above are from an Institute for Adult Learning ACTA brochure, 2012).

The Diploma in Adult and Continuing Education (DACE)

The diploma course facilitates the development of skills and underpinning knowledge required for learners to be proficient in the design, delivery and assessment of WSQ-based programmes that extends the value of the ACTA to include advanced knowledge and skills of its core competencies, plus a range of specialist studies, an integrated practicum and a capstone project. Seven core modules are completed before undertaking the specialisation. The competencies assessed are based on certified WSQ outcomes. A typical programme may appear as follows:

Figure 2. Summary of the Diploma in Adult and Continuing Education

Seven core modules	
1. *Develop practice through reflection* introduces participants to the practice of reflection as a means of enhancing expertise. The tools introduced include reflective journaling, critical friendships and professional development portfolios. The skills developed are used throughout the programme.	2. *Review Competency-based Training (CBT) approaches for adult workers* examines the place of CBT in the Singapore economy and also surveys the adoption of other CBT approaches globally. It then analyses the implication and impact of CBT in Singapore.
3. *Incorporate adult learning theories and approaches for adult learning* utilises Knud Illeris's model of cognitive, social and environments aspects of learning as a theoretical underpinning for learners to explore the ways in which adults learn and how this leads to approaches that enhance the design, development and delivery of adult learning.	4. *Plan training needs analysis* outlines the steps required when undertaking a training needs analysis. It explores when a training needs analysis may or may not be applicable in the light of business goals and the context for training intervention.
5. *Apply instruction design to create courseware* aims to take the learner through a process of designing and developing adult learning courseware that has a greater impact on	6. *Facilitate adult learning* seeks to further develop learner skills in classroom facilitation in order to make learning happen. It provides opportunities for participants

learning.	to improve their presence in the classroom, to demonstrate skills that engage learners and to facilitate learning activities with small groups.
7. *Implement and evaluate assessment* aims to familiarise learners with the concepts behind effective assessment. It includes the principles of assessment, the rules of evidence, the methods and tools used, as well as the ethical conduct of assessment.	
Six elective specialisations and modules (four modules to be selected, up to the requirement of 12 credit points within a specialist track or a combination of tracks)	
1. **Curriculum development** (a compulsory elective for all DACE learners) *Design and develop curriculum for adult learning programmes* (6 credits) focuses on equipping the learner with the specialist skills to design different types of curriculum, as well as being able to critique and redesign current training courseware. *Develop assessment tools* (3 credits) encourages learners to evaluate, select and develop appropriate assessment tools for the conduct of assessment.	2. **Assessment and evaluation** *Develop assessment tools* (3 credits) encourages learners to evaluate, select and develop appropriate tools for the conduct of assessment. *Evaluate an adult education programme* takes learners through the process of developing a plan to evaluate training programmes that affect organisational development. As part of the process learners are expected to design and develop an instrument for data collection and prepare an evaluation report.

3. **E-learning** *Design and develop an e-learning programme* (3 credits) covers the design and development of e-learning programmes, including an examination of the techniques and steps to conceptualise e-learning. The various types of e-learning environments and their impact on the e-learning process will also be addressed in the module. *Facilitate an e-learning programme* (3 credits) encourages learners to support and facilitate learning programmes delivered via electronic media. Processes such as the establishment and induction of learners to the e-learning environment, the use of facilitation techniques and e-learning activities to promote learners' participation and collaboration, as well as the monitoring of learners' progress is also examined.	4. **Facilitation** *Use facilitation techniques for group-based learning* (3 credits) focuses on how to draw out the key learning points from the group by harnessing and collating the contributions of individual group members during discussions and group activities. Learners also examine specific process pathways and techniques to consensually derive shared thoughts, perspectives and conclusions from the group. *Facilitate activity-based learning* (3 credits) shows how to plan, facilitate and evaluate activity-based learning. Central to the training is the understanding of the planning process and facilitation of activity-based strategies such as problem-based learning, case-studies, role-plays, games and simulations.
1. **Workplace learning and On-the-Job Training** *Develop a workplace learning plan* (3 credits) equips learners with the skills to incorporate relevant workplace learning strategies in the design, development and evaluation	2. **CET research** *Initiate and conduct applied research* (6 credits) equips learners with the knowledge and skills to plan and conduct applied research on adult learning issues within an organisational context. The

of the workplace learning plan. *Develop an On-the-Job training programme* (3 credits) encourages learners to examine the characteristics of OJT, plan an OJT programme and develop an OJT blueprint and materials accordingly. The effectiveness of the OJT programme and the OJT blueprint is also reviewed and evaluated.	purpose of the research is to provide quality information to enhance learning-related activities and the training capabilities of the organisation.
The Integrated Practicum involves a 30-hour attachment with a training organisation to allow learners to synthesise and put into practice the theoretical skills picked up in the core modules of the programme. During the course of the Integrated Practicum, a supervisor is provided to monitor and assess participants' performance in the host organisation.	
The Capstone Project, undertaken by DACE learners upon completion of the elective modules, serves as a means to further develop appreciation and insight into their chosen areas of specialisation.	

Assessments for the modules (30–90 minutes, depending on the task) are conducted in purpose-constructed assessment booths or in standard classrooms and consist of one or more of the following:

- Written assessments
- Practical performances
- Oral questioning
- Individual project work
- Role plays/simulations
- Desktop reviews and oral questioning.

Classes are delivered in blocks of half-day or full-day sessions.

ACTA graduates are able to convert to the DACE qualification through successfully completing the Integrated Practicum, the elective programme, the Capstone Project and the reflective practice and training needs analysis modules, plus a composite tailored module (details for the above are from an Institute for Adult Learning DACE brochure, 2012).

Who is the DACE graduate?

In the earliest stages of the programme design, a DACE practitioner was envisioned as a reflective and transformed practitioner who has a broader vocational education background and educational understanding than the ACTA graduate. According to a founding member of the DACE programme development team:

> *I had an image of somebody who is a reflective practitioner, a person who had a broader educational background, an educational set of understandings and somebody who is adjusted. Many of the ACTA trained may not have an area of specialisation ... and there is some total understanding of education, training and learning – they were not educators; they were just very narrow trainers. So the idea was to create more of an educator, somebody who could have a discussion about the different approaches to assessment, who if wanted, could talk curriculum ... The idea is not to have a conformist but people who will have critical perspectives. There should be a bit of reading ... I would like to have it run as a good academic programme; for example various approaches to ID (Instructional Design), concept of ID, critics of ID, transform these people so they are not the same when they come out as when they went in (interview April 2012).*

In many ways this became the promise of the DACE programme. This project assesses whether or not it has been fulfilled.

Conclusion

This chapter has introduced the idea of "quality" curriculum within the context of the contemporary Singaporean adult education sector, suggesting that there is limited consensus of what is meant by curriculum. The project team argued that a thorough investigation of perceptions of the idea by an international group of curriculum scholars and key Singaporean stakeholders is a useful way to introduce the *WSQ DACE: Curriculum and courseware designers' project*. From a comparative investigation represented as a critical narrative analysis informed by a literature review, semi-structured interviews, documentary analysis and practice notes, the research team will address issues related to the meaning and practice of quality curriculum which in turn prefigures later project investigation into the journey of DACE graduates from novice to expert curriculum-making practitioners, the workplace value placed on these practitioners and recommendations for the further development of the DACE curriculum track.

The next four chapters further elaborate the themes outlined above. Chapter Two presents a literature review on the idea of the curriculum and its location in selected forms of vocational education practice. This assists in shaping the context for the later presentation of the project data. Chapter Three briefly outlines the range of qualitative methodological devices used to gather data. It argues that the range of approaches used assists in triangulating or cross-validating the data sets presented. Chapter Four is the core focus of the report and presents a detailed analytical narrative of the data sets, focusing in particular on a range of purposively selected and comparative semi-structured interviews offered by a group of international scholars and another of Singaporean curriculum designers and auditors, module facilitators and adult education managers. The final chapter in this Stage One report presents a model of curriculum development garnered from the outcomes of the data analysis chapter and suggests a shared approach across the two analysed groups that together may offer ideas for future reviews of the DACE curriculum track.

Literature review

Defining curriculum

Nearly 40 years ago, Rule (1973) claimed there were 119 definitions of curriculum. That curriculum was and remains a contested field of educational inquiry is not disputed. Dillon (2009) for example states that the definitions and conceptions of curriculum are "known to be incoherent" and that it has become "obligatory ... to display a dozen or more answers in all their diversity, to almost no purpose or effect other than to dispirit the reader" (p. 344). Despite Dillon's claim that definitions serve little purpose, defining what you are referring to not only scopes the field of enquiry but also tells readers the lens(es) you are using to frame your work. In addition, because the term curriculum, like any other term, means different things to different groups (O'Neill, 2010) it is important to tease out these different understanding and purposes in order to better understand the field and make the appropriate decisions.

In 1995, Posner suggested common concepts of curriculum as being (p. 11):

- Scope and sequence: the depiction of curriculum as a matrix of objectives
- Syllabus: a plan for an entire course, typically including rationale, topics, resources and evaluation
- Content outline: a list of topics covered organised in outline form
- Textbooks: instructional materials used as a guide for classroom instruction
- Course of study: a series of courses that the student must complete
- Planned experiences: all experiences students have that are planned by the school, whether academic, athletic, emotional or social.

These concepts have a combination of emphasis on what has to be achieved, contents covered and in the final bullet point, learning experiences planned by others, for learners. They are also evident in more recent definitions of curriculum, and the recognition that curriculum is planned by others and therefore has wider intentions is now an important aspect of how we understand what curriculum is and what it does. For example, Goodson (1997, p. 24) identifies curriculum as the relationship between knowledge and social/political control and Hamilton & Weiner (2003) comment that curriculum is "an instrument that not only supported ordered instruction delivered by teachers and followed by learners, but also promoted different conceptions of social order" (p. 624). Hökkä, Eteläpelto and Rasku-Puttonen (2010) extend this concept of curriculum serving the purposes of society and embedding within it dominant ideas and ways of thinking and being, suggesting that curriculum can be viewed as a political text, and thus can be analysed for its embedded discourses.

These English and European understandings of curriculum contrast with views from across the Atlantic Ocean in the United States where curriculum was understood as the content of instruction (Cedefop, 2010) until the influence of Dewey. Dewey's ideas about democracy coupled with the understanding that learning is social, interactive and must engage with experience had an impact on authors such as Mackenzie (1964) and Goodland (1964). The latter describe curriculum as inclusive of some focus on the learner, as opposed to solely content. Mackenzie's definition of curriculum combines concepts of planning and learner engagement guided by the institution (the school):

> *The learners' engagement with various aspects of the environment which have been planned under the direction of the school. The assumption here is that engagement can be observed and to some extent controlled (Mackenzie, 1964, p. 402)*

Goodland's definition is similar but without reference to the institution of school: "A curriculum consists of the lessons and tasks learned and performed by the students" (Goodland, 1964, p.53).

In more recent years we see evidence of curriculum including all of the aspects mentioned above, such as in Jonnaert et al's (2007) definition:

> *Curriculum is prior to its programmes, and it serves, among other things, to specify the orientations that the latter must adopt in defining their teaching/learning content. In general, a curriculum performs three main functions: (1) to adapt the education system to the current educational needs of society; (2) to guide the actions that must be undertaken in its implementation and (3) to develop an operational action plan at both the educational and administrative levels of the education system (Jonnaert et al., 2007, p. 189)*

In this definition curriculum provides the "big picture" of setting out what is to be taught, the philosophical perspectives to be taken ("the orientations") to meet the needs of society, how "what" is to be taught is implemented and is also inclusive of administrative and educational governance issues. Jonnaert et al (2007) suggest that the curriculum is broader than a programme of study; they comment that programmes of study "provide information that is useful for developing teaching, learning and evaluation activities that are consistent with the prescribed curriculum" (p. 189).

However, as Fraser and Bosanquet (2006) identified, practitioners[1] do not necessarily separate the curriculum as an overarching document from the day-to-day activity of teaching their learners. They classified lecturers' understanding of curriculum into four different categories:

1. the structure and content of a unit (subject);
2. the structure and content of a programme of study;
3. the students' experience of learning; and
4. a dynamic and interactive process of teaching and learning.

Lecturers made no relationship between these different categories. Those who described curriculum as structure and content of a unit or programme focus on what the lecturer teaches; that is on curriculum as a product. Categories 3 and 4 focus on curriculum as a process that enables student learning (the idea of curriculum as a product or process is discussed in the following section *Models for designing curriculum*). These different understandings of curriculum reflect different understanding of learning, roles of teacher and student and purpose of content. Interestingly, Bruner (1960) in his seminal work, *The Process of Education,* combines the concepts of enabling learning and of content in his idea of a spiral curriculum, based on the concept that you start from where the learner is, thus making knowledge accessible to the learner for problem solving. He believed it is important to provide the structure of a subject in order to give the learner "a sense of fundamental ideas of a discipline" (p. 3).

Readers will no doubt identify with the Fraser and Bosanquet (2006) findings; there is a very mixed set of understanding about curriculum: what it is, its purpose and what it includes. Slattery takes us back to the Latin origins of the term curriculum, currere.

> *Currere is derived from the Latin infinitive verb that means "to run the racecourse". Curriculum is a verb, an activity, or "an inward journey" (Slattery 1995, p. 56, in Schwab 2006, p. 450)*

This explanation of curriculum offers food for thought; it stresses curriculum as a process, not as a set of documents or product. In this sense, it is perhaps closer to Bruner's (1960) concept of curriculum as a process of meaning making working from where the learner is, and Doll's (2004) emphasis on what we do in curriculum through dialogue, interpretations, pattern playing, hypotheses generation, and narration as key vehicles for meaning making. In these conceptualisations of curriculum, the *learning* journey is paramount in bringing us to an understanding of curriculum as that which is played out in the learning environment and in the interactions between learners and teacher. This is what is referred to as the enacted curriculum. Alexander (2008) suggests that curriculum is “probably best viewed as a series of translations, transpositions and transformations from its initial status as published statutory requirements or non-statutory guidance” (p. 14). This definition or explanation of curriculum tells us that curriculum is dynamic, that what the original designers and developers produced as a product required to be followed or to act as guidance is not what is enacted in the classroom. Even where curriculum is mandated and required to be followed, “teaching is always an act of transformation” (p. 14). However, the degree of transformation varies. External assessment, for example, in practice often means teachers teach to the assessment, minimising transformation of the stipulated curriculum.

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[1] In their study, practitioners (n=25) were Australian university lecturers from one university.

A conceptualisation that brings together multiple aspects of the definitions discussed so far is to be found in Dillon’s (2009) series of questions about curriculum (as opposed to a definition). He explains curriculum from the perspective of the user, listing what are the things that make up curriculum, and working with the following questions: Who should be the teacher? Who should be taught (characteristics of learners)? What subject matter (its nature, content, materials, the milieu)? Where should it be taught (classroom, workplace, community etc.) and when (the educational purposes)? Why and to what end is the teacher teaching this to this group of learners? How will the activities be undertaken, that is, how should a student act? How would a teacher act and how should teacher and students interact? And, finally, what is the result; who learns what?

So on the one hand we have instrumental, pragmatic perspectives of what curriculum is operating alongside deeper conceptualisation of curriculum that note its purpose (implicit or explicit) as a tool for reproducing dominant ideas, ways of thinking and being, an emphasis on the learners, questions about roles of teachers and learners and the ways in which learning and content is scaffolded. In competency-based training, the instrumentalist perspective, as Billett (2003) points out, is dominant. He notes that curriculum frameworks for vocational education in western countries are premised on behavioural accounts of the goals and process of learning which guide the assessment of measurable outcomes. Outcomes such as these offer a sense of security, safety and protection for those who manage vocational education, industry and government (p. 7). Competency-based training has always emphasised consistency as being important, in some settings this can also mean that everyone receives the same learning experience to reach the outcomes, no matter how different the settings and groups of learners. Cornford notes the issue of consistency when he describes curriculum as:

> *... the means whereby consistency in learning and teaching are obtained by established formal documents, after appropriate research and consultation, of the purpose of learning content, the nature of learning,*

> *the learning processes, and assessment and evaluation of learners and learning (Cornford, 1999, p. 95).*

This statement seems to indicate that following the processes he describes the curriculum then becomes a fixed document, indicating that learner needs remain the same from one group to another, from one context to another. Cornford (1999) describes what a curriculum document should contain: objectives, content, sequence of topics and intended depth of coverage. He adds that this document is a guide to how and when assessment is conducted and that teachers would be able to use the document to teach with minimal discussion with other staff. This confirms the message of consistency and suggests a uniform approach. Curriculum development becomes not so much about evolution of documentation and learner development but a lonely enactment of stipulated curriculum documentation of teaching to a group of learners. The idea of curriculum as a tangible object, as understood by Cornford and some of the participants in the Fraser and Bosanquet (2006) study, takes away a dynamic focus on the learner and learning on the journey. As Slattery mentioned in the definition of currere above, and as noted below:

> *The modern curriculum development rationale has truncated the etymological meaning and reduced curriculum to a noun, the racecourse itself. Thus generations of educators have been schooled to believe that the curriculum is a tangible object, the lesson plans we implement, or the course guides we follow, rather than the process of running the racecourse (Slattery 1995, p. 56 in Schwab 2006, p. 450)*

Despite these valiant attempts to understand curriculum more broadly than a normative document, competency-based training in the vocational education/ continuing education sector retains an understanding of curriculum in this sense, as evidenced in the definition of curriculum in a very recent research paper on learning outcomes approaches in VET:

> *A curriculum is a normative document (or a collection of documents) setting the framework for planning learning experiences. Depending on the country, the type of education and training, and the institution, curricula may define, among other, learning outcomes, objectives, contents, place and duration of learning, teaching and assessment methods to a greater or lesser extent. (Cedefop, 2010, p. 20)*

Nevertheless, it is important to remember the range of contributions to our understanding of curricula and what should be said when we are attempting to analyse curriculum documentation and evidence of the lived curriculum. These contributions include:

- The reproduction of dominant ideas to meet societal needs (Goodson, 1997; Hamilton & Weiner, 2003; Hökkä et al. 2010);
- (Normative) documents that set out content, learning process, assessment and evaluation (Cornford, 1999), place, duration and learning outcomes (Cedefop, 2010);
- The provision for evaluation (Jonnaert et al., 2007; Cornford, 1999);
- Scaffolding and building of knowledge (Bruner, 1960);
- Making meaning (Bruner, 1960) through dialogue, interpretations, pattern playing, hypotheses generation and narration (Doll, 2004); and
- A journey (Slattery, 1995) of learning.

As Posner (1995) points out, selection and adaptation of curriculum requires an analysis of its underlying assumptions as well as its suitability for the particular group(s) of learners and the cultural and geographic region. Assumptions consist of tacit beliefs about the purpose of education, about the intended audience, the way people learn, about teachers and the best ways to teach, about the subject matter and how it should be organised, and about the community and what it values (Posner, 1995, p. 21).

Purpose of curriculum

As intimated above, definitions are not politically or philosophically neutral and within any one definition is an intended (implicit or explicit) purpose. We can consider purpose of curriculum from within different dimensions. The first dimension is the underpinning philosophical, social, political and economic assumptions and intent of particular curricula, as in Hamilton & Weiner's (2003) reference to curricula promoting "different conceptions of social order" (p. 624). We can call this dimension the underpinning purpose. The second dimension is the views of knowledge and teaching and learning that are implicit within particular designs that are reflective of the underpinning purpose. We can call this second dimension, the pedagogical intent. The following short section examines what we mean by each of these dimensions.

The underpinning purpose

If we use competency-based training (CBT) as an example, the underpinning purpose of curriculum for CBT relates to skills development for work in order for workers to operate efficiently. "Vocational education (much of it is competency-based training) is seen as the instrument to create a more effective workforce to increase national prosperity" and producing a workforce capable of meeting international competition (Cornford, 1999, p. 93). This has been the intent of competency-based training systems and their curriculum since its inception. However, over the last few decades the literature has increasingly referred to the knowledge economy, and lifelong learning, based on demands of the knowledge society discourse (Looney & Klenowski, 2008)

> *(W)hat is now paramount for students is the need to become better learners and generators of knowledge ... The emergence of the knowledge worker as the powerhouse of successful economies has generated new demands on education systems and on schooling, in particular, as education becomes what Castells called "the key quality of labour" (1998, p. 345) in the knowledge society. Successful knowledge workers are not characterised by being knowledgeable as traditionally understood, but by their ability to learn and relearn and by their engagement with what Florida calls the new "creative ethos" (2002, p. 21) (Looney & Klenowski, 2008).*

As these authors explain, the discourses around the knowledge worker have resulted in the emergence and increasing influence of the learning curriculum in schools. Doll (1993) posits that a framework for curriculum that transmits and transfers knowledge as that which is received may have met the needs of earlier 20th century society, but today's society demands curricular frameworks that support knowledge creation and transformation rather than the transmission of information (p. 31) that assumes linearity, scientific positivism and technical rationality. He argues that knowledge creation and transformation require change that can only occur by challenging the status quo and questioning accepted knowledge and practices. This is a disconcerting and destabilising process. A deep questioning of assumptions and of the status quo is rare within CBT environs, which is not surprising as Billett (2003) indicates that CBT is premised on behavioural accounts of the goals and process of learning that guide the assessment of measurable outcomes, thence making a fit between CBT and a learning curriculum problematic, but not impossible.

Possibilities for a fit between a typical CBT curriculum and a learning curriculum are noted in the Cedefop (2010) document on Learning Outcomes. Cedefop (2010) note that within Europe, there is a "need for lifelong learning to support individuals throughout their lives" (p. 42), for example, work-based learning and developing their own pathways, validation and recognition of various types of learning. The concept of lifelong learning as a discourse around meeting the needs of creating knowledge workers and the enactment in policy about where and how learning is recognised can be looked for in curriculum documentation. For example, in Australia, the Training Packages (a form of curriculum documentation) emphasise desired competences and outcomes without prescribing the learning processes. Cedefop (2010, p. 43) suggest this approach bridges "the divide between the knowledge, skills and competence acquired in education and those required in the labour market". The tension between a purpose in curriculum for lifelong learning and competence to meet labour market demands can be managed if there is intent for knowledge creation and transformation. Where the focus in curricula is entirely on knowledge, skills and attitude that require competence for tasks, lifelong learning and metacognition are negated. Thus CBT curricula that break down tasks minutely are likely to make the inclusion of metacognition and lifelong learning almost impossible.

Pedagogical intent

There are different perspectives on competence. Although, as noted by Billett (2003), CBT is rooted in a behaviourist approach; the concept of competency and thus how it is taught is fluid. Glaser (1991) for example, suggests competence is fostered through teaching to stimulate specific kinds of cognitive activity, not through teaching to deliver knowledge. Thus, he argues, "active engagement in the pursuit of knowledge and skill underlies forms of competence that both endure and enable further learning" (p. 131). He adds that what is important is the opportunities students have for working and playing with ideas and procedures and the effectiveness of the tools used to facilitate this process. Such approaches to learning lead to learning that enables and endures. More recently we would refer to the idea of learning that enables and endures as sustainable learning and/or as learning to learn, an important aspect of metacognition. Cognitive perspectives such as Glaser (1991) are founded on earlier work such as the writing of Bruner who points out that what is important is the process of knowing, of learning to learn:

> *A curriculum reflects not only the nature of knowledge itself but also the nature of the knower and of the knowledge-getting process ... We teach a subject not to produce little living libraries ... but rather to get a student to think mathematically ... to consider matters as an historian does, to take part in the process of knowledge-getting. Knowing is a process, not a product (Bruner, 1968, p. 72).*

Curriculum that has as its purpose the process of knowing rather than product (as in observable behaviours) offers very different opportunities for learning. Such curriculum is much more likely to provide opportunities for "active engagement in the pursuit of knowledge and skill (that) underlies forms of competence" (Glaser, 1991, p. 131) and thus sustain complex learning (Knight, 2001, p. 370).

In a broad sense the pedagogical intent of curriculum is reflective of its underpinning assumptions. Different underpinning assumptions of any curricula contain intended and unintended messages to teachers and learners; for example, instructional, non-flexible curriculum assumes learners learn through acquisition or a transformative curriculum assumes learning through engagement, dialogue and questioning (Doll, 1993). Thus, what is learnt and how it is learnt are interconnected; the transformative curriculum develops metacognitive skills, how to know; an instructional curriculum produces workers with skills, often separating theory from practice and rarely develops metacognitive, "knowing" skills. In these ways curriculum documentation conveys and reproduces a dominant discourse. What is selected to be taught, how and where it is taught, why it is taught and how and when it is assessed embody sets of values, ideas about how to make sense of the world and ethical and moral frameworks. As a result, curriculum privileges some groups and not others.

Schwartz (2006) offers a different angle from which to consider the purpose of curriculum; he differentiates between curriculum users and curriculum receivers. He posits that curriculum writers write curriculum with the learner in mind, only to find that the curriculum users, the teachers, choose different materials and activities. Schwartz (2006) notes that as a curriculum writer, to think that what is written will be implemented unchanged, and as written, is naive, as writers are often removed from the complexity of the learning environment and the learners in that environment on that particular day at that particular time. They may also be removed from the realities of the teacher and their capacity and discretionary power in terms of access to materials and resources.

> *What happens in the learning experience is an outcome of the original, creative, thinking on-your-feet efforts of the teacher which often lead the class in directions far, far away from the anticipated goals of the curriculum writers. (Schwartz, 2006, p. 450)*

The degree to which curriculum documents are really practical for teachers is highly questionable. As Schwartz points out decisions are made in the classroom about timing, about the needs of particular students, the physical environment and other aspects of the environment in which the teacher works. As a result curriculum writers disparage the seeming inability of teachers to stick to the curriculum and teachers are frustrated by the constraints the curriculum places on them (Bound, 2010; Stack & Bound, 2012) and/or the lack of practicality of the curriculum developer. For these reasons and more, Schwartz (2006) suggests it is important to produce curriculum that "engages, challenges and excites the teacher" (p. 452), as they are the users of the curriculum. The degree of regulation and auditing processes impact on the extent to which teachers/trainers adapt the curriculum as they plan and think on their feet and of course on the skill of teachers/trainers. Curriculum also has the potential to both "emancipate and educate teachers" (Eisner, 1990, p. 68).

Models for designing curriculum

There are many different curriculum models; a few are listed here as examples:

- Bruner's spiral curriculum, where one begins with what is intuitive to the learner and circles back later to a more formal structured account. The assumption is that knowledge can be constructed at different levels of abstractness or complexity (Bruner, 2004).
- Adaptive curriculum, which refers to real-time adjustments and changes to the curriculum to meet learners' needs. The emphasis is on meeting learner needs which trainers need to ascertain on an ongoing basis (Stoof et al, 2004)
- Emergent curriculum, or where an experienced facilitator works with the learners' interests, asks questions to further understanding, provides resources for further questioning and reflection, and takes part in the activities with their learners (Jones, 1994)
- Affective curriculum, which recognises emotions and personal histories and experiences in learning. It therefore taps on and uses learners' stories as a key motivator (Palmer, 1990).

Other models of curricular include those listed in Figure 3, the syllabus, product, process curriculum, curriculum as praxis and the transformative curriculum. While one can identify aspects of, for example, a product curriculum in other models such as those listed in the bullet points above, it is not appropriate to force different perspectives of curriculum into one set of models. For example, Bruner's spiral curriculum is about the continual development of knowledge and about the processes of learning. Unlike the product curriculum, the spiral curriculum understands knowledge as complex, dynamic and much more than is evident in behavioural objectives.

Figure 3. Characteristics of some major curriculum models

Model	**Authors**	**Characteristics**	**Assumptions**	**Teacher & student role**
Syllabus	Taylor (1979)	A body of knowledge to be transmitted Content focused Textbook approach	Curriculum is a body of knowledge or particular content	Teacher as expert Learner is passive
Product	Tyler (1949)	Sets behavioural objectives Rational, technical Content focus Teacher focus Outcomes/ objectives are set Structure of domain knowledge may be separate from teaching/ learning process and end product Separate from context Rigid power relations Systematic and has organising power	Behaviour can be measured and observed Knowledge is static Assumes direct path between the ends and how the ends will be achieved Programme of activities is primary	Learners have little voice Turns trainers into technicians

Process	Stenhouse (1975)	Learning process is the focus Learner focus Knowledge is dynamic	The same outcomes will be achieved differently in different settings and with different learners	Trainers encourage conversations and continually evaluate the process and what they see of the outcomes Learners are meaning-makers
Trans-formative	Doll (1993) Parker (2003)	Focus on change and questioning of assumptions Knowledge is generated through dialogue, interpretations, pattern playing, hypotheses generation, and narration as key vehicles for meaning making	Knowledge is dynamic and co-constructed Transformation and questioning are necessary for knowledge construction	Teachers and learners construct meaning and knowledge together
Praxis	Grundy (1987) Freire (1972)	Dialogue, and negotiation based on the experiences of the learner Confronts real problems Critical thinking Leads to a plan for action	Emancipation, empowerment and collective action	Educators and participants critically reflect, name and plan

What do these different models in Figure 3 offer us as curriculum writers? Different models make assumptions about knowledge, about the role of teacher and learners, about how we learn, or even if it is necessary to consider how we learn; different models have different purposes in mind. For example, a praxis model and a product model are antithetical to each other. However, it is possible to take some of the assumptions about learning evident in say a transformative model and apply it within what might be a product model of curriculum guided by behavioural objectives. There are many ways of achieving these behavioural objectives; it is not necessary to use an approach where one-size-fits-all. So, rather than different models of curriculum being paramount in the design process, we argue that the purposes of the curriculum, the graduate profile, the available resources, and, importantly, perspectives on learning and knowledge and therefore on teaching, have more influence in the design process and indeed are paramount in the design process.

Curriculum and competence

Jonnaert et al. (2007) understand competence as being highly situated; that is, “What actions does a competent person undertake in these situations?” And, “What resources does a person need in order to act competently in these situations (p. 190)?” These authors argue that competence is not developed outside of a situation and applied in a different situation; rather competence is developed *within* situations and therefore the situation becomes the starting point for curriculum design. They further suggest that the difference between “intended or official curriculum and the implemented curriculum” (p. 192) can result in a differentiation between what they call “virtual competence” and “actual competence”. Virtual competence is “only a hypothesis” (p. 192) about how a person might handle a situation, given the resources they have access to in the classroom. Actual competence is described as arising from a combination of factors that evolve within a particular setting, requiring an assessor to examine the whole situation the person used in order to deal with the situation. If curriculum writers understand competence in these ways, that also assumes certain understanding of learning, in particular, learning in practice. Learning in and through practice (Lave, 1996) assumes cognition does not take place only in the minds of individuals, but that cognition is distributed through the whole person (mind and body), through others, through the resources and tools they access (or cannot access), the ways in which work is organised and accepted ways of being. Therefore, we can talk about situated competence, distributed competence, collective competence and enacted competence (Jonnaert et al., 2007).

This explanation of competence contrasts with the Singapore definition of competence found in the required qualification for trainers: “a measurable set of knowledge, skills and attitudes that a person needs to perform a task effectively" (ACTA Module C1, 2009, p. 52). The document goes on to elaborate that "a competency is not an entire job. There are usually several competencies required for a job", and that "as competency is task-based, the person may need to transfer the competency to new situations and environment" (ACTA Module C1, 2009, p. 52). Different understanding of competence will strongly influence overall design considerations in the writing of curriculum. The definition of competency, as explicated by Jonnaert et al. (2007) and also in the ACTA Module C1, are both subject to a common criticism of CBT as expressed by Wheelahan:

> *CBT translates knowledge from being general and principled knowledge to particularised knowledge, because its selection and usefulness is determined by the extent to which it is relevant in a particular context. Students thus have knowledge in its particularised form, but are not provided with the means to relate it to its general and principled structure and system of meaning. (Wheelahan, 2009, p. 231–232)*

Therefore, argues Wheelahan (2009), learners do not have the capacity to identify similarities and differences between contexts or the essence of contexts because the theoretical constructs are invisible for learners in CBT. Billett (2001) also observes that many workers learning on-the-job lacked depth of understanding for their work activities. However, as he points out, this lack of depth does not necessarily have to be a factor of learning in the workplace; what was required was access to expert others who could explain why and provide theoretical knowledge within the workplace setting. The lack of depth of knowledge can be found in multiple formal learning settings. The atomisation of knowledge encourages curriculum writers and trainers alike to consider parts, not wholes and relationships. However, lack of depth of knowledge does not have to be an issue in CBT. If the curriculum writer and/or trainer work from multiple perspectives and design "opportunities to revisit the same material, at different times in rearranged contexts, for different purposes, and from different conceptual perspectives" (Spiro et. al., 1991), this provides opportunities for complex knowledge construction. Opportunities to do this are much greater in courses where learners are engaged in structured learning over a period of time as opposed to one- to three-day-length units.

Considerations in writing curriculum

When writing curricula, writers will focus on any or all of the needs of stakeholder groups other than learners (this may include the institution, employer group, government agency and so on), the overall intent content, learning outcomes or objectives and/or standards, the learners, the resources available, the expected level of outcomes, expectations, and so on. By overall intent, we refer to the overall purpose and pedagogical intent (see above section). What writers primarily focus on or what multiple foci they have will depend on what they consider curriculum is how they understand knowledge and if learners are a consideration in planning, what they understand learning to be and how and where it takes place. As Cedefop (2010) note, the final adopted curriculum is a product of negotiation between stakeholders in education and the labour market, pedagogy and theory. However, Knight (2001) notes that people "do not plan rationally" (p. 374), raising the point that designing and writing a curriculum encompasses the concept of a planned curricula. The practical reality is that design, planning and writing are integrated processes. However, it is worth noting Knight's point that teachers will begin planning by thinking not about learning outcomes first, but about how to organise the content in light of time available, and call upon past lessons that have worked well. Only after this process, claims Knight (2001), do teachers consider learning outcomes they can claim their plan supports: "Planning starts by imagining how to draw together the processes, encounters or engagements that make for good learning" (p. 375).

Writing of curriculum is not a linear process, but an iterative one, moving between knowledge of learners and stakeholder needs, the writing of learning outcomes or objectives, the available resources and skill sets, thinking about possible learning activities and assessment activities and ways of integrating these. It is a messy process and probably best done in teams. However the reality is that many of us design curriculum alone; we therefore need to "know" our content and have experience (know*ing*) within our domain knowledge, pedagogical knowledge (knowledge of teaching and learning) and pedagogical content knowledge (Shulman, 1987) (that is, how to teach the structure of the domain knowledge and ways of being and becoming). As curriculum writers, we combine theory and practice to praxis on multiple levels.

Knowledge, values, learning are located in the transactions between people, tools and contexts (see, for example, Willis, 1988). If we take this socio-cultural perspective, then when writing curriculum, the writer is likely to take note of the messages conveyed by locating formalised learning in particular environments and the tools and ways of thinking that predominate in that environment: "students need access to the disciplinary system of meaning as a condition for using knowledge in contextually specific applications" (p. 230). Knowledge is socially produced and mediated. Bernstein (2000) argued that everyday knowledge and theoretical knowledge are different because each is embedded in a different system of meaning and each has a different structure. Theoretical knowledge is classified knowledge with its own language and has a system of meaning (Wheelahan, 2009). Thus we are reminded of the quote from Bruner (1968) where he states that curriculum design is about the "knowledge-getting process" and the nature of the knower; you cannot separate the individual from the knowing. So, how the curriculum writer considers knowledge and knowing impacts on where learning will be situated and the type of level of engagement of learners, meaning the role in which curriculum writers place learners and trainers. For example, Glaser (1991) observes that when learners see how knowledge is used in competent performance in authentic learning environments they are encouraged to understand the problems and opportunities encountered in such environments. The degree of "authenticity" (this is itself a contested term) of the learning environment impacts on what content knowledge and what type of knowledge is learnt/taught. Wheelahan (2009) argues that it is important for learners to have access to theoretical knowledge as it gives them access to ways of being in the world.

If knowing is considered important, then it follows that metacognitive processes are important.

> *Metacognition refers to higher order thinking which involves active control over the cognitive processes engaged in learning. Activities such as planning how to approach a given learning task, monitoring comprehension, and evaluating progress toward the completion of a task are metacognitive in nature. Because metacognition plays a critical role in successful learning, it is important to study metacognitive activity and development to determine how students can be taught to better apply their cognitive resources through metacognitive control (Livingstone, 1997).*

Interestingly, metacognition is rarely explicit in CBT curriculum, although as Glaser (1991, p. 134) states, self-regulation is critical to efficient learning and problem solving because it enhances knowledge by overseeing its applicability and monitoring its use. Self-regulation enables individuals to reflect upon and control their own activities; for example, knowing when to apply some procedure or rules, planning ahead, apportioning time and resources, and predicting competency performance. In a CBT context, this relates most directly to task management and contingency management skills. When CBT curriculum writers are consciously aware of metacognition and lifelong learning as conceptual tools, then they can be designed into curriculum documentation.

Another aspect of designing in opportunities for knowledge construction and knowing is "scaffolding". Scaffolding involves not just the ways in which knowledge and opportunities for knowing are structured, but the ways in which context also interacts with activities. Palincsar (1998) notes "that knowledge is a fruit of the constructive process of bringing personal meaning to experience" (p. 370). In other words, scaffolding is not about instilling knowledge but rather is a process of negotiated meaning undertaken in what Vygotsky (1978) called the "zone of proximal development". Palincsar (1998) also reminds us that undertaking an activity requires that learners know the purpose of what they are doing, thus understanding learners' definition of the task provides opportunities for decisions about appropriate scaffolding and/or approaches. Curriculum designers will choose whether or not to give consideration to the design of the provision of time and space for negotiation within the zone of proximal development, depending on their understanding of curriculum and of learning and teaching.

The design of activities for how learners will learn is another consideration in curriculum design. Designing such activities involves consideration of basics such as working from where learners "are at" or as Glaser (1991) puts it, trainers should support knowledge construction and develop learners' abilities to build from what learners know. Designing these activities also draws on the designer's theoretical perspectives and understanding of teaching and learning, their pedagogical knowledge and their pedagogical content knowledge. The range and type of cooperative learning for example is not just a matter of designing a range of group activities, but of designing forms of cooperative learning that focus on the quality of interactions, as opposed to the quantity of interactions so that they are motivating and effective: "Students learn more by giving elaborated help to others and less from receiving low-level elaboration by others" (Terwel, 1999, p. 197). The design of learning activities (or teaching activities) is reflective not only of the designer's pedagogical beliefs and values, but of their understanding of curriculum, and of their stakeholders, including their learners'.

The designing and writing of curriculum is a complex undertaking, requiring multiple perspectives, rather than any one single theory or perspective (Terwel, 1999). The considerations identified in this section can be summarised as:

- The components of curriculum including the training needs analysis establishing stakeholder needs, issues and resources, the skills and resources trainers and learners have access to, their knowledge of the learners, the intent, the activities, the content, the assessment and the learning outcomes;
- The writer's understanding of what curriculum is and what its purpose is;
- The writer's pedagogical content knowledge and their perspective on knowledge and knowing; and
- The writer's teaching and learning praxis and what they value.

Effective curricula, what is it?

What is considered effective will depend on the evaluator's understanding of what curriculum is, on their teaching and learning perspectives and their understanding of the intent of the curriculum. The following possibilities for developing criteria for evaluating curricula from the literature are reflective of the constructivist socio-cultural stance outlined earlier and an understanding of curriculum that is inclusive of the enacted curriculum:

- Coherence;
- Development of expertise and focus on practice and cognitive challenge;
- Flexibility;
- Focus on what learners "do" and conceptualisation of learners as thinkers and meaning makers; and
- That which excites and challenges teachers.

The issue of coherence between the different components of curriculum is an important one. It does accept that planning is inherent in curriculum design, and that there will be learning outcomes. Biggs (2002) notes that curriculum, teaching and assessment tasks should be aligned to support higher-order learning processes. Although he specifies curriculum teaching and assessment as separate, in essence his "constructive alignment (CA)" integrates these aspects, reflective of both a product and process model of curriculum design. His approach focuses on cognitive rather than embodied aspects of learning. Nevertheless, coherence between curriculum components of content, organisation, teaching and learning methods and assessment (Knight, 2001) provide clear guidance for users of curriculum and consistency in messages received by teachers and learners. The issue of coherence applies to any learning environment, including workplace learning and movement between classroom and workplace environments. In-class activities should be consistent with an out-of-class learning environment so there is a coherence of key messages that "pervade learning encounters, about what matters and the rule of the game" (Knight, 2001). Walsh (2007) suggests that Bigg's concept of constructive alignment offers a way to manage the integration of declarative theoretical knowledge and tacit knowledge of the workplace. Any curriculum that intends to sustain complex learning needs to be aligned in all its components to ensure consistency of messages and that what is assessed is what is intended to be assessed.

Expertise takes time to develop; it requires time for practice. In fact, a necessary condition for developing expertise is that "learners deploy their achievements in different settings for different purposes" (Knight, 2001, p. 371). It follows then that there needs to be time and opportunities built into design, or noted in overarching curriculum documentation that learners require opportunities for practice in different settings with different kinds of authentic problems. Such an approach assumes that development towards expertise is deliberately built into programmes; therefore there is a sense of progression appropriate for the learners. Linked with the notion of coherence is the need for messages to be consistent across the programme over time, and that modules/units link and build into and onto each other.

There is a need for an appropriate balance between a focus on practice (inclusive of embodied learning) and the development of cognitive capacities to make judgements indicative of that practice. Billett (2003) asks: "Does curriculum ensure adaptability through multiple experiences of different instances of the practice in order to understand the diversity of the vocational practice?" Linked to these concerns is the need for the building in of cognitive challenge and complexity with each round (Schwartz, 2006), indicative of Bruner's spiral curriculum. We are reminded by Billett (2001, 2003) that curriculum should focus on vocational practice, which is not just about separate, atomised tasks and pieces of knowledge and skills but about wholes and relationships. As such, when evaluating curriculum, we are analysing the writer's and stakeholders' perspectives of knowledge and of vocational practice.

Flexibility as a characteristic of curriculum documentation can seem to be contradictory in a CBT context where performance criteria are often atomised. However there are as many ways to achieve the desired outcomes as there are learners and teachers. For example, where curriculum includes scaffolding, trainers need to have the authority to remove that scaffolding and use whatever remains to fit according to judgements made on the spot about learners, resources, outcomes and assessment approaches (Knight, 2001).

The question of what learners "do" relates back to the pedagogical intent within the curriculum. Biggs (2002) notes that choosing teaching and learning activities and the appropriate noun or verb that captures the essence of the activity indicates a role for teachers and learners as well as a specific form of learning. For example, "lectures and set texts" denotes reception of selected content that is teacher controlled and learners are passive; "learning partners", however, suggests peer control and developing skills in resolving differences through application. Thinking from the perspective of what learners "do" also prompts questions such as: "Do activities open up perceptual experiences, sensitise people to others, develop community relationships, facilitate development of patterned meaning structures, organise knowledge, develop inner strength and power?" (Willis, 1988). If curriculum intends to do some or all of these things because they are inherent in vocational practices, then this intent needs to be clear and the messages consistent across a programme.

Perhaps most importantly, curriculum should focus on its users, the teachers, trainers or facilitators and, for centrally planned curriculum, its receivers – the learners. Therefore, as Schwartz (2006) suggests, curriculum should engage, excite and challenge the teacher. The extent to which curriculum focuses on learners is evident in answers to the following questions: Are learners seen as imitative learners? Do they learn from didactic exposure? Or, are they considered to be thinkers, knowledgeable and meaning makers (Alexander, 2008, p. 17)?

Conclusion

The question “What is curriculum?” has many answers, but in this review we identified the following considerations as important for informing any response:

- curriculum’s capacity to reproduce, often without challenge, cultural and political assumptions counter to the interests of learning practice innovation and reform;
- the subsequent danger of curriculum designed and enacted as a normative product, rather than an ongoing process, that provides for formulaic evaluation rather than critical and cyclical interrogation;
- the inclusion within curriculum design of scaffolded learning activities that privilege the development of metacognitive skills and underpinning theoretical knowledge;
- the importance to foreground and value the contribution of facilitators and their learners as the nucleus of any curriculum design exercise; and finally,
- the assumption at all times of curriculum as a process or journey (“currere”) rather than a pre-packaged, fixed and immutable product.

These considerations will assist in defining curriculum and the factors mediating its design intent. The key point we make is that the purpose of curriculum is not neutral. For example, industry-based, competency-based training curriculum is underpinned by value-based assumptions premised on a raft of human capital theories that training is clearly linked causally to the national goal of creating a more effective workforce to increase national prosperity. While a curriculum designer’s understandings and what is valued in the teaching and learning process will be expressed in specific curriculum documentation, as will stakeholder views and available resources and skills, they will be done so within this wider assumptive discourse. A CBT-based curriculum may then be tempted to atomise knowledge and skills to fit what appears to be a causally simple national upskilling imperative. Such a process could ignore vital lifelong learning metacognitive skilling in the name of short-term reform.

The argument presented above suggests the further useful question of “Who is curriculum for?” In reality, of course, the curriculum writer serves many masters:

those who requested the curriculum, the institution that employs them, the trainers who use the curriculum, the learners who experience the curriculum; and, of course, the writers themselves who answer to their own principles, beliefs and values. It is not unusual for there to be tension between the needs, beliefs and demands of these stakeholders, hence the claims that the curriculum is in a constant process of negotiation. The writing of curriculum is therefore an iterative process, with the various models of curriculum initially offering little assistance. Rather, what is important is clarity in relation to the purpose of the curriculum and how this is informed through the pragmatics of the stakeholders requesting the curriculum, the given learner profile information, the available resources, and the writers' own understandings of their perspectives on knowledge, learning and teaching. Thus mediated, curricula are written.

A final question: "What is meant by 'quality curriculum?'" has been left open and will be examined through the heavily situated data presented in Chapter Four. However, the ideas presented in this chapter will both inform the analysis and contextually underpin the final chapter's concluding discussion and subsequent recommendations for review of the DACE programme.

In conclusion, the concept of curriculum has changed and will continue to change and evolve over time. We need to bring to the construct clarity about what different models or approaches, assumptions and pedagogical practices will mean to those who write (designers), use (facilitators) experience (learners) and manage its journey.

Methodology

Introduction

The chapter begins with an outline of the methods used to gather and analyse the project data. This is followed by a more detailed exploration of each of the components, including the selected samples, the interview approach, the supplementary use of documentary analysis, participant observation and reflection, and data analysis and presentation. The chapter concludes with a statement of research limitations.

Method

Stage 1 of the DACE project makes use of qualitative data drawn from two sets of semi-structured interviews conducted in late 2010 and early 2011. The interviews were used to gather and analyse information on the project's first guiding question: **"What does 'quality' curriculum mean to different people?"**

Additional supplementary materials are drawn from analysis of curriculum documentation associated with the Diploma in Adult and Continuing Education (DACE) programme and participant observation notes and reflections from one of the authors who taught two of the DACE curriculum related modules in a period immediately following the conduct of the interviews.

The interviews are drawn from a combination of purposive and convenience sampling. The first set consists of a range of international scholars and Singaporean curriculum experts. The non-Singaporean scholars were interviewed during time spent in-country attending adult education events. National experts were purposively selected and interviewed because of their known expertise and experience in the field. The second set of interviews is made up of stakeholders and practitioners experienced in the development, implementation and facilitation of curriculum and modules within the Advanced Certificate in Training and Assessment (ACTA) and DACE programmes.

Once the data were gathered, they were analysed using a categorical analysis approach of first coding or identifying themes within the interviews and later collapsing them into higher order categories. These identified first and higher order or "superordinate" categories form the basis of an analytical narrative that explores ideas suggested by the research question.

Supplementary documentary materials were interrogated using a content analysis approach that seeks to identify both latent and manifest discourses embedded within the selected texts. These reflections are used to enhance the analytical narrative developed from the transcripts.

Similarly, reflective insights are interpolated within the narrative drawn from one of the report authors' experiences facilitating two DACE modules: *E1 Design and develop curriculum for adult learning programmes* and *C5 Apply instructional design to develop courseware*. It is hoped that these reflections add a deeper practice-based understanding of both programme content and its facilitation and sharing with DACE learners.

Sample

The samples selected for data analysis include two separate categories of interview respondents, and selected curriculum documentation and participant observation data.

Interviews

The Stage 1 interviewees were selected using a combination of purposive and convenience sampling (Lankshear & Knobel, 2004, pp. 148–149). The first set of respondents consists of international scholars and Singaporean curriculum experts explicitly identified for their deep knowledge of and practice within the adult and vocational education field. It was anticipated that purposive sampling of this kind would provide an efficient and effective way of gathering high quality data on curriculum (O'Leary, 2010, pp. 168–169). For analysis of the subsequently gathered data, pseudonyms are used as follows:

Figure 4. Pseudonyms for the International Scholars Group

No	Name	Role
1	Stanley	Professor of vocational education at an Australian university
2	Nancy	Associate professor of vocational education at an Australian university
3	Evan	Professor of postgraduate studies at a United States university
4	Kate	Senior researcher from a New Zealand government research organisation

5	Quentin	Professor of education at a British university
6	Vincent	Educator and curriculum designer at a Singaporean CET provider
7	Barry	Senior manager from a Singaporean CET provider

The second set of interviews was gathered from a range of Singaporean DACE stakeholder curriculum designers, learning facilitators and quality assurance managers. Some respondents were chosen purposively and others conveniently, given their availability and known expertise. For analysis of the subsequently gathered data, pseudonyms are used as follows:

Figure 5. Pseudonyms for the DACE Stakeholders Group

No	**Name**	**Role**
1	Anthony	A Workforce Development Agency (WDA) quality assurance manager with wide experience in private sector learning facilitation and curriculum development.
2	Diane	An experienced WDA quality assurance officer, curriculum validator and former curriculum accreditation freelancer.
3	Kevin	An experienced curriculum developer with 20 years' of experience in computer systems' engineering training. He had a role in designing the Advanced Certificate in Training and Assessment (ACTA).
4	William	Has worked in WDA curriculum and qualifications design and Workforce Skills Qualification (WSQ) standards development.
5	Nicholas	A former secondary teacher with expertise in learning styles and currently a senior CET manager and learning facilitator. He also played a role in developing the Diploma in Adult and Continuing

		Education programme (DACE).
6	Francis	A senior CET practitioner and WDA curriculum and WSQ standards developer. She has extensive experience developing and implementing industry vocational education programmes.
7	Sharon	A former secondary teacher and a now a senior CET manager and educational facilitator experienced in the development and delivery of curriculum. She has also played a role in developing the DACE programme.
8	Leslie	Works in the WDA Quality Assurance Division (QAD) developing WSQ policy. Is also experienced in quality assuring WSQ-related courseware.
9	Sydney	A former secondary teacher with experience developing language-based curricula; an expert CET facilitator with wide knowledge and experience in delivery adult education programmes.
10	Kenneth	A former university academic, he now develops vocational programmes for delivery in languages other than English. He has recently moved into developing WSQ-related courses.
11	Norman	A former university academic currently working in the development of electronics industry programmes. Has also worked on training with labour organisations.

Documentary evidence

A limited range of documentary evidence is used in the analytical narrative. These include selected DACE curriculum and courseware materials and WDA curriculum support documents:

- module outlines
- facilitator’s guides
- learner reference guides

- trainer resource kits
- WSQ standards
- document development guides; and
- assessment plan guides.

Participant observation

Participant observation data is used to supplement the analytical narrative and drawn from one of the authors facilitating two DACE modules: *E1 Design and develop curriculum for adult learning programmes* and *C5 Apply instructional design to develop courseware*. Evidence has been drawn from:

- practitioner observation notes;
- module commentaries submitted to programme developers;
- meeting notes; and
- field notes.

Interview method

Respondents were interviewed using a semi-structured question protocol which posits shared core questions across an interviewee cohort but permits exploration of responses through interviewer conversational “follow-up” questions (Lankshear & Knobel, 2004, pp. 201–203). This permits greater inter-subjectivity within the interview process and the possibility of deeper, broader and enhanced agential responses (Fontana & Frey, 2005, pp. 695–727). Core questions were developed through research team meetings and refined through trial interviews. The rationale of the process was to garner interviewee information relating to their work backgrounds, plus theoretical and practical understandings and reflections on the idea of curriculum.

A novelty of the interview process was the use of novice interviewers trained as part of a research capacity building programme. Training sessions were conducted in interviewing techniques and senior project managers oversaw and monitored the interview sessions. A challenge was to ensure all questions were covered adequately and appropriate follow-up questions used to elicit maximised data rich responses. All interviews were digitally taped and transcribed for later analysis.

Documentary analysis

A qualitative content analysis approach is used to interrogate sample documents (Lankshear & Knobel, 2004, pp. 332–333). Through careful reading and accompanying note taking, repeated overt, or “manifest”, and hidden, or “latent”, themes are identified for later comparison with themes emerging from primary interview data. Though not intended as a data confirming or challenging “triangulation” process (O’Toole & Beckett, 2010, p. 33), the use of content analysis can nevertheless support or critique emerging themes in the analytical narrative and introduce novel sub-themes.

Participant observation and reflection

Participant observation and reflection is used in a limited sense in this project. While full participant observation would normally involve detailed and recorded observations of interactions with classroom learners, with consequent data fed into the narrative (Lankshear & Knobel, 2004, pp. 225–228; O’Leary, 2010, p. 200), it is used here as the recorded observations of the participant-researcher’s reflexive interactions with the enacted syllabus. Individual learners are not involved except as the abstracted objects of the delivery process. As such, gathered data includes reflections on the nature of the planned syllabus and the disjunctions of its enacted delivery, including timing, contingency management, existing and additional content, structured silences (hidden assumptions), and teleology (purpose). These insights are only possible through practice-based participation in the real work of module facilitation.

Analysis

As suggested, the mode of data presentation is as an analytical narrative (Roberts, 1996; Chase, 2005). This is a themed and storied account that privileges research project actors through acknowledgement of their agential roles as curriculum theorists, practitioners and gatekeepers. While the narrative reflects the central ideas developed in the literature review under the guidance of the research project question(s), it also celebrates the diversity of opinions and practices expressed that both affirm the project’s intentions while also transcending its boundaries (Chase, 2005, p. 671).

The interview data forms the core of the narrative. Together with the documentary and participant observation and reflection data, it has been inspired by Coffee & Atkinson’s “categorical analysis” approach (1996), a method not dissimilar to that used by Strauss and Corbin (1990). The data was first read and extensive notes taken suggesting a range of common themes or "codes" across all gathered materials. These themes were then isolated and further clumped and abstracted into higher and more abstract "superordinate" categories, sometimes by as much as three levels (Coffee & Atkinson, 1996, pp. 41–20). Through a reflexive and iterative process, the data was read and re-read and added to, or shifted within, the extant categories until "data saturation" (Strauss & Corbin, 1990; Sarantakos, 2001, pp. 202–205) was determined. That is, no significant new categories were discovered and all emerging data could be placed within existing superordinate categories. The analysed data was then used to construct the critical narrative.

Project limitations

Stage 1 of the DACE project makes a modest claim that it confidently accounts for the thinking of and reflections about curriculum and curriculum practice offered by a selection of globally respected experts and Singaporean practitioners. The generic ideas expressed about curriculum theory and practice clearly will resonate far more widely than the individuals interviewed, but cannot be claimed to be representative of general opinion. Similarly, the particular ideas expressed about Singaporean adult education can only be attributed accurately to those interviewed, who are small in number. However, the themes revealed will most likely resonate, too, with a larger audience and hopefully excite further discussion.

What is “quality” curriculum? What we found out

Introduction

The chapter presents the findings from interviews conducted with respondents from two analytically and demographically distinct groups: international scholars and Singapore-based curriculum experts, and Diploma in Adult and Continuing Education (DACE) stakeholders. Both groups were considered able to offer key insights into the Stage 1 question: “What does ‘quality’ curriculum mean to different people?” The first group of respondents was selected purposively and conveniently based on their expertise in education and experience in constructing and reflecting on the nature of curriculum. The second group of respondents was selected purposively and conveniently based on their experience in the construction, delivery and management of the DACE programme. The rationale for the creation of the two groups was to compare examples of international curriculum practice excellence with current Singapore-based adult education curriculum practices. The outcome of the comparison is to determine practice-based and theoretical similarities and “gaps” between the ideas generated within the two groups that may lead to recommendations for future improvements in, or affirmation of, contemporary DACE programme review, design, delivery and management strategies.

The chapter begins with a summary of the participants within each group. Pseudonyms are used for all respondents. This is followed by a detailed analytical narrative based on the interview data using themes drawn from the project literature review, presented in Chapter Two, and the methodological approaches and rationale outlined in Chapter Three. The chapter concludes with a summary of key findings.

The respondents

For the purposes of analysis both groups of respondents are imagined as siloed, but in reality they share similarities. For example, they share a passion for adult and vocational education and furthering the development of adult learners. All theorise in various ways about learning and its facilitation. All have clear ideas about how curriculum and courseware should be constructed. All are experienced in the pragmatics of curriculum design, delivery and management. Moreover, all are able to give reasoned answers to the research question. This should be remembered as the analysis unfolds and reveals differences and limitations within these shared commitments to the broader project of enhancing “quality” adult education delivery and practice. The membership of each group will now briefly be outlined.

The international scholars and Singaporean experts

The international scholars are drawn from Australia, New Zealand and the United States. Stanley and Nancy are professorial staff members of a large Australian state university and conduct training programmes for educators working in the Vocational Education and Training (VET) sector. Evan is a professor at a North American university and creates, facilitates and manages a range of postgraduate programmes. Kate is a senior researcher in a New Zealand research organisation and has deep experience in and knowledge of curriculum construction and implementation. Quentin is acknowledged as a global expert in the design, implementation and facilitation of university-based adult education programmes. Vincent is a Singapore national and recognised expert in the design of local CET curriculum. Finally, Barry is a British academic and curriculum expert who is also a senior manager in a Singapore CET.

In the main, the international scholars may be labelled as “bricoleurs”; they have acquired their curriculum knowledge and skill through the craft process of “learning through doing” over time from diverse experiences and resources (Cartledge, 2004). Through concurrent and later reflection on practice, in concert with extensive research agendas, most have consolidated their thinking into sophisticated curriculum theorising that is both broad and deep across an eclectic range. For many of the scholars, their research, theorising, reflection and practice have been captured in internationally lauded publications that have become seminal references within the adult and vocational education field. Stanley and Nancy have extensive experience as educators of trainee vocational educators and have published widely on curriculum-related issues within Australian VET. They began their careers as vocational educators and learned their curriculum craft though years of “on-the-ground” experience. Evan’s experience as a North American educator in the fields of higher education business and leadership has led to insights into curriculum based on practice-based experience. Kate’s role in New Zealand government agencies advising on curriculum-related matters was based on earlier experience as a secondary teacher educator. Quentin has worked for decades with adult learners, mostly in British university settings. He claims to have learned as much about curriculum from his students as anyone else. This deep experience has led to his publication of many widely used texts within adult education. As a Singapore national, Vincent has over 20 years’ experience writing curriculum and facilitating learning within the polytechnic system. He also has a deep working knowledge of adult education within the recently created Singapore Workforce Development Agency (WDA) and its system of the Singapore Workforce Skills Qualifications System (WSQ). Barry is in the unique position, unlike the other international scholars, of enjoying a global reputation as an educator and researcher and theorist of vocational curriculum, as well as an appreciation of working life within the complexities of Singaporean adult education.

The DACE stakeholders

The DACE stakeholder group is defined by its members' relationship with the qualification's design, facilitation, and management: all 11 are implicated in one or more of these criteria. The group consists entirely of Singaporean nationals who possess a broad range of experience both within and outside the CET sector. Anthony is a WDA quality assurance manager with wide experience in private sector learning facilitation and curriculum development. Diane, too, is an experienced WDA quality assurance practitioner but draws her experience from many years as a freelancing curriculum auditor. Kevin worked extensively in computer systems engineering and played a role in developing DACE's predecessor, the Advanced Certificate in Training and Assessment (ACTA). In addition to his current WDA experience, William has had a significant role in designing WSQ courses. Nicholas was a secondary teacher with expertise in learning styles before assuming roles as a CET manager, facilitator, curriculum designer and courseware writer. He possesses deep knowledge of the DACE programme. Like Nicholas, Francis has a secondary teaching background but has developed most of her wide-ranging adult education facilitation skills through designing and implementing private sector programmes. Sharon's position as a senior CET manager is informed, too, by her secondary school experience, but supplemented by additional years working in a polytechnic. Her broad educational background has led to her assuming a role in the development of the DACE programme. Like colleagues Anthony and Diane, Leslie works in WDA quality assurance where he has worked across many WSQ areas. Sydney has put his secondary teaching experience to effective use through developing a masterly command of adult facilitation techniques. He works in a CET and has taught in and assessed across many modules in the DACE programme. Kenneth is a former university academic who has wide experience in developing Mandarin-based adult education programmes. While most of these were in non-WSQ programmes, he has recent knowledge and experience in the field. Finally, Norman, too, is a former university academic currently working in vocational training within the electronics industry. He has also worked within a range of labour organisations that have given him unique political insights into the development of the Singaporean adult education sector.

In the main, the DACE stakeholder group may be labelled as curriculum "pragmatists". Like the bricoleurs they have developed considerable skills as curriculum designers, facilitators and managers. Their experience, however, tends to be circumscribed and reactive within a limited frame of reference. The bricoleurs developed their ideas across time in many institutional locations, settings and countries. The pragmatists, however, can only draw on the relatively limited experience of local educational systems and workplaces, as well as from within the recently developed CET sector. This relative lack of adult education experience has been supplemented for some through additional tertiary studies, but the overall sedimentation of broad and deep curriculum thinking remains emergent rather than fully articulated. This has led the group as a whole to adopt a limited repertoire of assumptions about curriculum theory and practice. There is a tendency, for example, to adopt a default “deficit” model of teaching where learners are assumed to be missing certain skills that may be acquired through a “transmission” style of pedagogy, in spite of the adoption of learner centred, social constructivist facilitation styles. There is, too, a tendency for the group to adopt a market orientation to curriculum, where curriculum decision-making is governed by industry and bureaucratic imperatives exclusive of learner-centred lifelong learning. Curriculum design, then, tends to manifest as training for status quo reinforcement rather than a path to educational innovation that transcends existing boundaries, the original goal – as we have seen, and will see – of the DACE programme designers. This adopted pragmatic curriculum strategy has led, according to the group, to a strong “fit” of curriculum design and resulting courseware within the sector.

We now turn to unpacking these assumptions and practices through a detailed narrative and analysis of the data.

Defining curriculum

As we have seen from the literature review, curriculum is an educational metaphor constructed from theory and practice-based activity to denote organised patterns of learning that incorporate discrete subsets or packages of intentional knowledge and skills to facilitate change in learner assumptions, behaviours and practices. These subsets may be referred to as modules, subjects or syllabuses. This reading assumes that curriculum is a conceptual map or overview of the particular terrain to be explored through a sustained relationship between an educator and a group of learners. Curriculum design may originate from the unfettered freewheeling of ideas between interested educators, from partnerships between educators and learners, or from within highly regimented and prescriptive bureaucracies or organisations. In these and similar representations, curriculum is consensually acknowledged as legitimised learning with agreed outcomes manifested though certified or informal completion. Challenge and risk-taking are embedded within the curriculum-making and curriculum-enabling process. For the curriculum design team and its managers, there is the challenge of fit for purpose and alignment with the needs of stakeholders. For the educator, there is the challenge and possible risk of effecting meaningful facilitation strategies within the chosen learning space, whether incorporated within the curriculum design or initiated through her or his professional skills repertoire. And for the learner, there is the challenge of stretching one’s capacities to undertake new learning, with the attendant risk of damage to self-esteem and future career opportunities through the real possibility of non-completion or failure.

For the purposes of the research project, it should be kept in mind that this generalised overview of curriculum fails to capture its nuances; these may only be revealed and unravelled within the elusiveness of contextualised curriculum practices and their playing out within selected and highly situated socio-cultural spaces. It is here that conceptions of "quality" curriculum may appropriately be explored.

The bricoleurs and the pragmatists offer interesting insights into defining curriculum as a form of practice, relying on the living world of experience rather than theoretical or philosophical abstraction, though theory and philosophy appear subsequently as underpinning curriculum purpose or justifying curriculum intent. While curriculum definitions are explicitly given by both groups, ideas of purpose and intent tend to be inferred.

The international scholars

The international scholars define curriculum within a paradigm of Western liberalism. The right of the individual to pursue knowledge and skills development through lifelong learning and workplace training is held to be at least equal to the needs of other stakeholders such as employers and adult education providers. For most, conceptions of curriculum are based on higher education sites rather than workplaces or vocational education institutions. Education outcomes, then, tend to privilege the Western liberal tradition of preparing graduates for participation in society as critical and informed citizens in addition to skills building for employment (Turner, 1996; Rushbrook, 2011, pp. 97–99). Within this context, higher education curriculum designers experience relative autonomy in their choice of curriculum as they sit at the apex of the course design process, though some admit over time of increasing institutional restrictions. But even within this contemporary space, course designers are able to enact programmes based on individual experience and developed philosophical convictions rather than filling in pre-determined templates. Curriculum representations, then, may be idiosyncratic, flexible and dynamic in the absence of excessive bureaucratic rule-following.

For Stanley and Nancy, "curriculum is a dynamic process ... from the conception – the idea – and the context analysis and what it required, through to evaluation, even following up graduate destinations". Curriculum is forever "nuanced", particularly when it is enacted by a facilitator: "The person who actually receives the curriculum to teach it is in fact going to interpret the document and you've also got to give them the scope to do that." The process remains a challenging, balancing act and should be "not so general that it can be interpreted as all things to all people, not so specific that it ties down people to situations (that are not) feasible". The courseware based on the concept of curriculum as process should then be regarded as "a sort of skeleton which is very similar to a human that by the time you flesh it out, the body can take different shapes and alternatives. So that gives an idea of a little flexibility but not too much that we don't become a beast; we become human beings". Finally, the process-based curriculum should possess integrity or "joint aptness" that avoids the danger "that curriculum can be indoctrination and it can become a whole lot of other things that can actually reinforce alienation and reinforce exclusion ... ".

Rather than seeing curriculum as a dynamic process, Kate considers it to be "the broad strategic framework that articulates the nature of the knowledge, the competencies and the attitudes and values that you would expect somebody who was learning to teach, following that curriculum work with you, and would expect them to undergo". But flexibility is still read into the strategic approach in a way that Stanley and Nancy would appreciate: "Curriculum has to be general enough and strategic enough for it not to become constantly changing, whereas I think the programme and courses that sit underneath and the assessment needs to be constantly changing." This would permit, Kate continues, "enough guidance for inexperienced people that they feel safe and confident, but not too much structure so that people who are more experienced be a better innovator ... to add things". In this way, then, curriculum of necessity "has to be a living document".

Quentin, perhaps, has the most radical reading of curriculum, conceiving it as an "interaction between academics and students" underwritten by a "consistent theory of learning". This dialogic or discursive approach privileges learners in the curriculum making process; they play active roles in its design and delivery. Curriculum therefore remains flexible and dynamic according to learner needs and of necessity must change with each cohort. Course documents rarely exist and if they do so are sparse. As Quentin relates: "I got some of my biggest satisfaction from the types of sessions I did ... with a minimum written curriculum simply because for me, the subject lived. I hope it lived for my students and I think if they didn't like it, will soon tell me." Though Quentin admits that his approach to curriculum is more difficult to facilitate in an age of greater curriculum regulation, it nevertheless remains an ideal for which to strive.

Vincent, a Singapore national with an international profile, offers a counter view to his international colleagues. Like the pragmatists, he bases his curriculum assumptions on its ability to deliver effective workplace skills training; wider conceptions of lifelong learning or education for citizenship are not articulated or assumed. He does, however, offer a rather quixotic philosophical definition of curriculum: "If it's what you want the person to be, then it's a curriculum." In another way, this emphasises the role of a pragmatic curriculum to enable work-ready outcomes for learners. But unlike the pragmatists, he questions the capacity of the WSQ system to deliver specific work-ready outcomes when product cycles and emerging new occupations move more quickly than the standards can be devised and published, or appropriately reviewed.

As an international scholar in the unique position of also being a senior CET manager, Barry places strong emphasis on the need for a curriculum to be flexible and dynamic, and provide space for facilitator interpretation. In encouraging this, however, he suggests “you don’t want a curriculum to be an aggregation of fragments ... and just put them together in a box; there’s got to be some kind of thread that runs through, something to kind of hang these things on, so I think there’s a kind of question of coherence, question of consistency (and) there’s a fitness to purpose kind of element here as well”.

In conclusion, the bricoleurs appear to share several key ideas about the definition of curriculum. Foremost in their minds is its conception as a flexible, dynamic and engaging map of learning possibilities guided by a consistent philosophy of learning. Within this framework, they tend to privilege the agential relationship of the learner and facilitator; the learner is to be respected for his or her choices in education as a lifelong journey, and the facilitator is encouraged to view the curriculum as a lens through which to exercise professional judgement and innovation. In a sense their musings represent an ideal view. Curriculum is imagined as unfettered by institutional or bureaucratic interventions and undertaken consequently from a position of power where curriculum choices and pre-dispositions are able to be enacted. This is not the case for the pragmatists.

The DACE stakeholders

The pragmatists define curriculum within the boundaries of the WDA and the WSQ system. While other models may be entertained, they are not widely evident in the transcript record, even by inference. Like the bricoleurs, the pragmatists garner their ideas from practice-based experience. This may have been within the fledgling adult education sector, or from past workplaces in Singapore’s secondary schools, polytechnics, universities, private and government enterprises, or bureaucracies. Thinking is firmly grounded in the assumptions of Singaporean learning cultures and technocracy. This has a distinct advantage for local curriculum imagining: there is a relatively seamless transition from conception to execution as the underpinning “rules of engagement” are efficiently and effectively understood and enacted. As one analysis suggests, this speaks of an education system characterised as “an efficiency driven by pragmatism” (Ho & Gopinathan, 1999, p. 116; see also Amaldas, 2009, and Kong, 2011).

As we have seen, the DACE stakeholders may be further categorised into three subgroups, all more or less overlapping but in differing degrees. First, there are the curriculum designers, who play significant roles in conceiving and developing the DACE programme. Second are the facilitators, who deliver the programme in modular form. Third are the programme managers who either administer the programme in a CET setting or, at one point or another, have quality assured curriculum and courseware products.

Anthony, a WDA quality assurance officer, has a clear idea of curriculum as “a combination of courses, that’s combined to form a curriculum that leads a person to perform his or her task ... Basically, there’s a structure in the design of programme, incorporating the learning activities, the delivery of the programme, and certain portions, and so on”. Within this, there are general guidelines “from the very concept of an idea of what you want to put in, rather than the final output”. Underpinning curriculum assumptions are governed by market imperatives. As Anthony explains, curriculum may begin from business Key Performance Indicators: “It’s from there then that you decide what the staff will need. This is actually the whole process. In terms of conducting the TNA (Training Needs Analysis), we find out what the staff will require.” Privileging curriculum for the emerging needs of the marketplace within tightly defined design rules is a reoccurring pragmatist theme, with variations.

For example, Diane, another WDA quality assurance officer, defines curriculum as “a document that contains relevant content to a particular subject that’s used appropriately in a certain context. Subject matter can be applied in many, many contexts. Curriculum is a document that encompasses all this”. Wearing her WDA hat, she affirms that within Singapore’s adult education system, “we also need to ensure it’s [that is, the curriculum – Ed] competency based, because that’s the whole approach of what WSQ is all about”.

Similarly, Kevin, an experienced industry and workplace curriculum developer, with some experience in establishing the ACTA programme, equates WSQ and curriculum as inseparable: “Curriculum ... is what WSQ is basically.” But within this scaffolding, curriculum can be manifested as “a very high level of strategy ... a very high level kind of thinking process ... ”.

Nicholas’s long career knowledge and practice in the areas of curriculum design, facilitation and programme management has demonstrated to him that curriculum is “something that you eventually receive, you know, the participants receive in class”, foregrounding a “default” underpinning assumption that, in spite of outward declarations of social constructivist approaches to learning as student directed and educator facilitated, it remains in many ways a “transmission” or received approach where the learner is the passive recipient of educator “delivered” knowledge and skills.

Nicholas is quite firm in his belief that the DACE curriculum has as its intent the encouragement of value-based outcomes premised on the professionalisation of adult education sector facilitators. Beyond the acquisition of knowledge and skills is the imperative “really to have the values of DACE, meaning as a reflective practitioner, people with integrity and so on, so you actually (talk) about using the curriculum as a process to help them gain these values, a bit like a hidden curriculum in that sense". But within this there is also the acknowledgement, like Anthony and unlike the bricoleurs, that "no one talks about learning for the sake of learning; very often we talk about learning for the sake of getting the qualification, that is the way".

Francis's wealth of experience in adult learning facilitation and writing and designing WSQ standards leads her to share Kevin's grounded approach to defining curriculum, as "something that must meet the trainee's needs ... and also the company". Along with this, she continues, is the need for curriculum to align with the defined standards, "because whatever ... you develop must meet the outcome, and often must be measurable. But within measurable outcome is already deficiency in a lot of people". This suggests alignment with Norman's assumption of learning as a "deficit" model where learners lack skills and knowledge that the curriculum and facilitator are able to "transmit".

Sharon, a CET curriculum designer, facilitator and senior manager, agrees with both the bricoleurs and her fellow pragmatists that "not only the courseware but the overall, the larger, what we call larger curriculum, you know, because there must be a, I think, there must be a concept, a philosophy you know behind how you want this particular qualification to run and that kind of underpins the courseware that is developed". But, like Norman and Francis, she assumes a deficit model of learning facilitation when she defines the underlying purpose of curriculum as "a whole education process, you know, where you deliver what you think is a means or a way to develop students to do that desired end point that you want them to get to it".

Leslie's work in adult education has been played out mostly within the WDA. Of all the pragmatists, she makes the strongest links between defining curriculum in relation to a capacity to meet the requirements of the WDA and WSQs. If curriculum is simply a series of measurable "learning outcomes, what you want to achieve is straightforward; it's all provided in the standards. It's not the case where you design a programme from scratch and need to understand the training and learning needs of organisation needs or the workers. In WSQ some information is already provided. Then it's about understanding the *recipient* of the curriculum" [emphasis added – Ed].

Sydney has highly developed pedagogical skills and wide experience as an adult education facilitator. He also has a grasp of curriculum philosophy that extends beyond the limited behavioural outcomes stances of his colleagues. For him curriculum "is a specially designed transactional space that is inhabited by learning", a position close to that expressed by international scholar Quentin. Under this approach, curriculum is underpinned by notions of the interchangeability of facilitator and student roles as learning is negotiated within the classroom. Learners are assumed as mutual creators and sharers of knowledge and skills rather than simple receivers through one-way transmission from the educator as the locus of power. As Stanley suggests, it is “a space so the teacher can be a student; the student can be a teacher”. He also believes this form of educational practice can take place within any learning context. It is essential, however, that the facilitator is given space to interpret the curriculum and cater to the needs of diverse adult learners. The mediation of curriculum by the facilitator and learners prevents, he continues, an unhelpful uniform application of modules within and across learning spaces: “I’m very mindful that it is not a one-size-fits-all kind of cookie-cutter curriculum.” He is quick to warn that this interpretive strategy can only be fully realised within learning systems that respect the skills of classroom facilitators: “You got to trust their professional judgement of what is the best route to get them, get the learners to the outcome ... flexibility can be built in and you can still see the outcome.” Facilitators “must be able to take the risk”. In many ways this approach is reminiscent of the Slattery’s reminder (in Schwab, 2006, p. 450) in the literature review that “curriculum” originates from the Latin infinitive verb “currere” or running a racecourse. For Stanley and his fellow learners curriculum is enacted as a verb or activity that exemplifies an “inward journey”.

Other pragmatists, though, remain less ambitious than Sydney when defining curriculum. Kenneth’s experience in the higher education sector has been used as a background for writing vocational curriculum in languages other than English. Like his other pragmatist fellow-travellers, he defines curriculum in concrete rather than abstract terminology: “The way I understand curriculum is the design of learning organisation and activities for a specific purpose ... ” The activities have “to be so-called realistic and relevant”, and implemented in a manner “to achieve the design outcome”.

Norman, too, as a former academic, has a similarly concrete, though less reflective, view of curriculum as “just a course, right?” But within this outwardly naive and limited definition, he articulates clearly a series of political assumptions underpinning all notions of Singaporean curriculum. He believes it fails to instil in learners a capacity to use imagination and creativity in problem solving. This, in the long term, has led to a national incapacity for innovation and change to match the skills required to compete in a globalised market place: “You see so our people are not dynamic enough, nobody dare to change ... so if we are going to change, what do we do, so what do we do is that we do something different, your developer got to be dynamic, active learner ... but then your people must also say, “Yeah, let’s change.” Then you go up there and say, “No, no, no, better not rock the boat, you know.” These assumptions of the limitations of the enacted curriculum are presented powerfully, passionately and with regret. His ideas are reflected, too, in some of the recent research literature on Singaporean education policies (Ho & Gopinathan, 1999; Amaldas, 2009; Kong, 2011).

For the DACE stakeholders, then, curriculum is overwhelmingly defined in instrumentalist, pragmatic and technocratic ways. It is purposive and directed to the skills development needs of the nation. There is a clear market orientation for most of the stakeholders, including an implied one for employers and learners. Curriculum may only be expressed as a series of practical and measurable outcomes underwritten by the requirements of work. Its conception is within a non-negotiable and unchallengeable regulatory framework defined and managed by others (Cornford, 1999, p. 93). This appears through the transcripts to be both a normalised and unproblematised process. Paradoxically and perhaps even ironically, the assumptions made of learners within the conceptions of curriculum articulated contradict DACE stakeholder intentions of promoting the growth of independent, self-directed and reflective practitioners. Instead, there is an assumed position of learners as dependent and deficient who will learn through the transmission of knowledge and skills delivered by an “expert”. Of all the transcripts, it is only Sydney who challenges this approach. We turn now to see how these definitions and assumptions play out in the curriculum design, writing and enacting process.

Designing, writing and enacting curriculum

The bricoleurs and the pragmatists define curriculum in differing ways. The bricoleurs adopt flexible and dynamic approaches that privilege learners and facilitators in the absence of strong regulatory frameworks. The pragmatists adopt a prescribed and heavily regulated approach that privileges the needs of industry and national competitiveness over the needs of learners and facilitators. Both approaches serve different purposes. For the bricoleurs the purpose is locked with the Western liberal tradition of preparing learners for work and life as skilled professionals and informed and critical citizens within a higher education framework. For the pragmatists, the purpose is to prepare skilled workers for active and productive participation in a range of occupations that contribute to national prosperity and international competitiveness. It is, then, like many other national vocational education systems construed as more instrumental than its higher education cousins (Harris et al, 1995; Smith & Keating, 2003; Anderson, Brown & Rushbrook, 2004).

Within these discrete approaches, as discussed in the literature review, are shared assumptions and practices used to design, write and enact curriculum. The bricoleurs and the pragmatists assume curriculum design should be informed by a guiding and consistent philosophy, often represented as an acknowledged and tested model fit for the purpose at hand, including assumptions of outcomes, underpinning knowledge, skills development, appropriate pedagogies and facilitator and learner roles. Suggested assessment and programme evaluation strategies may also be included. The model is selected based on what the curriculum is intended to achieve – its intent. The intent may be defined by the educator, learners or other stakeholders, including employers, bureaucracies and governments. But, however selected, the process of designing, writing and enacting is agreed to be iterative and interconnected, manifested as an intense and complex dialectical interplay between establishing programme need, creating conceptual frameworks and achievable outcomes, writing modules and shaping assessment procedures; it is never simple. For this reason, large curriculum writing tasks are generally managed in teams, with each member a specialist in one or more of the outlined elements. The application of the design process, though, varies between the bricoleurs and pragmatists based on the degree of control experienced by the designers, including the determination of intent, choice of model, the manner in which the programme is created, and how it may be enacted.

This section of the chapter unpacks these observations in three sections. First, the design, writing and enacting practices employed by international scholars is discussed. This serves as a point of comparison with a more detailed exploration of the strategies used by the DACE stakeholders. The second and third sections separate the pragmatists' approaches to curriculum design and writing from their enactment. This provides space for interplay in the second section between reflections on the original intentions of the DACE programme and more generalised thoughts on curriculum design, including the use of Competency Based Training (CBT). These ideas are re-considered in the third section within the context of how the programme has been enacted, using thoughts drawn from programme facilitators and managers, and examples of the modular courseware.

The international scholars: designing, writing and enacting curriculum

Of all the international scholars it is Stanley and Nancy who have the most sophisticated grasp of what it is to move through the curriculum design and implementation process, and in particular within the adult and vocational education context. This is due to their working with higher education learners who are being prepared as educators for the Australian VET sector. They are quick to emphasise that writing curriculum is not a simple adaptation of vocational education standards or competencies, represented in Australia by Training Packages (Smith and Keating, 2003, pp. 147–175; Clemans and Rushbrook, 2011) and Singapore by WSQ. To put a curriculum together is an iterative rather than linear process within a shifting socio-cultural context. As such it must be flexible in order not to tie down or "straightjacket" facilitators and learners; there should be no one recommended way of putting a programme together. However, the curriculum designer must remain cognisant of stakeholder needs and respond to them accordingly, including client philosophies. Within this caveat, curriculum can still remain adaptable and include alternative means of reaching agreed endpoints; it is dynamic with appropriate "feedback loops". As such, at all times it requires "some alternativeness within it, not just rigidly sticking to a straight line" (Smith and Keating, 2003, pp. 147–175).

This "bespoke" or customising approach to curriculum design is at the core of Stanley and Nancy's teaching rationale. Given this, the actual process of writing curriculum varies little from that practised by the pragmatists. Curriculum begins with an analysis of its intended context, including learner and other stakeholder needs. This is followed by careful alignment of goals with the prescribed competencies and an assessment strategy for measuring the achievement of these outcomes. Stanley and Nancy suggest these agreed strategies should form the basis of a matrix within which appropriate syllabus content, resources, costs and an evaluation strategy may be insinuated.

Similarly, Evan suggests that once objectives are determined then the curriculum designer and writer are able to work out "the different things you're going to cover in order to realise those objectives". He extends Stanley and Nancy's discussion by making explicit possible pedagogies, include "hybrid" online and classroom combinations: "figuring out which things are best done face-to-face in discussion, what is best done through reading, what's best done interactively through chatroom ... ". He also believes curriculum should be underpinned by clear links between learners and outcomes: "the good ones start from what it is that the learner needs to know" and how that sits "with the wider context of the overall objective of the programme".

Kate, too, shares Evan's belief that curriculum design should begin with the needs of learners and stakeholders. Like Stanley and Nancy, she warns that outcomes statements should not be conceived of as curriculum and that a concept matrix or map and evidence-based consultation will lead to better design element alignment. She also introduces the idea, more or less implicit in Stanley, Nancy and Evan's transcripts, that a team approach leads to better curriculum design. Not only does this recognise that different individuals bring different skills and knowledge to the project, but also that that there is a place for the curriculum design novice to be inducted into the process with strong peer support and mentorship. She sees this as a bit like driving a car: novices get better with guided practice.

Quentin's radical approach extends from design and writing to enactment. His dialogic or discursive stance, with minimal curriculum documentation, is played out in the classroom where "the living reality of students" assumes primacy in shaping learning and skills building trajectories. But within this interaction, "the authority of the teacher must still exist, because some aspects of the knowledge spectrum could be missed by the students". And if done successfully, "a good teacher can make a subject live even if it is a bad curriculum". He or she can "make the tacit visible". But not the reverse: "I'm not sure if a bad teacher can make a good curriculum live like the same way." So, unlike pedagogical models that might decentre the educator's role, Quentin re-locates the educator at the forefront of learning interactions. She or he is a guiding “expert” firmly managing the learning process, but with learners, to a degree, shaping the final outcomes.

As the only Singaporean among the bricoleurs, Vincent has a heavily contextualised appreciation of what is required for effective adult education curriculum design and writing. In this sense he is the “bridge” between the two researched groups. While essentially recommending the steps advocated by Stanley and Nancy, he adds to them through recognition of the particular local exigencies required for success. He understands that learner needs must first be uncovered, but adds to the recipe the inclusion of subject-matter experts in the design and writing team. And like Kate he sees a place for the “fresh graduate in curriculum management” who might “work on some part of the curriculum development; not the total picture”. His insights into increasingly short product cycles are matched by a call for quicker turnarounds in skills training: “a quicker curriculum response is demanded. Training skilled workers, then, should be anticipated within (a) tighter timeframe”. He cites the evidence of training shortfalls in gaming prior to the recent opening of the integrated resorts at Marina Bay Sands and Resorts World Sentosa (Amaldas, 2009, pp. 988–999). Curriculum designers, then, should look at the “big picture” and “if they can see this connection way ahead of time, right, then the development will be very smooth”.

Moreover, he fervently believes the WDA’s WSQ competency-based frameworks make the curriculum design and writing both smooth and efficient. If discussions of learning theories are put marginally into the background then a course should be able to be developed in around 100 hours: “You should spend maybe just 10 hours on the design, strategies; 70 hours to develop the content, instruction method, which is really the challenge, right; then the last 10 per cent on the assessment strategies. So this has to be the most effective, efficient way to complete the curriculum design.” Done correctly, using a curriculum team with “passionate” people who are able to work “very quickly in a very short period of time and find joy out of it to learn something along the way”, then curriculum will successfully pass the scrutiny of a WDA auditing team. As he suggests: “If the design is clear, they [the curriculum designers – Ed] have done their groundwork. There’s no reason the auditors will find cracks, faults and flaws ... If they have gotten this right, no auditors can find the fault.”

Barry, as a Singaporean international expert and CET manager, agrees with Vincent that design teams should include domain knowledge experts for increased curriculum authenticity and capacity to meet compliance requirements. But within this, he believes there should also be space for the expert facilitator to exercise practice judgement: “So there may be things in this whole process that you can’t control, so the standards may be one, the assessment may be the other, then you’ve got a space in between in which you can operate.” It is in this space, he continues, that the facilitator is able “to make decisions, professional decisions, based on ... expertise. Knowledge is an important part of ... being a professional". This "discretionary activity" permits modelling of what it means to be an autonomous educator within the CET sector.

So for the international scholars and bricoleurs, curriculum designing, writing and enacting is a relatively simple extension of their definitions. Curriculum design should be premised on sound educational thinking and pay heed to the needs of stakeholders. Within its structure there should be a range of feedback loops legitimising multiple interpretations according to the exigencies of delivery. It should be written in a manner that permits maximum appeal to the agential professional educator who will massage and enact the subsequent courseware material (Schwartz, 2006; Alexander, 2008). It should also be relevant to similarly agential learners who may have a role in interpreting the material to suit their personal as well as occupational goals. In short, the bricoleurs adopt an interpretive discourse of curriculum understanding that permits flexibility at all stages of its development and enactment.

The DACE stakeholders: designing and writing curriculum

As we have seen from Chapter 1, the DACE programme was introduced from 2010 as a means of facilitating the creation of knowledgeable and skilled but critically and broadly informed educators. Graduates were to be sectoral change agents who could see beyond existing system structures. The ACTA programme, DACE's predecessor, though deemed adequate for existing training purposes, was equally considered inadequate for providing an informed platform for sectoral transformation. The rationale behind this thinking was to address an international movement of best practice vocational educational training from CBT, with its emphasis on behavioural outcomes, to outcomes-based systems that recognised student and educator agency as central to the learning contract (Simons, Harris & Smith, 2006). Completing a vocational programme, then, was no longer considered a one-way process of knowledge and skills transmission from the facilitator to the learner, but a complex interaction of facilitator-learner negotiation and mutual input. Seated within these new and innovative educational paradigms were pedagogies such as problem based learning and social constructivism (Foley, 2004). The new qualification was intended to reflect these shifts in international practice, and more or less align its objectives and practices with those expressed by the international scholars and bricoleurs. As one former senior CET manager recently remarked: "I felt that to mature a system ... it is unsustainable to be locked so tightly into a CBT system." And, after commenting that ACTA graduates "were not educators; they were just very narrow trainers": "the idea was to create more of an educator, somebody who could have a discussion about the different approaches to assessment ... the idea is not to have a conformist but people who will have critical perspectives”. But as we shall see, a tension has arisen between the DACE programme’s intent and its enactment, due mainly to the strong regulatory context into which it was introduced and now operates.

Nicholas and Sharon were members of the large team that designed and wrote the DACE programme. Nicholas recognised the potential of the new qualification for widening learner perspectives through such strategies as exposure to new pedagogies: “Many of them actually don’t even know their own preferences; they don’t actually know they are cognitivist or constructivist ... so they need to know what the strengths and weaknesses of each approach is then ... so they can extract the strengths of each approach and then put into the programme ... they are developing or teaching.” All well and good. But rather than extend an invitation for learners to investigate other pedagogical models according to curiosity and need, as would the bricoleurs, the final agreed module restricted choices to those defined in the course materials: “They can even take two approaches or two preferences, one primary, one secondary if they want.” The alignment of limited and exclusive content to prescribed competencies became a feature of the DACE programme and an opportunity was missed, largely for reasons less to do with the designers’ intentions than the external curriculum auditing process that calls for a tightly written and taught syllabus.

Sharon, too, saw the potential of the new programme, particularly in relation to extending it beyond ACTA to utilise contemporary theories of adult education and learning: “We wanted DACE to be very up to date in terms of the theories that were used *et cetera*, so we also had to come to a sort of agreement and research on what were the latest useable theories in education ... we didn’t want to fall back on the old masters you know because they’ve been used, reused you know again and again. So for adult learning for instance, you know, we used Illeris as the point.” Other contemporary theorists, too, were used to inform the DACE programme structure and syllabus content, but again within the context of a CBT-guided curriculum, which presented challenges (Clemans and Rushbrook, 2011, pp. 287–290). The dilemma was expressed by Sharon as whether or not DACE should be “pure WSQ”, that is CBT-based, or something broader and outside of the inherent restrictions of the WDA and WSQ context. In the end, however, the team opted for “the idea of a mandatory qualification” and therefore within WSQ guidelines. Once this was decided the team worked to make DACE better than ACTA. Sharon saw it as “our chance to correct the wrongs of ACTA ... this was our chance to kind of start again and give them, you know, all the staff, what we think they ought to have”. This led to the confident though laboured process of developing appropriate competencies, which after piloting, review and auditing produced the first version of the DACE programme. Its strength over ACTA, apart from the inclusion of an expanded range of contemporary curriculum and pedagogical models, was a major “capstone” research project, a practicum and an opportunity to specialise in areas such as curriculum design, assessment and e-learning. The decision to lock the programme into the WSQ system, though, more or less limited its original intention, according to a DACE curriculum team leader, of producing “people who are a thorn in the side of the WDA”.

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Given, then, this “insider” knowledge and rationale for the creation of the DACE programme, how do the pragmatists approach to curriculum design and writing as a generic skill be shared with learners, facilitators and other CET and industry-based managers? While the DACE design and writing process remained a particular and in many ways, according to the stakeholders, atypical case because of its essentially “in-house” CET and WDA team structures, their preferred design and writing approaches reflect active and close engagement at all levels with external industry partners and related institutional authorities. This engagement is clearly based on skilled practitioner experience, a deep knowledge of the curriculum design and writing process in workplace skills settings, and a realisation of the strength of a team-based approach to the production of high quality programmes. Collectively, as we shall see, the pragmatists unravel this process with great skill.

Anthony, like many of his colleagues, is a supporter of constructing curriculum using a design expert who may have little contextual knowledge of the underpinning knowledge or skills required for the selected programme but is supported at all stages by a “subject-matter expert” (SME) and other team members as required. The SME is important to “go down to the ground and study how this particular subject is being run, or being practised”. The process also requires, like international scholars Stanley and Nancy suggest, a feedback loop that will “always go back to how useful it (is) to the front line”. Initial information may be obtained from an enterprise’s Key Performance Indicators, a Training Needs Analysis (TNA) or from WSQ competencies. Once this initial information is obtained, Anthony continues, pedagogical strategies are determined, whether classroom or on-the-job and modular or integrated, from which appropriate courseware may be developed. Along the way checks are conducted, perhaps in the form of programme and courseware piloting or checking by a panel of experts. The entire package is then put to the WDA’s Quality Assurance Division (QAD) for auditing and final approval. This careful process is justified, Anthony suggests, as follows: “There’s no point designing a programme that your trainers cannot run, the participants cannot understand. That’s critical.”

As a fellow quality assurance officer, Diane, too, is supportive of the careful and detailed designing and writing processes outlined by Anthony. Like him, she believes it is essential to include an SME in the initial design process: “It’s very easy to just give certain points in a particular subject. But if you want to go deeper you really need someone with the experience and knowledge in that particular area.” Whereas Anthony concentrates on the internal processes of putting a programme together, Diane considers in detail the QAD approval process that follows. A priority is to “match the competency standards with the curriculum” and that there is subsequent depth of content coverage. From this there needs to be appropriate delivery and assessment strategies: “Keeping in mind that the assessment at the end of the day is critical when you are developing curriculum, especially in a programme like WSQ because you will be assessed, and the assessment outcome will determine whether you are competent or not.”

Kevin adds a problematic dimension to the design and writing of competency-based curriculum in a CET environment that increasingly is placing emphasis on the education of Professionals, Managers and Executives (PMEs). Whereas some areas of WSQ competency-based training require the assessment of observable behaviours through skills-based activities, many programmes designed for PMEs emphasise the acquisition of cognitive and meta-cognitive capacities not amenable to direct observation or simple description as a behavioural outcome. This will present challenges in the future to curriculum designers and the QAD process (WSQ Review Work Teams 1 & 2, 2010). However, once this is accounted for, Kevin supports Anthony and Diane’s team-based approach to dealing with curriculum design and complexity and in particular the inclusion of novices or “rookies” who should “understudy the curriculum designer in the organisation”.

William’s take on the curriculum design and writing process is to emphasise an international approach to the initial occupational description research by turning to international data bases and comparing profiles with similar positions. As he says, “Once we identify the so-called competency and job requirements, job enhancement analysis will be undertaken.” The strategy is similar to a TNA as it seeks shortfalls, if any, between the international standard and the local assessment: “Now it’s the current state of these workers we want them to demonstrate, exhibit this profile. How do we attain it, bridge the gap? With that then we compare the competencies required ... how can we marry the two? Once that is done we are able to write down more specifically in terms of so-called outcomes for that particular programme so the learning outcome again will need to reflect very closely to what the client requires, the job requirements and even our national competencies standards available.”

Sharon agrees that gathering accurate information at the beginning of the curriculum design phase is vital, but equally important is the necessity to use the material within a consistent philosophical framework: “I think it’s an overall huge plan that embodies a philosophy and a concept and that traced out how you’re going to take a group of students you know through until you reach the end point and of course the end point needs to be mapped out.” From this initial step, syllabuses developed as part of the overall curriculum will be better related in terms of content and pedagogy: “It forms a whole educational, how should we put it, a whole educational process you know where you deliver what you think is a means or a way to develop students to do that desired end point that want them to get.”

Like her colleagues she agrees this process is best managed in teams of “like-minded people”: “the process usually includes fine-tuning the concept or the philosophy or the underpinning values and then, from there you work out an overall plan and the plan is how to get to the end point and then this plan translates into courseware” and appropriate assessment strategies. Her voice of practice wisdom nicely sums up the design and writing journey: “It looks simple but it is actually a very painful process at times, but it can also be fun.”

Of all the pragmatists, it is Leslie who has the most solid appreciation and understanding of working within the WSQ system. For him the design and writing process is made easier: “Maybe in WSQ context the learning outcomes you want to achieve is quite straightforward; it’s all provided in the standards.” With a good design team and use of appropriate SMEs, a well-conceived curriculum should eventuate. As a quality assurance officer, Leslie assumes that the curriculum developer and the facilitator are different people. Consequently, “the developer must be very good at documenting his thoughts”. If not, this may reflect a poorly structured programme: “So, if the documentation is not clear it is the sign of poor curriculum. No matter how well the developer was conceiving in his mind, and maybe in our verbal discussion, get a sense, an idea what the developer wants to do. Finally, when it reaches us [QAD – Ed], if documentation is poor, likely it would be poor curriculum.” From here it is assumed that the facilitator, too, would have difficulty in applying inadequately thought through courseware. As such it is important that the course designer aligns content with the curriculum standards, though according to Leslie “the true measure of an outcome is then whether you can track the individual to be able to apply the skills, to have certain improvements at workplace”.

Sydney, the consummate adult learning educator, views one of the hallmarks of effective curriculum development design as the incorporation of facilitator risk. By this he means that the design should permit the facilitator to vary curriculum content according to the contextual needs of learners and the additional knowledge and skills embodied within his or her experience professional experience: “Risk doesn’t mean it will be successful all the time so if it backfires, never mind, but you learned something, then you develop something better next time.” This in some ways suggests incorporating the bricoleurs idea of flexibility and dynamism as a design fundamental.

To conclude, the pragmatists’ curriculum design and writing practice appear more complex and heavily nuanced than their initial instrumental and market-oriented definitions might suggest. This dissonance may reflect a lack of exposure to the resources, ideas and eclectic experience of the bricoleurs who are able to express deeper and wider definitions of curriculum more closely aligned with their practice. Again, this reveals an overlap between the groups in relation to understanding of the politics of curriculum contextualisation and practice. For the pragmatists, it appears, curriculum design and writing is a delicate dance between adhering to real and perceived regulatory requirements and meeting the needs of facilitators, learners and other stakeholders. Creating the DACE programme is an exemplar of these pressures. To produce viable curricula within this environment, then, requires great skill and experience, which has been more than demonstrated, but accomplished within a discourse of compliance.

The DACE stakeholders: enacting curriculum

A core consideration within conceptualisations of curriculum purpose relates to how they play out in practice. If curriculum is conceived of as a fixed instructional missive for enactment by well-briefed facilitators there remains little room for practice-based interpretation and innovation. This approach might be labelled a "compliant" curriculum (Willmott & Karmel, 2011, p. 47). On the other hand, if it is thought of as a map or scaffold upon which facilitators and learners dialogically render further nuanced meaning and content, it becomes both flexible and dynamic, in effect an "interpretive" curriculum. From the literature review, the compliant curriculum is represented as a product, a noun denoting a fixed purpose of limiting ongoing practice-based (re)negotiation (Cornford, 1999; Billett, 2003). The interpretive curriculum more closely resembles conceptualisations of curriculum purpose as the original Latin infinitive verb "currere", which denotes ongoing interpretive activity at all stages of the curriculum-making process, from design and writing to practice-based enactment (Slatter, 1995, p. 56, in Schwab, 2006, p. 450; Dillon, 2009).

Within the DACE stakeholder group there is clear tension between which conceptions of curriculum purpose are enacted or indeed endorsed in practice. The views vary, but not exclusively, from where stakeholders sit in the curriculum-making process, whether designer, writer, facilitator, programme manager or quality assurer. Further clarifying insights may also be gained from the curriculum documentation and practice notes from a research team member's CET delivery of curriculum related modules.

Nicholas, a designer, facilitator and manager, appears to work within a compliant curriculum discourse, believing that "curriculum development, while it tends to stop at the stage where you hand over the materials to the facilitator, actually the truth is the facilitator is very much part of the curriculum design and development process; it's making the material come alive for the learners". Like other pragmatists, he assumes the curriculum design and facilitation process will be embodied in different people with little or no interaction between the parties. He shares with Anthony and Diane a conviction that the completed programme must be clearly outlined and quality assured to guarantee seamless transfer from designer to facilitator to learner. He puts his case in a manner that reflects the practicalities of completing programmes such as DACE: “It is a competency-based training and assessment WSQ. We are also mindful of the fact that we have to help them acquire the competencies. I mean, after all of our responsibilities in the DACE as a facilitator of the DACE programme is to help them at least try to achieve their SOAs [Statements of Attainment – Ed] for the various modules. I mean, people are putting in time and energy and money into the DACE programme to attend this, so I am mindful of the fact that they have to complete their assignment and so on and so forth because it is their livelihood we are talking about as well”. As such he believes “the interaction between the learner and the facilitator is part of the curriculum design and development process”. It is imperative, then, that the facilitator acts “on message” with regard to curriculum delivery: “I think anyone to some extent can present but not anyone can shape the thinking and learning of our learners, so of course all the instructional design principles must come in; this is kind of basic.” This, again, appears to reiterate a transmission model of learning with little learner input into determining or customising programme outcomes.

Leslie, a quality assurance officer, shares Nicholas’s conviction that curriculum documentation must be fixed and serve as a mandated guide to facilitators and learners. While offering initial hope that there may be opportunities provided for facilitator interpretation, in the end he believes it cannot be expressed unless regulated: “The trainer must exercise flexibility in terms of the activities in the sense that he may vary the activities. There could be a range of activities suggested. He can pick and choose depending on his target group. He could reorder the activities. He could add more examples; contextualise it further to the person’s work environment. And the discussion that is taking place in the actual training delivery. He can also quicken the pace, or slow it down. *The flexibility must be clearly indicated. The rationale for certain sequencing should be clear* [emphasis added – Ed].”

It is Sydney, again, who offers a contrary pragmatist view. Ever mindful of the realities of WDA and WSQ regulations, he is able nevertheless to practise an interpretive discourse within carefully mined liminal spaces of his own making. He achieves this through his masterful skills as an educator combined with expert knowledge of relevant content areas. He acknowledges that while some modules appear to provide limited creative or innovative opportunities for the experienced educator, they may nevertheless be reworked imaginatively within the stated competencies and content. His flexible and dynamic approach is reflected in his assumptions about how to utilise a learning space: “It’s a space so the teacher can be a student, the student can be a teacher. So whoever comes and interacts in that space ... results in learning happening. (It can be) designed that way.” And he believes the skilled educator can make “it happen anywhere”. He uses the example of tea-breaks and how as an informal space they can potentially provide powerful educational opportunities, if managed correctly: “The tea-break can be 45 minutes and it is designed with a specific learning objective in mind. That’s what I mean.

There's formal learning and there's informal learning but even informal learning can be designed." Sydney acknowledges that there is a degree of risk in stepping outside the suggested module instructional guidelines but this should be recognised within the design process: "There must be a caveat in it that says that this is just recommended, please feel free to amend accordingly." He is also critical of a perception among WSQ trainers that such innovatory practices are frowned upon by quality assurers and CET providers: "I mean, I listen to all the trainers in a WSQ setting, they said they can't even take out one slide, I can't even do this, do that. I must send my amended slides to whoever, ATO to approve first then I can use. So they feel very hampered and I think that is never a good thing because there are trainers, there are facilitators, you got to trust their professional judgement of what is the best route to get them, get the learners to the outcome."

Kenneth, a WSQ developer and curriculum designer, makes a strong link between curriculum design and syllabus delivery and shares with Sydney the belief that an effective facilitator can make or break a programme. However, like those other stakeholders wrapped within a compliant discourse, Kenneth assumes that success is determined by how tightly an organisation manages its trainers. He is concerned that employing external, casual or adjunct trainers may mitigate this control, as is the practice of many WSQ ATOs. By employing only "in-house trainers", however, "we can actually control the standard, the delivery standard", but with external trainers, "how can you make sure it can be done?

Research practice notes from reflections on the delivery of several DACE modules by one of the researchers suggests that in the hands of an experienced and risk taking facilitator, like Sydney, the sharing of module content interpolated from the facilitator and learner guide books can be rewarding for all participants. However, if delivered according to the module script, the sessions (depending on the capacities of learners and skills of the facilitator) could potentially be wooden and ineffective. Though not spoken of by any of the stakeholder group, perhaps because the practices are normalised, the delivery approach of half-day to whole day learning sessions appears, too, to be ineffective because of concentration and fatigue factors after eight or so hours of interaction. Modular assessments are not conducted by the facilitator, as is the convention in many other countries, but by independent assessors who spend upwards of an hour with each candidate working through their material. Little use is made of workplace assessment as an indicator of competent on-the-job performance and skill demonstration. At the end of the modules, then, there is not much evidence gathered that indicates learners are able to perform skilfully over time in authentic occupational settings.

Within selected DACE module materials, too, there is ample evidence of the failure of the programme to meet its original intention of creating educators with critical perspectives, able to move beyond the potential restrictions of a competency-based training system. In brief, the topics covered are those most likely to meet the current training needs of the sector. In this, the content cannot be faulted. However, apart from a limited excursion into innovative pedagogies such as problem-based learning, blended learning and e-technologies (DACE Module C5, pp. 175–184; DACE Module E1, 2010), there is little attempt to introduce future looking trends to push forward thinking about adult education curriculum design. The absence of detailed discussion of such assessment practices as workplace assessment, credit transfer, recognition of prior learning and recognition of current competency (Smith & Keating, 2003; Foley, 2004; Tovey & Lawler, 2008), and how they may shape future practice, potentially lock learners and facilitators into a self-validating system not readily amenable to agential change. These “structured silences”, then, exercise a powerful influence over the maintenance and perpetuation of compliant curriculum models. The silences, too, may be construed as containing a political dimension as lack of information can restrict choice and the subsequent formulation and adoption of alternative positions.

It is perhaps at the point of programme enactment, then, that most tensions arise in relation to the purposes or intent of curriculum design. To ensure a smooth “transfer” of planned content from the designer to the facilitator to the learner, and to meet external stakeholder skill requirements, there is assumed a need for the careful management of programme delivery; facilitators must carefully follow the prepared scripts and stay on task. This linear transfer process makes for easy slippage into adoption of a one-way transmission or deficit model of knowledge and skills delivery, in spite of classroom strategies that explore prescribed topics using exemplary constructivist and social constructivist pedagogies where learners individually and collectively make their own meanings, but within a narrow knowledge and skills base. Within this compliant discourse, experienced and skilled facilitators are placed in the invidious position of being expected to deliver by rote a tightly packaged programme while knowing that significant innovation or variation may be the only way to achieve effective learner meaning making. While educators have always interpreted curriculum this way and most likely will continue to do so well into the future, it is the perception that is not valued as an approved practice that often drives them to conform rather than perish.

Effective or “quality” curriculum: what is it?

The analysis of the respondent and documentary data above implies, rather than states, what is meant by “quality” curriculum. Within the international scholar and DACE stakeholder groups are suggested parallel models of quality practice, each framed within a particular set of understandings or discourses. The international scholars base their ideas of quality curriculum on the principles of curriculum designer autonomy and the production of programmes that are flexible and dynamic, and encouraging within them creative interpretation by facilitators and learners. This may be construed as an “interpretivist” model of quality curriculum. The DACE stakeholders base their ideas of quality curriculum on principles related to meeting client and market needs through high level alignment with the regulatory requirements of curriculum approval authorities at all stages of the design process. This close alignment extends also to facilitator programme delivery and learner assessment practices and may be construed as a “compliant” model of quality curriculum. Both groups share as quality components the production of curriculum that is based firmly on meeting the needs of learners and stakeholders, designed using consistent underpinning structural assumptions and philosophies, makes wide and deep use of subject matter experts, written clearly in a manner that aligns courseware with the overall programme objects or outcomes, and provides clear pedagogic and assessment information to facilitators and learners.

Within these differences and similarities are also further clarifications related to the production of “quality” curriculum, mostly appearing in discussions of what is meant by “good” as opposed to “bad” curriculum and the articulation of “best practice” principles and examples. As the word “quality” appears rarely in the transcripts, this has to be inferred within the context of the recorded discussions. It is to these that we now turn.

The international scholars

Stanley and Nancy are quite clear about their approach to producing good curriculum. While they emphasise that “there is no one way of doing it [writing curriculum – Ed]”, they agree that there is more or less a shared set of steps to constructing quality vocational education programmes. In an extended quote they idealise a method that involves:

> *... analysing the context, analysing the audience, being clear about the aims of the course, thinking about ... how those aims have been translated into learning outcomes, then looking at how these are going to be assessed; you know: what are the conditions in process; what are the criteria for judging success and then getting them to think about, you know, a map that sort of aligns learning outcomes, possible content, suggested teaching strategies, assessment strategies and resources ... integrate all of them into a grid or matrix source which you can actually see the relationships between them and then go again to some more practical things like who you need to teach ... , what resources do you need, how much is it going to cost and then how are you going to evaluate success, you know, actually do an evaluation at the end of it and the last thing we also asked them to justify their design and we actually get them to cost it out ... But the justification at the end is where we like*

> *to, as I describe, get inside your head and understand the thinking process.*

This is the process they advocate for their higher education vocational education teacher-trainees under the assumption that "the curriculum writer is often the deliverer as well and that's where we can bring in this reflective bit", a reference to there being "no such thing as a detached curriculum person" removed from making decisions informed by life-values and philosophies that unless vigorously interrogated through deep reflection has the potential to produce curricula that verges on indoctrination. Unless this is undertaken, there remains the possibility of producing the type of "poor curriculum" that says, "This is the book and this is what we deliver". Stanley and Nancy's steps to quality curriculum appear in a variety of ways within the bricoleur and pragmatist groups, varying only in the degree of contextual design autonomy or regulation applied to and within the process.

Evan, a professor of postgraduate studies at an American university, believes that in producing quality curriculum it is "increasingly important that all curriculum designers need to think about matching the medium to the message" and that incorporating chatrooms and other e-learning strategies within the design process be considered. Evan's is one of the few respondent comments which contemplates the use of e-learning and blended learning as a central component of quality curriculum design and delivery. The majority, including bricoleurs and pragmatists, assumes delivery will take place in a classroom environment where learning is guided by an educator working with a group of learners.

For Kate, "Good curriculum starts where the learner is at and has a very clear understanding of where the learner needs to get to, and I think it's got enough guidance for inexperienced people so they feel safe and confident, but not too much structure so that people who are more experienced be a better innovator to put things and add things ... one that is just not serving the needs of learners or in this case what industry needed ... I do think you need to take the needs of the learner, as well as the people who are going to be using it. It's really important." Very much based on Bruner's idea of the "spiral" curriculum (Bruner, 1968) and the dynamic, flexible and interpretive curriculum practised by most of the bricoleur group, Kate's approach privileges the learner and the facilitator at the centre of the knowledge and skill-making process with the curriculum designer designated as the provider of a map or scaffold to be reworked within the pragmatics of the learning practice environment. The map, however, must be drawn by an informed and skilled designer who "needs to understand theories of learning and theories of curriculum. It's really important".

Quentin, too, defines quality curriculum through privileging the educator-learner relationship. For him adult education is about capturing the "now" or "what's going on at the present time". Otherwise, the curriculum "becomes a prescribed course of study rather than the interaction between academics and students, and I actually prefer the interaction ... the living reality of students". However within this interactive process "the authority of the teacher must still exist, because some aspects of the knowledge spectrum could be missed". The "good teacher" is recognisable within this process through his or her mastery of "at least 10 different (teaching) methods comfortably" in order to "make a subject live, even if it is a bad curriculum, and I'm not sure if a bad teacher can make a good curriculum live like the same way". Perhaps with his tongue firmly in his cheek he suggests that the didactic lecturing mode of delivery is "in the beginner's tool kit. If you don't know your subject well, prepare a lecture on it and give it to them and get out before you expose your ignorance". Like Kate he believes the curriculum designer, whether the educator working with learners or removed from the learning interaction process, "must have a consistent theory of learning" when putting a programme together.

Singaporean expert Vincent merges the bricoleur and pragmatist approaches to quality curriculum. For him a "good curriculum" must guarantee the skills covered in programmes will meet the requirements of industry and secure employment. By way of contrast, a "poor" design may result in a programme lacking challenge that could result in the learner dropping out altogether. He believes the ACTA and DACE programmes are examples of good curriculum and meet a real need in the Singapore context but could be qualitatively enhanced through the addition of "blended" e-learning components and "portfolio" style assessment that incorporates a "buffet style" selection of modules rather than their current inflexible sequential approach.

Finally, for Barry the difference between a good and a poor curriculum is captured through the idea of coherence: "You don't want a curriculum to be an aggregation of fragments, so you kind of atomise things and just put them together in a box; there's got to be some kind of thread that runs through, something to kind of hang these things on, so I think there's a kind of question of coherence, question of consistency." This can be achieved within the WSQ system, he suggests, through recognising and exploiting the spaces between the rules within the regulatory framework: "There may be things in this whole process that you can't control, so the standards may be one, the assessment may be the other, then you've got a space in between in which you kind of operate."

For the international scholars, then, "quality" curricula are best practice exemplars of their curriculum definitions and related design, writing and enactment principles. Foremost in their thinking is the quality of the relationship between theoretically informed programme construction and its capacity for interpretation by a full range of educators, from novices who rely on its careful guidance, to experienced facilitators who remain free to incorporate and further adapt its content within an advanced skills repertoire. Learners, too, are implicated in the interpretive paradigm through working with the facilitator to re-read programme outcomes according to their needs and capacities. Once again, it is quality curriculum's potential for flexible and dynamic interpretation that sets it apart from less well-constructed counterparts.

The DACE stakeholders

The pragmatists' frame of reference for curriculum quality is measured largely against a programme's capacity to meet or even exceed the regulatory standards created and applied through a well established and understood WDA "quality assurance" process. Anthony, for example, suggests that as a quality assurance officer it is not difficult to spot poor curricula: "Easiest way to say it, if it is poor curriculum, firstly you will find it very difficult to run the programme, implement it. It won't make sense to your participants. The information that goes down can be very generic ... I've seen case where an ATO submit just two to three pages of lesson plan, for a 40–50 hours programme ... Which is very skeletal, skimpy, does not really say much about the programme itself" For fellow traveller Diane, the quality assurance process is equally transparent and well understood: "We are guided by the WSQ standards. For each individual module, there will be a competency standard as a guideline, as a reference, for us to match and ensure that the curriculum that comes in meet curriculum standard. That's one part of it. Besides that we also ensure there's adequate coverage of the CS [Curriculum Standard – Ed]. Because in WSQ we adopt the CBT [Competency-Based Training – Ed] approach, competency-based; so that's another part, in terms of construct, that we see the coherence in the curriculum itself." Francis, too, agrees that "Bad curriculum is a programme that has no content, no substance, no sequence, that is, no proper outcome and whatever's in the content doesn't link to the outcome ... Language is also very important, must be well written; the language must be suitable for that level".

William adopts a middle position on the issue of quality, erring on the side of practicality: "This part is subjective *lah*[1] but to me I am a very pragmatic person, whatever curriculum that we design has to be realistic and achievable, because sometimes we want to have the perfect design of curriculum, use e-learning lah, use workplace training lah, use coach supervision, but realistically, on the ground, is it implementable? Can it be done? ... So these are the constraints that I find to design a good curriculum: you must satisfy the practicality aspect and the business aspect for the client." Balanced with this is the idea of "bad curriculum", which he defines as "one that I think is trying to do too many things at one time, yeah, trying to do too many components, you know, combination of classroom, e-learning, too many, but it's a 'good to have', but not a 'must have' type".

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[1] Lah is a popular colloquial Singapore English term often used to reduce the force of an utterance, among other uses.

Nicholas's take on quality curriculum, in addition to the approved structural requirements, also includes its capacity to inculcate or encourage within the DACE programme the acquisition of a professional value system: "A good curriculum should also to some extent suggest or put forward a set of beliefs, really for people to adopt or not; it's really up to them. The set of beliefs is important so that we can professionalise that whole profession, the whole group of learners, in this case adult educator because we do need people, AEs [Adult Educators – Ed] with moral integrity etcetera." And like the bricoleurs and fellow pragmatists, he concurs with Quentin that "a poor curriculum ... may present the information relatively well like a book but it will not come alive ... So we mustn't view curriculum development and design as purely a stage where we just come up with the materials and hand over the materials to the facilitator. I think that's a bit myopic". He is, however, as we have seen, more circumspect on how far the facilitator and learner can take the "received" curriculum.

Sharon, too, suggests that the hallmark of a good curriculum is its interconnectedness: "Good curriculum is very connected and has this slight building block concept you know, so that means when I start you know, I lay this on and then I put something on top of it, and I'm always referring back, kind of a spiral curriculum, and I think that if the blocks fit properly you would have and you would achieve your outcomes, of course you would have a good curriculum." Inspired by Bruner (1968), she also uses his model to define poor curriculum practices: "Bad curriculum, well obviously you know there are gaps that are difficult to leap. From a deliverer's point of view it would be difficult to achieve, and maybe it aspires towards an outcome but doesn't make it clear how you know the outcome would be reached in a reasonably practical way." For her, quality curriculum is a mixture of carefully integrated design and delivery elements. She believes that "it's all kind of entwined; the courseware must also be strong in order for a good curriculum to achieve its objectives. Yeah, so if one part of a curriculum is bad, chances are you are likely to have an overall bad curriculum".

Leslie shares with QAD colleagues Anthony, Diane and Francis the assumption that identifying quality curriculum is a relatively straightforward proposition: "We base our judgement of good quality curriculum on what is documented. To us good curriculum must be covered by good documentation as well. Other than delivery strategy, the method, the activities, the contents, the pitching, the documentation actually will affect how consistently the curriculum can be delivered ... *So if the documentation is not clear, it's a sign of poor curriculum* [emphasis added – Ed]." This approach to measuring curriculum quality pragmatically through assessing documentary compliance is seen by the QAD officers interviewed as an effective and efficient way of steering and approving courses. By rating a curriculum against a set of agreed and legitimised standards it can be measured relatively unproblematically as meanings are considered unambiguous. In this sense the understood approval process may be regarded as a technology of compliance.

Sydney's position as a master educator influences heavily his conception of what is meant by quality curriculum; he considers it at the point of the sharing of module content with the facilitator and the learner in a learning space. As such, he explains, when discussing the "features of good curriculum, the engagement must intrinsically be very high. That means in the hands of any facilitator this curriculum will fly because the curriculum in itself has been designed so that it is engaging already. In whosever hands, the curriculum will be very engaging". As he has explained before, this is the point at which the facilitator should be systemically encouraged to take risks in his or her practice in order to maximise the learners' educational experience. Therefore, he suggests, if the facilitator is able to interpret the curriculum further to fit the needs of his or her learners then the experience will be even richer: "I'm very mindful that it is not a one-size-fits-all kind of cookie-cutter curriculum. I cannot assume that the people who come through this all start from zero because that's never true." In this sense Sydney has much in common with the international scholars and their reading of quality curriculum and their privileging of the educator-learner relationship.

For Kenneth, good curriculum means achieving a desired outcome measured as return for money on training investment: "Good curriculum is to get the design outcome ... If you have a good training programme, especially for employers who spent money to train the employees, you must get the desired outcome, so in a good curriculum the elements would be the whole process, the development process will actually (make obvious) all the necessary gaps that need to be aware of, will actually address." On the other hand, bad curriculum "can be due to different gap at different places, different possible points, so if you don't identify the right needs ... of course it's poor curriculum. So if similarly you cannot translate that into standards and all the standards cannot be understood by the person who writes the curriculum, then of course the outcome will not lead to the desired kind of objective". And unlike Sydney, Kenneth believes that the trainer or facilitator must be held to account or "really conform" when delivering the prescribed programme: "if the trainers cannot really deliver to the expectation of this then also it will affect the outcome".

Like Kenneth, Norman has also switched to the adult education sector from a university and shares his belief that a curriculum, whether "good or not ... will depend on whether what you design (will) bring about the desired learning outcome". As an example of this he discusses the example of customer service students and their capacity to solve problems: "when we expect employees to deal with non-standard situations they invariably fail ... because after they finish their basic (training) we never upgrade them anymore; we invariably never bring them back". This failure is due, he claims, to poor curriculum design that neglects to include "reflection and reinforcement of behaviour and learning and all that".

For the pragmatists, then, "quality" curriculum is judged primarily through its capacity for higher level compliance within a set of WDA system legitimised rules and standards. But quality may also appear within subsets of this imperative. For example, it could be: the consistency of alignment between the WSQ competency standards and the curriculum design objectives; the logic of modular or syllabus sequencing derived from the curriculum map; the variety or appropriateness of selected pedagogies; the level of fit between the developed programme and its underlying theoretical assumptions; the degree of interpretive freedom and risk taking – or not – given to the facilitator and learner; the level of economic return measured through increased productivity as a result of training; or the observed changes in learner workplace behaviour. This range of interpretations of quality, it appears, depends on where the respondent is positioned in the curriculum design and delivery process, whether curriculum designer, syllabus writer, quality assurance officer, programme manager, industry stakeholder, or learning facilitator. However, it can be confidently stated that most respondents in the stakeholder group are united in their support of the "quality through compliance" precept.

Conclusion

The chapter used an analytical narrative to present and discuss data gathered from semi-structured interviews with a purposively selected group of international scholars, another of DACE stakeholders, and additional material drawn from practice notes and documentary analysis, to consider the question "What does 'quality curriculum' mean to different people?". The aim of the question was to compare examples of international curriculum excellence with contemporary Singaporean adult education curriculum practice and identify similarities and differences, from which suggestions may be made to enhance or affirm existing ways of undertaking curriculum design, module writing and modes of learning facilitation. The issue of "quality" was asked to identify perceptions of quality from each group, which of course remains relative to the contexts in which such perceptions are made and judged. As a preamble to considering this question in the next chapter, a careful investigation and analysis was made of each group's ideas about defining, designing and enacting curriculum. A summary of this analysis and the materials examined in the literature review will be brought together to suggest a model for future "quality" practice within the DACE programme.

Conclusion, discussion and recommendations

Introduction

In this final chapter the thoughts of the international scholars and DACE stakeholder groups, as well as the conclusions of the literature review, are brought together and refined within a shared model of quality curriculum. The model will hold value for future reviews of the DACE programme and is framed within the two superordinate discourses determined through the analytical narrative. These are the labelling of the international scholars as operating within an "interpretivist" set of assumptions and the DACE stakeholders within a "compliant" set of assumptions (Willmott and Karmel, 2011). The international group was also labelled as "bricoleurs" (Cartledge, 2004), indicative of its members' broad and lifelong exposure to curriculum practice through the "craft" of curriculum-making. The DACE stakeholder group was also labelled as "pragmatists" for its members' practice-skilled capacity to respond quickly and competently to the requirements of a highly regulated regime of vocational curriculum guidance and compliance. The research summary and discussion of the model is followed by a list of recommendations and suggestions for future curriculum practice.

Quality curriculum-making: a summary of the project data

The project data was presented using an analytical narrative to present and discuss data gathered from semi-structured interviews with a purposively selected group of international scholars, another of DACE stakeholders, and additional material drawn from a literature review, practice notes and documentary analysis, to consider the question "What does "quality curriculum" mean to different people?". The aim of the question was to compare examples of international curriculum excellence with contemporary Singaporean adult education curriculum practice and identify similarities and differences from which suggestions may be made to enhance or affirm existing ways of undertaking curriculum design, module writing and modes of learning facilitation. The issue of "quality" was asked to identify perceptions of quality from each group, which of course remains relative to the contexts in which such perceptions are made and judged. A careful investigation and analysis was made of each group's ideas about defining, designing and enacting curriculum. The following summarises the outcomes of this analysis.

A core consideration within conceptualisations of curriculum purpose relates to how they play out in practice. If curriculum is conceived of as a fixed instructional missive for enactment by well briefed facilitators, there remains little room for practice based interpretation and innovation. This approach might be labelled a "compliant" curriculum (Willmott & Karmel, 2011, p. 47). On the other hand, if it is thought of as a map or scaffold upon which facilitators and learners dialogically render further nuanced meaning and content, it becomes both flexible and dynamic, in effect an "interpretive" curriculum. From the literature review, the compliant curriculum is represented as a product, a noun denoting a fixed purpose of limiting ongoing practice-based (re)negotiation (Cornford, 1999; Billett, 2003). The interpretive curriculum more closely resembles conceptualisations of curriculum purpose as the original Latin infinitive verb "currere", which denotes ongoing interpretive activity at all stages of the curriculum-making process, from design and writing to practice-based enactment (Slattery, 1995, p. 56, in Schwab, 2006, p. 450; Dillon, 2009).

The international scholars group, labelled "bricoleurs" because of the eclectic and "craft-based" nature of their acquisition of curriculum-making skills, appears to share several key ideas about the definition of curriculum. Foremost in their minds is its conception as a flexible, dynamic and engaging map of learning possibilities guided by a consistent philosophy of learning. Within this framework they tend to privilege the agential relationship of the learner and facilitator; the learner is to be respected for his or her choices in education as a lifelong journey, and the facilitator is encouraged to view the curriculum as a lens through which to exercise professional judgement and innovation. In a sense their musings represent an ideal view. Curriculum is imagined as unfettered by institutional or bureaucratic interventions and undertaken consequently from a position of power where curriculum choices and predispositions are able to be enacted.

For the DACE stakeholders, labelled "pragmatists" because of the practical manner in which they respond to and work within a highly managed programme-making environment, curriculum is defined in instrumentalist, pragmatic and technocratic ways. It is purposive and directed to the skill development needs of the nation. There is a clear market orientation, including an implied one for employers and learners. Curriculum is expressed as a series of practical and measurable outcomes underwritten by the requirements of paid work. Its conception is within a regulatory framework defined and managed by others and has clear links with the idea of underlying assumptions of political purpose within curriculum discussed in the literature review. This appears through the transcripts as a normalised and unproblematised process.

Within the international scholars and bricoleurs, curriculum designing, writing and enacting is a simple extension of their definitions. Curriculum design should be premised on sound educational thinking and pay heed to the needs of stakeholders. Within its structure there should be a range of feedback loops legitimising multiple interpretations according to the exigencies of delivery. It should be written in a manner that permits maximum appeal to the agential professional educator who will massage and enact the subsequent courseware material. It should also be relevant to similarly agential learners who may have a role in interpreting the material to suit their personal as well as occupational goals. In short, the bricoleurs adopt an interpretive discourse of curriculum understanding that permits flexibility at all stages of its development and enactment.

On the other hand, the DACE stakeholders' curriculum design and writing strategies are more complex and heavily nuanced than their initial instrumental and market-oriented definitions initially suggested. This dissonance may reflect a lack of exposure to the resources, ideas and eclectic experience of the bricoleurs who are able to express deeper and wider definitions of curriculum more closely aligned with their practice. This reveals an overlap between the groups in relation to understanding the politics of curriculum contextualisation and practice. For the pragmatists, it appears, curriculum design and writing is a delicate dance between adhering to real and perceived regulatory requirements and meeting the needs of facilitators, learners and other stakeholders. Creating the DACE programme is an exemplar of these pressures. To produce viable curricula within this environment, then, requires great skill and experience, which has been more than demonstrated, but accomplished within a discourse of compliance.

It is perhaps at the point of programme enactment, then, that most tensions arise in relation to the purposes or intent of curriculum design. To ensure a smooth "transfer" or recontextualisation of planned content from the designer to the facilitator to the learner, and to meet external stakeholder skill requirements, there is assumed a need for the careful management of programme delivery; facilitators must carefully follow the prepared scripts and stay on task. This linear transfer process makes for easy slippage into adoption of a one-way transmission or deficit model of knowledge and skills delivery, in spite of classroom strategies that explore prescribed topics using exemplary constructivist and social constructivist pedagogies where learners individually and collectively make their own meanings, but within a pre-determined knowledge and skills base. Within this compliant discourse, experienced and skilled facilitators are placed in the invidious position of being expected to deliver by rote a tightly packaged programme while knowing that significant innovation or variation may be the only way to achieve effective learner meaning making. While educators have always interpreted curriculum this way and most likely will continue to do so well into the future, it is the perception that is not valued as an approved practice that often drives them to conform rather than perish.

So then, what is concluded about the meaning of "quality" curriculum? For the bricoleurs, "quality" curricula are best practice exemplars of their curriculum definitions and related design, writing and enactment principles. Foremost in their thinking is the quality of the relationship between theoretically informed programme construction and its capacity for interpretation by a full range of educators, from novices who rely on its careful guidance, to experienced facilitators who remain free to incorporate and further adapt its content within an advanced skills repertoire. Learners are implicated in the interpretive paradigm through working with the facilitator to re-read programme outcomes according to their needs and capacities. It is quality curriculum's potential for flexible and dynamic interpretation that sets it apart from less well-constructed counterparts.

For the pragmatists, "quality" curriculum is judged primarily by its capacity for higher level compliance within a set of WDA system legitimised rules and standards. But quality may also appear within subsets of this imperative. For example, it could be the consistency of alignment between the WSQ competency standards and the curriculum design objectives, the logic of modular or syllabus sequencing derived from the curriculum map, the variety or appropriateness of selected pedagogies, the level of fit between the developed programme and its underlying theoretical assumptions, the degree of interpretive freedom and risk taking – or not – given to the facilitator and learner, the level of economic return measured through increased productivity as a result of training, or the observed changes in learner workplace behaviour. This range of interpretations of quality, it appears, depends on where the respondent is positioned in the curriculum design and delivery process, whether curriculum designer, syllabus writer, quality assurance officer, programme manager, industry stakeholder, or learning facilitator. However, most respondents in the stakeholder group appear united in their support of the "quality through compliance" precept.

A model for continuing curriculum quality within the DACE programme

In this section we bring together the thoughts and ideas of the preceding chapters and offer a model for continued curriculum quality improvements within the DACE programme. The model, represented in Figure 6, consists of three parts. The first part outlines the international scholars' assumptions for quality curriculum-making. The second part considers the DACE stakeholder group's assumptions for quality curriculum-making. The third part – appearing at the centre of the model – suggests a "mediated" approach that argues for consideration of both sets of assumptions before application within the Singaporean adult education context.

The model is purposively presented as a heuristic to facilitate reflection on the key assumptions made in the curriculum-making process. It is not concerned with details of the practicalities of training needs analyses, funding models, courseware design processes and approvals, pedagogical practices, assessment strategies, evaluation protocols, and so on. Rather, it privileges the thought processes and assumptions that both precede and inform these strategies. Therefore, though the model is schematically represented in a simplified two-dimensional space, the reflexive processes of curriculum-making are acknowledged as far more complex and iterative than represented here. The process is further simplified through concentration on key curriculum-making assumptions drawn from the data and literature review.

Structurally the model is divided into key assumptions made by the international scholars and key assumptions made by the DACE stakeholders. In many ways these are artificially separated into ideal types determined by a collective assessment of each group. As has been shown through the data analysis stage, there are overlapping ideas suggesting consensus through iterative dialogue rather than differences on many issues, hence the “mediated” approach to curriculum-making. Differences, however, are clearly evident in the assumptions made over such broad matters as the purpose and intent of curriculum and whether it is achieved, who it is for, who is involved in its construction and how and why it was successful, or not. It is attention to these issues that is suggested by the model. The approach employed, then, is one of metacognitive reflection, of the “why” and “how” rather than the “what”, “where” and “when” of curriculum-making.

Figure 6. A model for enhancing curriculum quality within the DACE programme: key assumptions for practice

Key assumptions	International scholars	Mediated quality curriculum model	DACE stakeholders
Conceptual discourse	Interpretivist	**Consult stakeholders** **Negotiate curriculum philosophy**	Compliant
Curriculum practice orientation	Bricoleur – practice based on broad and deep experience in a negotiated environment; eclectic, based on Western scholastic liberalism		Pragmatic – practice based on application of limited curriculum models within a highly regulated environment; specific, based on Competency Based Training (CBT)
Curriculum philosophy	Transformative		Technocratic and instrumental
Curriculum function	Curriculum as process – dynamic and flexible		Curriculum as product – static and regulated

Principal stakeholder relationship	Learner (inclusive of generic lifelong learning skills)	**Design curriculum** **Develop courseware** **Facilitate modules** **Assess learners** **Evaluate modules** **Evaluate curriculum** (constant feedback loops) ←	Industry (inclusive of just-in-time employability skills)
The curriculum design team	Small, mostly Subject-Matter Expert based; facilitators and learners can play major roles		Small to large, designer often separate from Subject-Matter Expert; facilitators and learners often play minor roles
Designer-facilitator roles and relationship with curriculum-making and delivery	Facilitator and designer often the same; facilitator expected to be scholastic, proactive, innovative; often included in design team		Facilitator and designer often different; facilitator operating in a compliant, risk-averse environment and are rarely included in design team
The learner	Participative, inclusive; emphasis on dialogic pedagogies		Participative, marginalised; emphasis on social constructivist pedagogies within a transmissive framework
Assessment	Broad-based; often includes workplaces		Competency based; non-authentic, rarely including workplaces
Evaluation	Cyclical and structural		Reactive and non-cyclical
↔ Potential for inter-assumption relationships			

In the following, the model is broken down into its constituent parts. Key assumptions are defined and then contextualised within the international scholar and DACE stakeholder groups. The mediated model is then outlined as discussed within the boundaries of the research findings and literature review. At the end of each section, selected questions are suggested for curriculum practitioners to address when designing new curriculum or reviewing existing curriculum. Others, of course, may be added. Finally, an overall assessment is made of the applicability of the model to Singaporean adult education curriculum-making.

Key assumptions

Conceptual discourse

The gathering of the international scholar group under an “Interpretivist” discourse represents the highest level of conceptual abstraction determined from the project data analysis. This is the broadest level where summary statements may be made regarding the overall or dominant characteristics of the assumptions, ideas and strategies informing curriculum-making activities. Foremost in members’ minds is a conception of curriculum as a flexible, dynamic and engaging map of learning possibilities guided by a consistent philosophy of learning. Within this framework is a tendency to privilege the agential relationship of the learner and facilitator; the learner is to be respected for his or her choices in education as a lifelong journey, and the facilitator is encouraged to view the curriculum as a lens through which to exercise professional judgement and innovation.

The gathering of the DACE stakeholder group under a “compliant” discourse represents the highest level of abstraction determined from the project data. This is the broadest level where summary statements may be made regarding the overall or dominant characteristics of the assumptions, ideas and strategies informing members’ curriculum making activities. Foremost in members’ minds are the practicalities of working within a highly managed environment where curriculum is defined in instrumentalist and technocratic ways. As such, it is more often than not considered purposive and directed to the skill development needs of the nation: there is a clear market orientation, often implied, for employers, stakeholders and learners. Curriculum, too, is expressed as a series of measurable outcomes (through Competency-Based Training) underwritten by the requirements of paid work. The idea of a compliant curriculum also has clear links with underlying assumptions of political purpose, discussed in the literature review. This process, however, appears throughout the data as normalised and unproblematic.

Questions for curriculum-makers:

1. What elements of the interpretivist approach may be incorporated within a CBT-oriented curriculum; for example, broad-based knowledge emphasising eclectic life-long learning (metacognitive) learning skills?

2. What assumptions should be teased out within the "compliant" discourse approach before proceeding with curriculum-making; for example, the potentially differing priorities given to the range of audience(s) or stakeholders the curriculum serves, and the potential for flexibility and interpretation with the constraints of a CBT-based curriculum?
3. Can both short-term and long-term learner outcomes be incorporated within compliant curriculum assumptions?

Curriculum practice orientation

"Curriculum practice orientation" refers to the manner in which curriculum makers from the international scholars and DACE stakeholder groups are permitted or choose to undertake curriculum-making. Choice, of course, is often mediated through the nature of existing bureaucratic and workplace affordances or constraints.

The international scholars' group labelled as "bricoleurs" is meant to convey a sense of its members' broad and lifelong exposure to curriculum practice through the "craft" of curriculum-making. As such, many activities are undertaken through tacit, even unconscious, actions based on prolonged exposure to curriculum theory and practice in a variety of educational settings. This eclectic mix of sustained opportunity, experience and scholarship leads to a seemingly "naturalistic" approach to constructing programmes that calls on a wide and deep repertoire of skills and conceptual frameworks.

The DACE stakeholder group was labelled as "pragmatists" for its members' practice-based capacity to respond quickly and competently to the requirements within a regulated regime of other-directed vocational curriculum guidance and compliance. Like the bricoleurs, the pragmatists have developed a set of strategies that work well with their given environment of affordances and constraints.

Questions for curriculum-makers:

1. Are curriculum models currently used to frame programmes subjected to regular critique in relation to their currency and applicability to contemporary curriculum-making challenges?
2. Is curriculum scholarship and reflection part of the curriculum-maker's professional development portfolio?
3. Is a range of curriculum models used when curriculum-making in order to internalise the skills of the bricoleur?

Curriculum philosophy

“Curriculum philosophy” refers to a guiding set of assumptions, beliefs and practices, usually mutually supporting and consciously expressed and articulated, that both inform and underpin the project logic of curriculum-making. In the case of the quality curriculum model, which is based on the project data analysis and conclusions from the literature review, the curriculum philosophy is expressed as a single and privileged concept denoting desired learner outcomes.

For the international scholars, the idea of curriculum as “transformative” signifies an outcome for learners that emphasises fundamental shifts in life and workplace orientations. This could mean, for example, challenging assumptions about the nature of the workplace and one’s place within it, the nature of the individual and his or her capacity to influence or shape change, adopting new ways to view the nature of learning, and so on. In many ways a transformative curriculum underpins the broader philosophy of lifelong learning.

For the DACE stakeholders, the idea of curriculum as “technocratic and instrumental” signifies an outcome for curriculum shaped by the immediate requirements of the economy and workforce skilling. While this is an understandable and justifiable priority for securing a nation’s future, there is little within it to offer the learner apart from up-skilling and increased employment opportunities. While there are few barriers to the technocratic and instrumental curriculum also being transformative for individual learners, there is little evidence that this was considered by the DACE stakeholders.

Questions for curriculum-makers:

1. What aspects of curriculum-making may be considered transformative of learner values and practices?
2. What transformative activities may be included in programme design?
3. What learning assumptions and philosophies underpin particular programme designs; that is, what is the programme’s intent?

Curriculum function

“Curriculum function” is a shorthand descriptor for curriculum-making and its status within the curriculum lifecycle. Within the bricoleur group curriculum is considered “dynamic and flexible” and often subject to informed reinterpretation by the facilitator and learners at the point of delivery. Within the pragmatist group, curriculum is considered a “product” to be regulated and remain relatively fixed after being made, including at the point of facilitated delivery. From the literature review (Chapter 2), the bricoleurs best fit within the “process”, “transformative” and “praxis” models and the pragmatists within the “syllabus” and “product” models.

Questions for curriculum-makers:

1. Is the agreed curriculum-making process flexible enough to permit a range of trajectories to achieve the agreed programme outcomes or competencies?
2. Does the design explicitly encourage dynamic reinterpretation of programme content by facilitators and learners within agreed outcomes or competencies?
3. How may dynamic curriculum interpretations be incorporated within practical skills-based programmes?

Principal stakeholder relationship

The “Principal stakeholder relationship” signifies a single word answer to the question: “Who is the curriculum for?”. The answer requires the curriculum-maker to prioritise curriculum stakeholders while acknowledging there are always multiple stakeholders in any project. The single answer approach, however, assists in shaping a programme’s fundamental orientation.

The international scholars make an assumption that the curriculum is “for” the *learner*, which assumes the enabling of skills, knowledge and theories within individuals and collectives and their recontextualisation within their work and life-worlds. Moreover, this educational portfolio includes within it skills for maintaining, developing and continuing learning throughout a lifetime. As such, employers and society may derive direct and lasting benefit from the learners’ educational portfolio but the ultimate beneficiary remains the individual.

The DACE stakeholders make an assumption that the curriculum is “for” *industry*, which assumes the enabling of skills, knowledge and theory within individual and collectives for the purpose of building industry competitiveness and subsequently national prosperity. The tendency, however, is to skill for immediate industry relevance rather than preparation for future scenarios of rapid social and industrial change. This approach, then, tends not to feature such lifelong learning skills as change-management, risk-taking, criticism and creativity.

Questions for curriculum-makers:

1. Have the needs of all stakeholders been considered in the curriculum-making process?

2. Have the implications of privileging one stakeholder group over the other been considered; if so, how?
3. Has the issue of “future-proofing” the curriculum been considered?

The curriculum design team

The composition of the “curriculum design team” is an essential consideration in the curriculum-making process. Both the international scholars and the DACE stakeholders share an assumption that a team-based approach is the best way to produce quality curricula through utilisation of a range of talents from diverse backgrounds. Personnel, for example, may include curriculum designers, subject-matter experts, industry-specialists and input from stakeholders, facilitators and learners. The ratio of team membership may, however, vary between the two groups (some of the differences are explored in the next two Key Assumptions). Both groups also agree that the process should include novice designers as a form of training, mentoring and coaching towards later curriculum design expertise.

Questions for curriculum-makers:

1. Is the curriculum design team inclusive of a range of stakeholder skill sets; for example, curriculum designers, employers, facilitators, learners and programme managers?
2. Is the curriculum-making process also considered as a training opportunity for novice curriculum designers?
3. Has careful thought been given to curriculum design team leadership and the associated responsibility of providing appropriate and relevant background information to inform the process?

Designer-facilitator role and relationship with curriculum-making and delivery

Project data indicated an expectation of different designer-facilitator roles and relationships within the bricoleur and pragmatist groups. Within the international scholars, for example, the curriculum-maker and the learning facilitator is often the same person. In addition, the facilitator is also assumed to be an active interpreter of the curriculum within the learning environment. This assumption is based on the idea of a facilitator as an educator and well-read educational scholar able to determine on-the-spot or pre-calculated, judgements, often in cooperation with learners, about ways in which to interpret a given learning design based on the situatedness of the learning environment. In many ways, then, curriculum design for the bricoleurs can be said to be “facilitator-centric”. Such contextualised learning, though, will also include a focus on achieving the curriculum's pre-determined outcomes.

Within the DACE stakeholders, an assumption is made that the curriculum designer and facilitator will not be the same person, nor will the facilitator be included as part of the design team. There is an assumption, too, that the facilitator is expected to deliver or facilitate the learning precisely as outlined in the learning modules, with minimal space given for interpretation, renegotiation, risk-taking or recontextualisation. As such professional judgement or scholastic reinterpretation of module learning and assessment strategies is not encouraged. In many ways, then, curriculum design for the pragmatists can be said to be "designer-centric".

Questions for curriculum-makers:

1. How will curriculum-making be affected by adopting a "facilitator-centric" or "designer-centric" approach?
2. Will learning facilitators or their ideas be incorporated in the curriculum-making process; if so, how?
3. What consideration will be made for facilitator or learner "professional judgement" in the curriculum-making process?

The learner

It is within the "learner" category of the model that the curriculum-making assumption of intent becomes clearest. As we have seen from the literature (Schwartz, 2006; Alexander, 2008), quality curriculum should, among other things, challenge and excite its end users – the facilitator and the learner. It does not achieve this through didacticism and prescribed or imitative content outcomes within a framework of ascribed objectives. Rather, the "intent" should be to encourage learners to engage in dialogic learning that enables creative use of content but then transcends it to facilitate "new" knowledge generation. In other words, dialogic learning encourages creative, critical and innovative thinking, a cornerstone of quality curriculum-making. In some curriculum-making scenarios, learners also play an active role in contributing to the learning design through membership of design teams or stakeholder input consultations.

Within the international scholars, learners are often considered dialogic learning partners in the construction and implementation of curriculum. They also are privileged over other stakeholders as the end-recipients of the learning programme. Within the DACE stakeholder group, learners are exposed also to engaging social constructivist pedagogies but within circumscribed content outcomes. In other words, while opportunities abound for participative learning within often-dynamic learning spaces, content outcomes are only those closely matched to prescribed competency outcomes. This produces a paradox of learning opportunity where inflexible content is transmitted through flexible and interactive pedagogical processes. Learners also have a limited role in the curriculum-making process, apart from contributing useful feedback through module evaluation sheets.

Questions for curriculum-makers:

1. Are there opportunities for including dialogic learning in the curriculum-making process?
2. What assumptions are made about the role of the learner when putting together curricula?
3. Has the curriculum design management team considered ways to include learner feedback in programme design or re-design processes?

Assessment

"Assessment" refers to the formal and informal strategies employed within a learning space to judge learner understanding and application of courseware content through formative (ongoing) and summative (final) tasks. The learning space could be a classroom, an e-learning environment or authentic workplace. Tasks are generally prescribed as part of the curriculum and courseware design, managed by the facilitator and either assessed by the facilitator or an external agent. Other models, however, may include peer-to-peer assessment, facilitator-learner negotiated assessment, or, indeed, no assessment. Assessment is usually of individuals but may include groups and is competitive within the courseware cohort (normative) or against an agreed set of standards or competencies (criterion-referenced). Assessment may be graded (numerical or alphabetical) or non-graded (for example, "competent" or "not-yet-competent").

Within the international scholar group it may be imputed that assessment strategies are "dynamic and flexible" within diverse settings, including learning spaces and workplaces. Within the DACE stakeholder group assessment is less flexible and conducted in non-workplace settings by external assessors against prescribed competency standards. From the data, however, both groups fail truly to engage in "authentic" workplace assessments across the curriculum, apart from teaching practicums. For the international scholars this may be due to privileging the learner within an ethos of Western liberalism and individualism that transcends the workplace. For the DACE stakeholders it may be due to the privileging of industry and the adoption of risk-averse and highly regulated assessment regimes that control and standardise the measurement of knowledge and skill sets rather than engage in the "messiness" and consequent variability of workplace skill demonstration, leading to, in the words of DACE stakeholder and master-educator Sydney, a “cookie-cutter” but known product.

Questions for curriculum-makers:

1. Have a balance of formative, summative, individual, collective, learning space and workplace assessments been included in the curriculum-making process?
2. Has the question of what constitutes “authentic” assessment been raised in the curriculum-making process?
3. Has assessment been considered across the entire programmes as well as within individual module courseware?

Evaluation

For the purposes of the model, “evaluation” refers to formal judgements made of the success, or not, of the curriculum design and associated courseware achieving their stated objectives as well as meeting the needs of stakeholders, including learners. Evaluation cycles are generally institutionalised through a set of auditing and quality assurance procedures facilitated by the educational organisation managing the programme but including formal committee and working group stakeholder representation. Outcomes from discussions within and between these groups typically produce recommendations for changes within the curriculum design and courseware aimed to deliver a more relevant and higher quality programme. While not discussed in the data or literature review, this process is known to be common to the institutions and systems constituting the international scholar group. **Questions for curriculum-makers:**

1. Has a formal and cyclical process of programme review been constituted for learning programmes?
2. Are all stakeholders included in the review process, including employers, facilitators and learners?
3. Has an action plan been developed to ensure the timely and phased introduction of suggestion modifications to the programme?

The mediated model

The mediated model outlined is a simplification of many curriculum design approaches currently in use (see the literature review for examples). Each step is assumed logically and functionally to follow the other, with all steps flowing through a continuous cycle for the life of the programme. The descriptors used are intentionally generic as they do not suggest any particular legacy, whether process or product, transformative or technocratic, interpretivist or compliant. In this sense the mediated model is unremarkable. However, the model becomes far more complex when the suggested “why”, “how” and “what” questions are asked of each stage of the curriculum design and implementation process. It is at these intersections that the potential for inter-assumption relationships are explored and the ideas of the international scholars and DACE stakeholders are considered in the spirit of open dialogue. The dialogical and cyclical process should result in curriculum design, re-design and review that is richly nuanced and of ever-evolving quality.

Questions for curriculum-makers:

1. What questions will be asked of impending curriculum-making projects?
2. Will a balance be achieved between “interpretivist” and “compliant” approaches?
3. Will the mediated model require adjustment to meet the requirements of individual curriculum-making projects?

Recommendations

The following recommendations are based on the findings of the project data narrative analysis, literature review, documentary analysis, practice notes and implications from the questions and assumptions suggested by the mediated model. They are intended to offer constructive advice to engender the continuing and qualitative growth of the DACE programme. The recommendations are divided into four categories:

1. Recommendations for curriculum designers;
2. Recommendations for learning facilitators;
3. Recommendations for CET Centres and ATO curriculum design managers; and
4. Recommendations for system-wide curriculum design governance.

Recommendations for curriculum designers:

1. Curriculum designers should view the curriculum-making process as iterative, negotiated and contestable at all stages of the design, implementation and evaluation process, within stated WSQ competencies.

2. Courseware design should encourage wider-reading than suggested in courseware notes; the objective is to encourage self-directed learning and the introduction of independently researched content into assessment items.
3. Facilitators and learners' input should be sought into the design, redesign or review of curriculum.
4. The curriculum design process should formally encourage learning facilitators' creative and innovative interpretation of curriculum and courseware implementation within the agreed outcomes or competencies.
5. The curriculum design and courseware process should include regular and cyclical review processes.
6. At all stages of the curriculum-making process, the curriculum designer team should consider the guiding questions suggested by the mediated model suggested above.
7. The curriculum design team should continue to be active scholars of the curriculum-making process.
8. The curriculum design process should acknowledge and cater for learner and facilitator diversity; for example in relation to learning styles, skill levels and modes of study (e-learning, problem-based learning, and so on).
9. The curriculum-making process should include clear guidelines for learner lifelong learning strategies; for example, scaffolding for scholarship, workplace knowledge and skill recontextualisation and metacognitive skill-building.
10. Curriculum-making should include clear recognition of skilling for the future and not just the immediate skill requirements of industry.
11. Curriculum design teams should pay particular attention to assessment strategies that encourage wider learning and adult education scholarship and their application in authentic workplace contexts.
12. Curriculum-makers should take particular care to decouple curriculum and courseware content from stated curriculum outcomes or competencies, a strategy that will open up courseware content to multiple interpretations and content alternatives.

Recommendations for learning facilitators:

1. Facilitators should be encouraged through the curriculum design process and the inclusion of innovative pedagogies to act as learner change-agents;

particular emphasis should be placed on self-directed learning, critique, creativity and innovation.

2. Facilitators should be encouraged to be adult education scholars and active and critical contributors to the curriculum design, implementation, assessment and evaluation process.
3. Where possible, facilitators should be encouraged to relate curriculum and courseware outcomes within authentic workplace contexts.

Recommendations for CET Centres and ATO curriculum design managers

1. ATO and CET Centres managers should encourage and support curriculum design teams to view the curriculum-making process as iterative, negotiated and contestable at all stages of the design, implementation and evaluation process, within stated WSQ competencies.
2. ATO and CET Centres managers should encourage and support curriculum design teams to seek input from facilitators and learners in programme design, re-design and review processes.
3. ATO and CET Centres managers should facilitate the development of regular and cyclical curriculum and courseware review protocols and processes.
4. ATO and CET Centres managers should encourage within their organisations the embedding within curricula of learner lifelong learning strategies including creativity, innovation, constructive criticism and metacognition.

Recommendations for system-wide curriculum design governance

The Workforce Development Agency (WDA) Quality Assurance Division (QAD) should consider a more flexible system of curriculum design modelled on the quality assurance of workplace assessed competencies or outputs rather than curriculum inputs, e.g. approach of the Australian Vocational Education and Training (VET). In other words, curriculum design and implementations should be left to individual providers for self-regulation, within QAD guidelines and subject to annual audit of learner evidence portfolios.

Conclusion

This concluding chapter summarised key points made in the earlier critical narrative data analysis and literature review chapters and incorporated them within a heuristic model for the continued quality improvement of the DACE curriculum management cycle. This was followed by a series of practice-based recommendations for curriculum designers, facilitators, ATO and CET managers, and system-wide curriculum governance. An overall suggestion made was that the thoughts of the international scholars and DACE stakeholders, though contextually and often qualitatively different, can be brought together in a mediated model that provides a range of contrasting assumptions for consideration in curriculum-making practice, both widening and deepening the discussions to be had, and questions to be asked when designing high quality Singaporean adult education curriculum.

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Published by the Institute for Adult Learning (IAL), Singapore
Research and Innovation Division
1 Kay Siang Road, Tower Block Level 6, Singapore 248922, www.ial.edu.sg
For more information on this report, please email: IAL_research@ial.edu.sg