On the Road to ITIL: Certification in an Australian undergraduate degree

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Abstract

The decline in the popularity of Information Systems courses in Australian and overseas has required educators in the discipline to look for more relevant content in a rapidly changing environment. Certification has been seen as an opportunity for IS courses to deliver both broad theoretical concepts and at the same time provide students with industry-recognised practical skills. For a university offering these clip-on options it is sometimes a compromise between theory and practice but it provides an edge in a growing competitive market in the Australasian region. The Information Technology Infrastructure Library (ITIL) has gained substantial grounding in organisations in recent years for managing IT services as they try to better utilize and manage resources to match them to business requirements. This paper discusses how the ITIL framework has been integrated into an Information Systems undergraduate curriculum in an Australian university. A certification model is discussed that allows students to gain an ITIL Foundations Certificate after completing a course. The paper reports on the success of the program which has led to positive employment outcomes and perceptions of industry relevance of courses.

Keywords: ITIL, IT Service Management, IS Education, Certification

1. INTRODUCTION

According to OGC (2006) "ITIL is the most widely accepted approach to IT service management in the world". The growth in ITIL implementation and ITIL training has been significant with much of the escalation taking place after the problems of IT management were exposed over Y2K. In-house approaches to IT service management are being replaced with standard methodologies such as ITIL. An INS survey in 2006 indicates from its respondents that in-house developed practices have shifted from being more than double those using ITIL practices (34%) in 2004 to being about the same at around 52% using ITIL (Blum, 2006). Reflecting the increase in ITIL adoption for large organisations, Davis (2006) states, "According to Forrester Research, ITIL adoption among 1billion USD+ revenue companies has increased substantially in the past

year. The number is projected to reach 80% within global 2000 companies by 2010".

The growth of IT Service Management (ITSM) and ITIL can be seen in the wealth of documentation available compared to five years ago. It was noted by Potgieter et al. (2004) that, "Very little academic material exists on ICT Service Management Best Practice". In Australia, the increase in attendances at IT service management conferences such itSMF demonstrates the growth of the importance of managing IT services (itSMF Australia, 2006; itSMF Australia Bulletin, 2006). Moreover organisations and individuals have moved from the early stages of ITSM maturity asking questions such as "What is ITIL?" to more mature stages which concentrate on "…. how to incorporate, improve and mature ITIL processes" (Bentley, 2006).

The increasing adoption of ITIL practices for managing IT services in organisations and the desire to provide students with an employment edge prompted the inclusion of ITIL into the Computer Systems Management degree from 2000 onward.

The Bachelor of Business (Computer Systems Management) commenced in 1997 after being upgraded and enhanced from an Associate Diploma of Business Computing the degree is delivered in Melbourne (mostly full-time students) and Hong Kong (mostly part-time students). Many students from the degree in Melbourne gain their first position in service desk, network or technical support areas. For these reasons it seemed essential to provide students with industry relevant service management concepts and skills as it a degree where there is often a direct link between material learnt and the employment outcomes for students

The challenge for IS academics is to modify their curricula to embrace the concepts of ITSM so as to provide graduates with the necessary skills to assist business enterprises in the future. This paper describes the introduction of IT service management concepts and practices into an undergraduate degree at Victoria University in Melbourne, especially the inclusion of the best practice approach of the Information Technology Infrastructure Library (ITIL) guidelines. The paper examines the potential use of ITIL in a broad IS curriculum and it provides a guide to academics who may be contemplating the use of ITIL in their curriculum. The paper also provides some feedback from students and staff.

2. STUDENT DESTINATIONS

Until recently, Australia has enjoyed a relatively stable, publicly funded and independent university sector. In contrast, the first decade of this century has seen major changes to the ways Australian universities are funded and managed. According to Tierney and McInnis (2001), Australian universities provide a good example of the problems facing public universities in an era of globalization. "A decade ago most institutions received over 90 percent of their funding from the federal government; today no university receives more than 50 percent from the federal government" (Tierney & McInnis, 2001).

Universities have sought a number of ways to increase revenue such as offering courses in other countries, attracting students onshore from overseas, and introducing full fees for local entry into a university course. The result has been a significant change to the ways that universities operate with students now paying higher levels of HECS or full fees which has further changed the climate of university life.

The Information Systems discipline has been significantly affected by these changes, more so than most other disciplines. Student numbers have declined in the Information Systems discipline over the last few years following the peak in 2000 to 2002. While there is anecdotal evidence that growth in available IT jobs is improving this has not translated into undergraduate enrolments in recent years. In 2005, undergraduate IS enrolments at Australia universities had declined by as much as 40% while the international market for IS students was almost non-existent (DEST, 2006c; Lea, 2006). Recent statistics indicate little movement in student numbers.

The Australian Commonwealth Government has also changed the way that it provides its decreasing proportion of funds to universities. Commonwealth Government funding is often linked to factors that involve metrics of university performance in specific areas such as student outcomes. It is in the area of student outcomes that some universities have been able to gain additional funding

through programs such as the Learning and Teaching Fund – LTF (DEST, 2006b) on top of student enrolments.

One of the measures of student outcomes is *student destinations*, that is, the proportion of students who gain employment immediately after graduation. In Australia, employment rates of graduates have varied significantly across the sector and amongst student groups and it is a major aim of the Commonwealth Government to improve these rates in coming years (DEST, 2004a). Thus Australian universities are now looking for ways to attract and retain students to gain enrolment revenue but also to make sure students are attractive to employers so as to gain additional funding from the LTF. Certification plays important role in this area.

3. CERTIFICATION

The concept of certification is not new to IS discipline based courses although the method of achieving it may vary between institutions. However, although "… IT industry certification programs are seen as a respected and widely-established vehicle for attaining specific, practically based expertise (Jovanovic et al), many tertiary institutions have chosen to avoid them (Basu, 2002; McCain, 2001). A number of writers have noted that the implementation of certification programs has often been ad hoc with institutions reacting to declining numbers by looking for quick fixes (Rothke, 2000; McCain, 2001).

Tertiary IT/IS courses are arguably more suited to accommodating certification programmes as they are highly industry specific and they often contain large practical components. Nevertheless, many institutions choose not to incorporate certification programmes labelling them as being too training or proprietary oriented to be considered as educative (Jovanovic et al, 2006; Flynn, 2001). It is interesting to note that one of Australia's largest universities, the University of Melbourne, has developed new generic undergraduate courses leading into postgraduate degrees. These undergraduate degrees have removed substantial amounts of content specific material. Moreover there is often a dilemma faced by institutions.

Thus degrees offering certification programs provide both advantages and disadvantages (See Table 1 in Appendix).

Recent research undertaken by The Faculty of Business and Law at Victoria University, Australia while reviewing the core courses of all undergraduate degrees found that employers and past students placed greater emphasis on soft skills or *core graduate* attributes such as communication, management and group work than on discipline skills. Yet students choose degrees based on discipline-based content and the skills developed in those degrees rather than soft skills.

Thus IT/IS certification needs to be examined and implemented in a way so that it complements a broad range of skills and objectives (Mehaut, 2001). This paper will outline one model used for the introduction if ITIL into an undergraduate degree.

4. ITIL OVERVIEW

ITIL is a best practice process-based set of guidelines for managing information technology services which were developed in the 1980s by the CCTA (Central Computer and Telecommunications Agency) in the United Kingdom. The agency in 2001 amalgamated with the Office for Government Commerce (von Bon, 2002). ITIL version 2 comprises of a number of sets (publications), the main sets being: Service Support; Service Delivery; The Business Perspective; ICT Infrastructure Management; Application Management; and Security Management. The interrelationship between these is shown in figure 1. The most widely adopted ITIL version 2 processes are from the Service Support and Service Delivery sets. (Note: ITIL version 3 is not discussed here as it is still being implemented into the curriculum in 2008/2009). The processes taught are common to version 2 and version 3.

Computer Systems Management Degree Structure

The Bachelor of Business (Computer Systems Management) degree consists of 24 courses, organised into a structure that comprises 7 common core courses, 3 compulsory professional development courses, 7 specialisation/support courses and 7 elective courses. The structure is regulated in this format for

all Faculty of Business and Law business degrees.

- 7 Common Core Business Courses which all business students undertake and provides a common business grounding.
  - Information Systems for Business
  - Accounting for Decision Making
  - Business Law
  - Economic Principles
  - Business Statistics
  - Introduction to Marketing
  - Management and Organization Behaviour
- 3 Compulsory Course in Professional Development
  - Professional Development 1, 2 and 3 (at each year level of the three-year degree)
- 7 Specialisation Courses for the Computer Systems Management Specialisation. These must be undertaken by all students
  - Introduction to Business Systems Development
  - Systems Analysis and Design
  - Database Systems
  - Computer Systems
  - Managing Network Integration
  - Managing the Computing Environment **(strong ITIL component/theme)**
  - Managing Systems Development **(some PRINCE2)**

7 Elective Courses. Most in the degree students complete the following electives

- Computing Practice ***(ITIL component)***
- Managing IT Service Support ***(very strong ITIL Service Support component)***
- The Information Professional (needed for ACS accreditation)
- Computer Project ***(possible ITIL based projects)***
- Work Integrated Learning Studies, 2 courses over one-year ***(possible ITIL in practice)***

5. INTEGRATION OF ITIL IN COURSES

The impetuous to integrate ITIL into teaching arose in 2000 from taking students on a site visit to an IS department that was introducing ITIL. The IT manager gave a presentation to the students on how the company was developing its service catalogue, improving incident management processes based on ITIL and moving to introduce other ITIL processes. ITIL processes have now been introduced into a number of courses. Figure 2 shows the mapping of these courses to the ITIL framework indicating the courses that include ITIL and where the ITIL focus is in the course.

Managing the Computing Environment

Managing the Computing Environment has been conducted since 1997 and was the first course that ITIL concepts were introduced into in 2000. ITIL mapped easily into the existing topic areas of the course. This is the first course that Computer Systems Management students undertake that exposes them to ITIL and is taken by second-year students.

The course aims to provide students with the skills necessary to plan the purchase of new/replacement equipment, cater for change in computing hardware and software, determine organisational standards, plan strategic changes, monitor system performance, prioritise system developments, and allocate resources effectively.

The topics covered are: IS Environment; IS Structures; The IS Manager and IS HRM; ITIL Framework.; Financial Management for IT; Purchasing of hardware and software; Outsourcing, Information technology steering committees, Efficiency and effectiveness of IT; Managing and supporting users; Configuration Management; Managing Security; and, Managing Change.

Computing Practice

This course seeks to create a learning environment blending theory and practice which nurture and encourage the student's capacity to develop and consolidate: professional

skills; identification of potential job options; an understanding of his or her ultimate contributions to the field; and contacts in the field.

The course content includes: The nature of work in the Information Communications Technology (ICT) industry; Concepts embodied in the "Help Desk"; Systems Management; and Preventive Maintenance; Help Desk Management & Operations; Training and certification; Professional Communication and working with User Groups.

Topics covered: Resume Writing, Job Applications and Business Correspondence Considerations; Introduction to Help Desk Operations; Introduction to ITIL; Running an effective help desk; From Help Desk to Service Centre, the changing role of help desk; Management of a help desk/Staffing the Help Desk; Software Tools available for the Help Desk; People skills the importance of communication; Customer Relationship Management (CRM); Outsourcing & Application Service Providers implications for Help Desks; Am I a Help Desk Professional; Certification.

The strengths in this work integrated learning course where students have to complete a minimum placement of 80 hours are: Adding Value to degree programs; Work related experience; Practical rather than just theoretical focus; Opportunity to make Industry contacts; Work Placement targeted to local organisation needs; Industry liaison opportunities; Potential employment advantages for graduates; Forerunner of future requirement for all courses to have a work integrated learning component

A preliminary survey of the placement organisations indicates very little ITIL awareness.

Managing Systems Development

This course has a strong emphasis on project management and introduces students to the Prince 2 methodology. The course coordinator has obtained Prince 2 and ITIL certification. Changes in the re-development of the course are currently taking place.

Contemporary Developments in Information Systems

Students investigate and write an academic paper on an area of interest. Students are now encouraged to investigate ITIL and have chosen and completed papers in ITIL related topics in Business IT alignment with ITIL and, ITIL and its impact on IT.

Managing IT Service Support

This is the newest course to be developed and commenced in 2005. It aims to give students a theoretical, practical and best practice approach to managing IT service support directly based on ITIL guidelines. It is intended for final year students.

The topics include: Introduction; Overview of IT management processes; ITIL Processes - Incident Management; ITIL Processes - Problem Management; ITIL Processes - Configuration Management; ITIL Processes - Change Management; Managing IT Customer Relations; IT Service Management Issues - Site Visit or Guest Speaker ; IT Tools for managing support; Performance measurement and reporting; IT Support as a profession.

Managing IT Service Support is intended to give students practical experience and is therefore structured as a one-hour lecture and a two-hour workshop per week. The workshop is structured so as incorporate about one-hour of service support activities and one hour of hands-on use of an ITIL compliant service desk management application.

Skills development feedback from students:

"… a real benefit for me as it has made me understand the concepts of IT Service Desks more extensively. With the course, concentrating on the ITIL concepts, it has made me realise on how vital it is all the processes fit in for a successful service desk… The structure of the course is really well set as the lectures give us a theoretical insight on Help Desk and ITIL concepts and the workshops aid in giving us a practical understanding of how the theory is put in to practice" (Anon 3).

"The assignments in this course are fairly difficult for someone who doesn't know much about service support, ITIL, RFP's and writing up business documents. That's why being a 2nd year or 3rd year student is necessary in this course, in order to use what you have learnt in other courses and use some of that knowledge in this course" (Anon 4).

Students from the Schools' other IS courses are undertaking Managing IT Service Support as an elective to gain an employment edge as many of the these students are looking to undertake one-year Work Integrated Learning (WIL) placements and they have observed that employers of WIL students are advertising knowledge of ITIL in the placement positions. The School's WIL Officer has also been suggesting to students that they strategically look at doing an ITIL course to increase their placement chances. We have received feedback from the WIL Officer that some students have specifically gained placements in organisations that wanted students with ITIL knowledge.

Job related feedback from students:

"Having some knowledge of this software [CA Unicenter ServicePlus Service Desk], I have gained a Co-Operative Education position at Victoria University for 2006… Many times in interviews I am given a scenario where 2 or more clients are requesting for your help. And I never really answered this correctly. With the help of ITIL, I can now confidently answer these types of questions by explaining the impact, urgency and priority of each clients situation and how it will effect the business." (Anon 4)

"in the interview they mentioned they were interested in what I was doing in BCO3001 and ITIL" (Anon 2)

"The fact that ITIL is a thing that is getting adopted by industry today & is going to be relevant or should I say important to be more employable" (Anon 6).

The vast majority of students have made general comments that indicate positive experiences in Managing IT Service Support which overall was rated at over 4 out of 5 by the students. These rankings come from a formal Student Evaluation of Subject (SES) survey conducted at the of each semester. In many cases the ranking is as high as 4.8 in areas of relevance for job prospects. Typical of many student responses are the following:

- Learning about ITIL
- Hands-on experience
  - *"using CA gave me a good insight of a help desk"*
  - *"Great tool! Helps understand the content of the theory work"*
- Creating SLAs and RFPs [Service Level Agreements and Requests for Proposals]
- Gained new knowledge
  - *"better understanding on the concepts of what is involved in service support"*
  - *"expanded my knowledge in service support in knowing other areas in which is invisible to many general users"*
  - *"good understanding of ITIL from top to bottom"*
- Enjoyed the course
  - *"Really rewarding experience, this course will benefit my skills in IT"*

We have received feedback from students who have taken ITIL into the organisation they have commenced work for and have helped initiate change towards the implementation of ITIL processes. Formal interviews are yet to be undertaken as part of the next stage in the research. However, the anecdotal evidence so far from the degree is a pleasing. It indicates pro-activeness into the industry by students following what they have learnt in their degree. The following are some examples of the feedback:

A Hong Kong based student reported on their achievement: *"There are 40 MC questions, I got full marks on that exam." – this is an excellent achievement as few people would gain a perfect score on the ITIL Foundation Exam. The student is seeking to continue further certification asking in an email: "I have another question, I want to get the ITIL Manager's Certificate. I need to take the course on ITIL Manager's Certificate or I can attain the exam after I register the exam date?"*

Another Hong Kong student reporting success sent an email stating: *"Thanks for your advice. I got pass in the ITIL foundation exam."*

Certification is something we have observed Hong Kong students wish to attain more so than Australian students. A typical attitude from an Australian student is indicated by this response: *"I was one of your Managing the Computing Environment students in*

2005, I didn't undertake the ITIL online course as I didn't think it was necessary for my career goals as I have always wanted to be an IT Trainer and wanted to gain a lot of IT knowledge and skills to become an IT Trainer. I did enjoy your course very much, as now I am working for a telecom company which is an outsourcing call centre in Melbourne and across Australia."

However, other factors do influence Australian students as they generally work on average 15 hours per week to support their studies, with another student stating: *"I did seriously consider undertaking the ITIL Foundations Course however I held back due to increasing work commitments which meant I couldn't afford the time to complete the ITIL course on top of work and university requirements. Work did offer to pay for me to do the course but that didn't eventuate as workloads changed … By updating the course to include ITIL, you have helped me get to where I am at the moment with [superannuation company name removed]. Thanks Heaps!"*

Co-operative Education (Work Integrated Learning/Internship)

Students have reported that their knowledge in the courses has helped them gain Co-operative Education 40 week placements. Also the industry placement helps them understand the need for an ITSM skill set. One student commented: "How have you been. I have been kept busy here at [company name removed]. I have learned a lot about myself and about certain areas of BBCM [university degree code]. Particularly I have used some of the ITIL knowledge I gained by completing Managing the Comp Environment. I have also realised that it is very beneficial to have a base knowledge of the ITIL framework and want to do the subject next semester.

Computer Project

This is a typical IS capstone course, however students undertaking the Computer Systems Management degree have undertaken projects that may not be in application development. A project group in 2005 used ITIL Security Management guidelines as the basis for performing a security audit and assessment in an organisation. Another project involved the implementation of a server, the installation of an ITIL complaint version of CA Service Desk and production of an ITIL compliant training manual.

Finally the Schools' Course Advisory Committee has been impressed by the introduction of ITIL into the degree who see this as keeping the course industry relevant.

6. INDUSTRY PARTNERSHIPS

To ensure industry relevance and certification provision for ITIL two key industry partnerships have been formed. These partnerships were commenced 2004.

Computer Associates

Through a formal Academic Partner Program, Computer Associates (CA) software is provided free. Currently we are using CA Unicenter ServicePlus Service Desk v6. We are looking to implement CA Service Desk v11, Knowledge Base and Dashboard for 2007 and have begun trialling this version. Usage of CA Service Desk by students is seen to be one of the most stimulating aspects of Managing IT Service Support.

Guest speakers have been provided from CA and have rated at close to 5 out 5 for the content and satisfaction of the presentation.

The Partner Program allows for two staff to attend CA training courses for free if there is space in a course. To date two staff members have attended introductory courses and the administration course. This has assisted in preparing workshops and exercises for students and with administration of student accounts.

The CA Education Director signs the student's certificates for the course Managing IT Service Support (appendix 1).

The Art of Service

The Art of Service was one of the only companies in Australia in 2003 to offer an ITIL Foundation Certificate on-line. After making contact with a director at a TAOS seminar and follow-up via phone and email an arrangement was agreed that provided the online course to students at a reduced cost (~$200AUD). Students can sign-up and pay for the course at the specially created web page by TOAS for VU students. (http://theartofservice.com/ITIL-news/ITIL/ITIL-in-Australia.html). The cost of ITIL exam is $275 and is conducted at the

external body authorised examination centres. We are now negotiating arrangements for students to be able to undertake a number of e-learning courses at a reduced fee: ITIL Foundation v3; ITIL V2-V3 Bridging; and ISO/IEC 20000 Foundation. However, the fees have increased and it will be of interest to discover the student's reaction, as many seem to consider $200AUD a barrier.

7.CERTIFICATION MODEL

This section discusses the certification model adopted to encourage students to gain the ITIL Foundations Certificate by e-learning through The Art of Service alongside courses that include ITIL processes.

We try to encourage students to consider gaining the ITIL certification as adding value to the degree and giving them an employment edge. The on-line course with the Art of Service involves about 18 to 22 hours work to go through the content. We have been advising students to undertake the on-line course alongside or in parallel with courses that include ITIL processes, as we believe this will match in with current studies and they can dialogue with staff members regarding their e-learning component. A number of certification models in university programs have been explored by Jovanovic et al. (2006) with this ITIL certification model fitting into their inclusive and end-on model (Figure 3).

The specific benefits for students in gaining the ITIL Foundation Certification in the degree are: Adding Value to degree programs; "Up-to-Date" certification qualification; specific targeted content very relevant to employers; adjunct to education programs offering verifiable testing of skills and knowledge; and, potential employment advantages for graduates. As an example of this advantage a student reported that in an interview "[the employer] was particularly impressed with the fact that I'd undertaken the BCO3001 - Managing Service Support course, and that I'm still currently trying to obtain my ITIL certification."

The certification model we have asked students to follow is in parallel with the course. However, in practice it has been found most students are adopting an end-on model whereby they undertake the ITIL Foundation certificate course after completing the course or degree. There are few reasons stated by students why they prefer the end-on model: not willing to commit time during semester; did not see the value until the course was nearly finished or finished; realised the value of having an ITIL certification when they started looking at IT jobs. As can seen by further student comments:

"I am still currently under the ITIL e-learning course, it's hard trying to do the course as it's very time consuming trying to remember the theory. I also have access to the textbook in which I am reading currently. I plan to take the ITIL exam a few weeks or so before Christmas." (Anon 1)

"The course itself is very informative and useful; I do recommend it to for IT professionals willing to expand their knowledge base. The ITIL course will be a very handy tool, as I have come across various job applications requiring this certification. Thank you for the opportunity in facilitating extra certifications at reduced pricing. More students should take advantage!!!" (Anon 10)

"I've completed it [ITIL by e-learning] and the exam. I found the course is good for giving basic groundwork on the covered topics and laying out processes and their relationships. It was easy to follow and understand, the exam was comprehensive as well and while some questions were challenging none were overly difficult. Thanks for setting up the ITIL option through the Art of Service it was a great opportunity." (Anon 2)

8. ISSUES AND BARRIERS

Skills Acquisition for Teaching Staff

One major issue is how do staff members that have not had exposure to a framework such as ITIL gain knowledge and integrate it into their teaching. For the authors this has required an immense number of hours, and including attaining the ITIL Foundations Certificate in 2001. Staff members have gained certification through industry training courses for the ITIL Foundations Certificate, knowledge through reading and attending industry seminars and conferences. To gain an increase in knowledge and understanding of ITIL staff members have engaged in: reading white papers and industry publications; undertaking professional courses; attending industry seminars and training; attending service management conferences; supervis-

ing research students and student papers. Further increase in knowledge could be gained from Outside Study Programs, placements in industry for academics and gaining grants for research in service management.

Incentives for students

To increase the participation by students in undertaking ITIL courses and the ITIL certificate, prizes and certificates have been awarded to students. We have the following incentives for students:

- Computer Associates (CA)/VU certificate that is given by the School to all students who successfully complete Managing IT Service Support.
- Certificate of completion for The Art of Service e-learning course material
- Prize of $250 for the best ITIL Foundations Certificate result is awarded to the student who obtains the highest result for the exam.

Students have been very positive about receiving the certificate for completing Managing IT Service Support and have indicated they are including it in their CVs. Illustrative of this is this student's comment, "… obtaining a certificate on completion of this course, I can use it in my resume, job applications and interviews which I believe can give me a competitive advantage over many students without any experience and qualifications" (Anon 4).

However the main issue is that even though anywhere from 30-50% of students in class typically express an interest in undertaking the ITIL Foundations Certificate in practice just under 5% of students have undertaken the course by e-learning. This would indicate even though it is a positive experience with employment outcomes for students that have completed the certification the majority of students are not taking up the offer to add-value to their degree.

9. FUTURE PLANS

Development of simulations, case studies and scenarios to stimulate what can otherwise be rather tedious service management concepts. In future semesters and in line with University Teaching and Learning strategy we wish to strengthen the move towards a more learner-centred approach rather than teacher-centred. Development or changes to existing courses to incorporate and enhance infrastructure management and security management. We are also looking to pursue other types of involvement of industry partners in delivering certification. To strengthen the ITSM components within the specialisation of the degree and to extend industry liaison through student projects. Finally we need to explore the low participation rate by students in obtaining the ITIL Foundations Certificate.

10. CONCLUSION

The paper has outlined a certification model for the inclusion of ITIL concepts into degree courses. This preliminary findings from the research suggests that students prefer an end-on certification study path rather than in parallel with a course. Initial findings indicate that there are positive outcomes for students in employability and relevance of courses undertaken. Yet for this to occur, staff must undertake considerable preliminary work, often unsupported, to develop and support these demanding courses. Future research needs to reflect on the early positive indicators and to understand the reasons for low participation in the ITIL certification option.

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Appendix

Advantages of Certification	Disadvantages of Certification
Adding Value to degree programs	Exist to support training industry Still often lacks "real-world" experience
Work related experience	Proprietary nature
Practical rather than just theoretical focus	Lack of educational rigour/accountability
Up-to-Date" nature of certification programs	My not be "Value-for-Money"
Specific targeted content very relevant to employers	Industry partnership may be inadequate or unstable
Industry liaison opportunities	Too market driven
Adjunct to education programs offering verifiable testing of skills and knowledge	Excludes experiential knowledge not knowledge driven
Potential employment advantages for graduates	Training oriented rather than education oriented - Too focussed on certification

Table 1: Advantages and disadvantages of Certification (Stein et al, 2005)

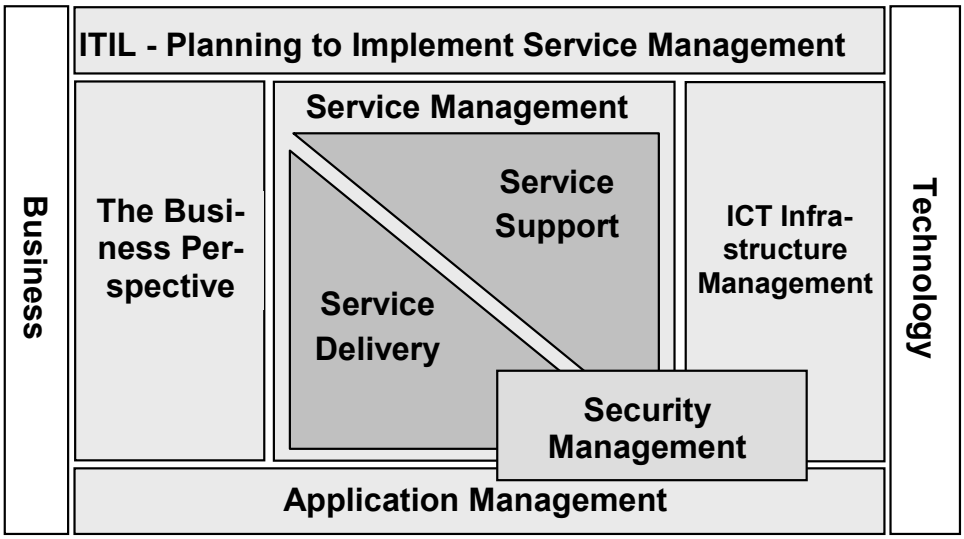

Figure 1: ITIL Version 2 Framework (Macfarlane & Rudd, 2001)

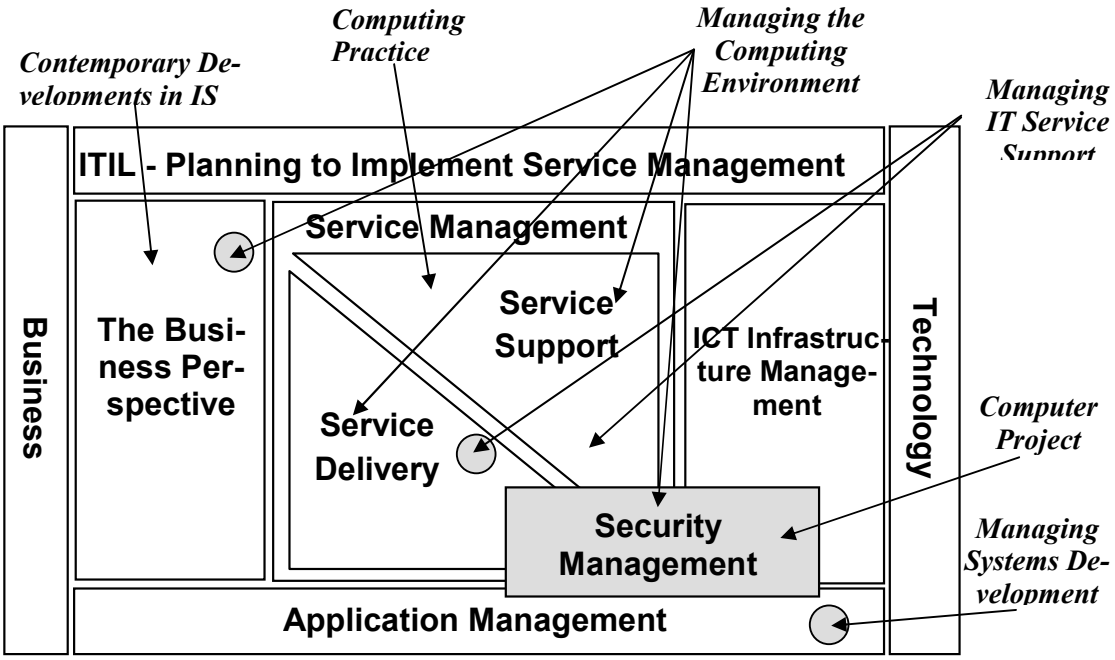

Figure 2: Mapping courses to the ITIL Framework

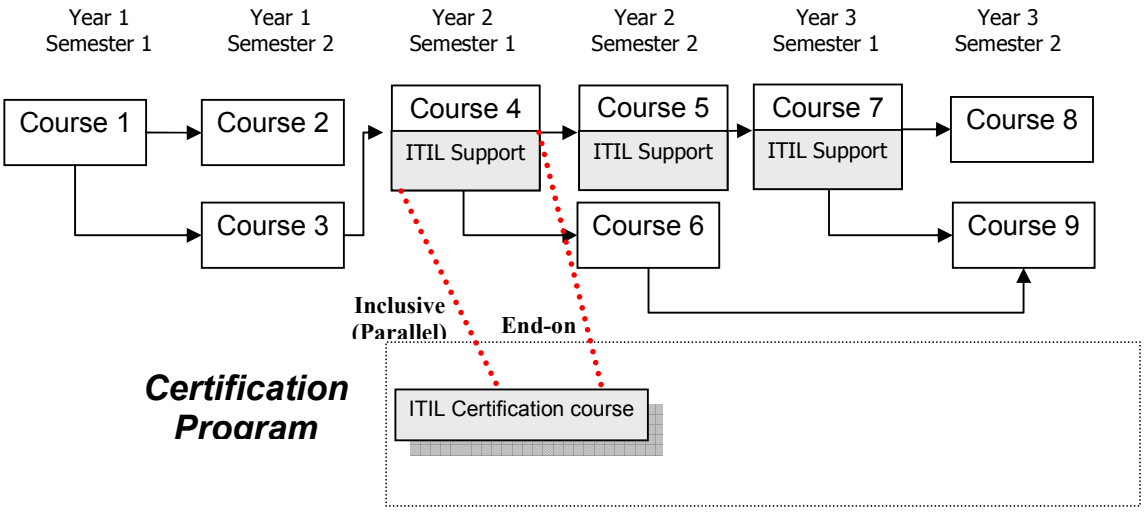

Figure 3: Certification Model Inclusive (Parallel)/End-on (adapted from Stein et. al (2005))

Certificate given to students who successfully complete Managing IT Service Support.

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This is to certify that

has successfully completed

BCO3001 Managing IT Service Support

and in evidence whereof this
Certificate of Achievement is awarded

Mr Can Nkakis, Head, School of Information Systems
Victoria University

Mr Lorne Pinhero, Director Education CA Australia,
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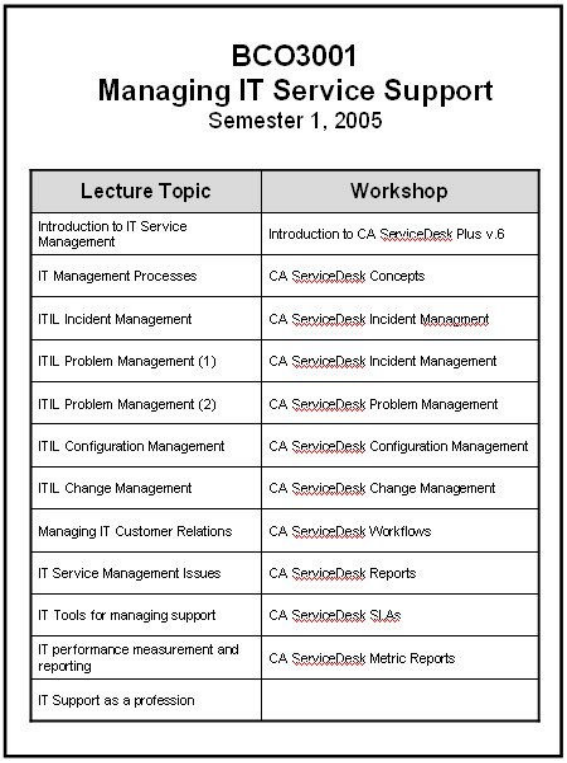

BCO3001
Managing IT Service Support
Semester 1, 2005

Lecture Topic	Workshop
Introduction to IT Service Management	Introduction to CA ServiceDesk Plus v.6
IT Management Processes	CA ServiceDesk Concepts
ITIL Incident Management	CA ServiceDesk Incident Managment
ITIL Problem Management (1)	CA ServiceDesk Incident Management
ITIL Problem Management (2)	CA ServiceDesk Problem Management
ITIL Configuration Management	CA ServiceDesk Configuration Management
ITIL Change Management	CA ServiceDesk Change Management
Managing IT Customer Relations	CA ServiceDesk Workflows
IT Service Management Issues	CA ServiceDesk Reports
IT Tools for managing support	CA ServiceDesk SLAs
IT performance measurement and reporting	CA ServiceDesk Metric Reports
IT Support as a profession	