Abstract: The literature identifies transition as a key objective for capstone experiences. Capstones should take account of the particular needs of final year students by assisting them to transition from their student to their professional identity. The authors are currently completing an Australian Learning and Teaching Council (ALTC) funded project, “Curriculum Renewal in Legal Education: articulating final year curriculum design principles and a final year program”, which seeks to achieve curriculum renewal for legal education in the Australian context through the articulation of a set of curriculum design principles for the final year and the design of a transferable model for an effective final year program. The project has investigated the contemporary role of capstones in assisting transition out by reviewing the relevant literature and considering feedback from a project reference group, a final year student focus group and a recent graduate’s focus group. Analysis of this extensive research- and evidence-base suggests that capstone experiences should support transition through:

- Assisting students to develop a sense of professional identity;
- Consolidating students’ lifelong learning skills;
- Providing opportunities for consolidation of career development and planning processes;
- Enabling students to enhance professional skills and competencies; and
- Preparing students as ethical citizens and leaders.

This paper will examine the role of capstones in assisting students to transition to their professional identity and will propose learning and teaching approaches and assessment of learning methods that support transition out.

INTRODUCTION

The capstone experience has been a standard feature of undergraduate education in the United States since the 1990’s (Starr-Glass, 2010, p. 1), and there is significant research in the US in relation to capstone experiences. In comparison, the research and practice in this area is underdeveloped in Australia. The 2009 Australasian Survey of Student Engagement...
AUSSE) report stated that only 2.7% of later year students in Australia identify as having had some form of “culminating final-year”, or capstone, experience (ACER, 2010, p. 25); compared to 36.8% in the United States. In relation to legal education in particular, the final year curriculum in most, if not all, Australian law schools is delivered in a disjointed way which is not engaging final year students in a genuine capstone experience that supports the development of their professional identity and their transition out of university.

In response to this data, the Australian Learning and Teaching Council funded the “Curriculum renewal in legal education: articulating final year curriculum design principles and a final year program” Project (the Project) which aims to achieve curriculum renewal for legal education through the articulation of a set of curriculum design principles for the final year and the design of a transferable model for an effective final year program. While the Project is focussing on developing principles and tools to assist curriculum renewal of the final year of legal education in Australia, the principles relating to transition out have relevance across all disciplines. This paper will report on the research undertaken by the Project in relation to assisting students to transition to their professional identity and will propose learning and teaching approaches and assessment of learning methods that support transition out. It will focus on how an appropriately designed capstone experience supports transition out, and briefly discuss how capstone assessment can help students to become “career ready”.

DEFINITION OF CAPSTONE

A typical definition of a capstone experience is

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\text{a crowning (unit) or experience coming at the end of a sequence of (units) with the specific objective of integrating a body of relatively fragmented knowledge into a unified whole. As a rite of passage, this (unit) provides an experience through which undergraduate students both look back over their undergraduate curriculum in an effort to make sense of that experience, and look forward to a life by building on that experience. (Durel, 1993, p. 223)}
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Capstones have been a feature of US undergraduate education since the 1990’s. Following an investigation into ways to address a lack of in-depth learning in undergraduate education, the American Sociological Association recommended in 1990 that capstone subjects should be introduced in order to provide “a terminal student experience to integrate previous knowledge...
and to prepare the way for successful professional initiation into the profession” (Starr-Glass, 2010, p. 330). These two objectives of a capstone experience are generally referred to as closure (or integration) and transition (Gardner & Van der Veer, 1998). In the US there has been a divide between capstone experiences providing either a capping experience (where integration and closure is the focus) or a bridging experience (where transition out is the focus) (Starr-Glass, 2010, p. 331-332). There have been perceived impediments to providing a single capstone experience that accommodates both closure and transition (Heinemman, 1997).

While much attention has been paid to the objective of “closure/integration” and how to facilitate it through curriculum design, “transition out” has received less attention (Rosenberry & Vicker, 2006, p. 267). In recent years, capstone experiences in many institutions both in Australia and overseas have focussed on a “culminating academic experience” to complete the student’s course of learning by focussing on closure and integration rather than on a bridging experience (Holdsworth, Watty & Davies, 2009, p. 1; Starr-Glass, 2010, pp. 331-332). We argue that it is imperative that transition pedagogies should be applied to capstone experiences because students in their final year are contending with major changes in their lives and the failure to make a successful transition out of university may lead to instability post-graduation (Gardner & Van der Veer, 1998). Accordingly, capstone experiences should focus equally on closure and transition. This paper considers the role of transition pedagogy in the capstone experience in assisting students to make the bridge from their student lives to their post-university lives.

**IMPORTANCE OF TRANSITION PEDAGOGY**

The challenges involved with moving from university to work have been considered to be as great as those facing students transitioning from school to university (Jervis & Hartley, 2005; Wells, Kift & Field, 2008). Given that students in their final year face significant transition issues as they join the workforce (Jervis & Hartley, 2005), there is an urgent need to implement capstone experiences that enhance the career readiness of students and ease their transition out of university. Without such a capstone experience in their final year, graduates risk entering practice without adequate understanding of their ethical and professional obligations and without a strong base for future professional development.

Gardner argues that universities should provide final year students with specific support to assist them to cope with the changes that occur as they end their life as university students.
and begin their post-university life (Gardner & Van der Veer, 1998, pp. 5-6). The final year is critical for students as they deal with the stresses and frustrations associated with differences between university life and workplace cultures. The role of the university in final year is to assist students to “cope with impending change, become aware of how all aspects of their lives have contributed to their development as learners, and find connections between their academic experience and future plans” (Gardner & Van der Veer, 1998, p. 6). The ability to manage change and new environments is essential for students’ success in their future professional lives. Graduates are likely to experience many changing roles throughout their careers and students who have developed the skills to make the transition from university to work will be able to apply those skills in future transitions (Holton, 1998, p. 98).

SUPPORTING FINAL YEAR TRANSITIONS

The Project has explored the role of final year transitions in enabling students to begin to develop a sense of professional identity, enhance professional skills and competencies (Kift, Field, McNamara & Brown, 2010), and consolidate career management (Jervis & Hartley, 2005), and lifelong learning skills (Fairchild & Taylor, 2000). Analysis of the Project’s extensive research and evidence-base suggests that capstone experiences should support transition through:

- Assisting students to develop a sense of professional identity;
- Consolidating students’ lifelong learning skills;
- Providing opportunities for consolidation of career development and planning processes;
- Enabling students to enhance professional skills and competencies; and
- Preparing students as ethical citizens and leaders.

An effective capstone experience supports transition through assisting students in beginning to develop a sense of professional identity and transition into a diverse range of professional destinations

It is during the capstone experience that student’s transition from their identity as students into their professional identity (Durel, 1993; Holdsworth, Watty & Davies, 2009). Accordingly, well-designed capstone courses should contribute markedly to the development of a relevant professional identity (Bailey, Oliver & Townsend, 2007). While the literature in
relation to capstone experiences clearly recognises the important role of capstones in the development of professional identity, the literature is unclear as to how this should be achieved. This may be understandable in generalist disciplines where there is no clearly identified single professional career destination; in that case the focus of a capstone subject is more likely to be on bringing together the different strands of the undergraduate program. However, in programs where there is a clear vocational outcome such as law, engineering and nursing consideration has been given to the extent to which university programs should contribute to the development of professional identity. In the context of legal education in particular, Hall, O’Brien and Tang (2010) argue that law school has an important contribution to the development of professional identity whether this contribution is acknowledged or intended. Accordingly care should be taken that the professional identity encouraged by law schools is adequate to prepare students for their future professional lives as empathetic and resilient practitioners.

A study by Dunlap (2005) revealed that a problem-based learning approach in a capstone subject facilitated engagement with the task, and in turn, the development of professional identity. For example, students studying information technology began referring to themselves as software developers instead of students.

Students can be assisted to cope with the stress of their changing roles as graduates by engaging in simulated work situations (Cuseo, 1998, pp. 28-29), by exposure to practising or retired professionals (Cuseo, 1998, p. 29), and by reflection on their personal philosophy and what it means to them to be a graduate of the discipline (Hovorka, 2009).

**An effective capstone experience supports transition through consolidating students' lifelong learning skills, such as resilience, self-confidence and self-efficacy, as the foundation for their future professional and personal lives**

The acquisition of lifelong learning skills has been shown to smooth the transition from university to professional practice (Fairchild & Taylor 2000), and to enhance motivation, initiative and creativity in the workplace. Reflective practice has been recognised as an essential aspect of being a lifelong learner (Brockbank & McGill, 1998), and personal self reflection is essential to the successful transition to professional practice (Hovorka, 2009). Reflection fosters both personal and professional development (Olsen, Weber & Trimble,
2002), and contributes to the acquisition and refinement of higher order cognitive skills, including critical thinking (Forde, 2006). Students need to be provided with opportunities to consider and reflect on what they have learned, and to contemplate the ways in which their knowledge could be used in a professional context (Dunlap, 2005).

As part of the transition to professional practice, capstone experiences should assist students to develop resilience. Much has been written on how to cultivate resilience in students and in the workplace, particularly in the areas of nursing and medicine. Resilience has been defined as “the ability of the individual to adjust to adversity, maintain equilibrium, retain some sense of control over their environment, and continue to move on in a positive manner” (Jackson Firtko, & Edenborough, 2007, p. 3). One key aspect of resilience is the ability to deal with change (Jackson, Firtko, & Edenborough, 2007; McAllister & McKinnon, 2009, p. 272).

Regardless of the exact boundaries of the definition of resilience, undergraduate degrees should prepare students for the general pressures felt by those new to the workplace, including time demands and constraints, feelings of isolation and bewilderment, and general stress (Maute, 2007). For many, resilience may become an issue once they enter professional practice, as they struggle to maintain a healthy work-life balance (Maute, 2007).

Hall, O’Brien and Tang (2010, p. 48) suggest that we can foster resilience by offering caring relationships, high expectation messages and opportunities for participation and contribution; encouraging students to maintain outside interests leisure activities and friendships; sending a message that making mistakes and feeling anxious is not a sign of inability or incompetence; and providing opportunities to form positive relationships with faculty.

A capstone experience should contribute to the development of individuals beyond what is measured in assessment tasks. Indeed, a capstone experience should promote holistic thinking, self-confidence, and self-efficacy (Bailey, Oliver & Townsend, 2007, p. 72). Evidence suggests that equipping students with confidence enables them to better deal with the demands of the workplace (Bailey, Oliver & Townsend, 2007, p. 73).

An effective capstone experience supports transition through providing opportunities for students to consolidate their career development and planning processes.
A capstone experience should also consider the career planning process, and should provide opportunities for students to consider how their own knowledge and skills might interact with professionals with different skill sets (Gardner & Van der Veer, 1998). Universities should be able to provide students with information on graduate destinations, thereby enabling students to consider the career paths of those who went before them (Myers & Richmond, 1998). Smith et al. (2009) assert that:

*career development learning enhances: student engagement; the student experience; student transitions; and contributes to workplace productivity. It is valuable to provide a wide spectrum of workplace experiences to facilitate student participation in work related learning, hence curriculum reform and design across the sector (including learning tools and resources) should enhance this wider access to career development learning and work related learning (p. 10).*

Various examples of career planning practices are provided by Cuseo (1998, pp. 27-30). For instance, the Kean College of New Jersey senior elective course, “Career Management”, where assessment involves a personal reflection on the results of individual aptitude and interest tests, self-description of employment qualifications and a detailed plan for achieving career objectives (Cuseo, 1998, p. 27). Career planning can also be facilitated in the context of practical work experience (refer to WIL section below). In addition to career planning, specific employment preparation skills such as resume writing, interviewing skills and business etiquette can be taught (Cuseo, 1998, p. 28).

**An effective capstone experience supports transition through enabling students to enhance their professional skills and competencies, including moral reasoning and professional judgement, so they can be applied in complex environments post graduation**

While much attention has been focussed in recent years both in Australia and internationally on graduates’ employability skills and career readiness, less attention has been given to the role of the capstone experience in this regard. Philip Gardner (1998) argues that combining real-world situations with traditional capstone approaches (i.e. those focussing on providing closure) can assist students to become career ready (Gardner, 1998, p. 77). Work integrated learning (such as internships and other work placements) can assist students to prepare for the
world of work (Smith, 1998, p. 91). Capstone experiences provide an opportunity for students to reflect on the relationship between on-campus learning and off-campus activities (including work experience) in order to develop career focused skills (Gardner, 1998, p. 61).

A range of generic employability skills (graduate capabilities) have been identified as crucial outcomes of the capstone experience, including interpersonal and communication skills, critical thinking, decision-making, ethical and philosophical appreciation, and leadership (Heinemann, 1997). In readiness for contemporary workplaces, adaptability and flexibility also warrant inclusion, as the nature of modern business practice sees vast changes occurring in considerably short periods of time (Heinemann, 1997). Successful practitioners are able to adjust their approach to meet the changing needs of their employer.

In order for an undergraduate education to be meaningful, students must be provided with an opportunity to develop and organise cognitive capacities that will enable them to recall past experiences, interpret given situations, and apply their learning (Heinemann, 1997). The capstone course involves the realization of higher cognitive skills, including higher order knowledge and critical analysis (Durel, 1993). It equips students with the building blocks, the links and the functions that span the divide between student and critical reflective professional.

**An effective capstone experience supports transition through assisting students to use their university education in their roles as ethical citizens and leaders in the global community.**

Leadership and citizenship competencies should be addressed through the senior experience (Heinemann, 1997; Gardner & Van der Veer, 1998), in order to prepare students for roles they may assume beyond their core profession. This is consistent with the literature relating to geography capstones (eg Hovorka, 2009) and sociology capstones (Durel, 2005) which are concerned with academic experiences that are “valuable for citizenship in the human community” (Hovorka, 2009, p. 253).

The capstone experience can prepare students for active citizenship and community leadership by incorporating service learning approaches (Smith, 1998, p. 91). Schwartz and Lucas (1998) provide several examples of leadership programs that can be incorporated in final year programs in order to ease “the transition of graduates to non-student roles as
citizens, both in the workplace and in their domestic lives” (p. 131). Combining service learning with research can also achieve a deepening of students’ knowledge in public policy issues (O’Byrne, 2000). Such an approach can encourage a “life-long habit or interest in social responsibility, community involvement, the formulation of policy and partnerships with those who rely on publicly-funded programs” (O’Byrne, 2000, p. 5).

FACILITATING TRANSITION OUT THROUGH ASSESSMENT PRACTICES

Assessment which encourages students to reflect on their learning throughout the degree, their career development and professional identity will assist students to develop the resilience to cope with the changes they are facing as they end their student lives, and that they will continue to encounter throughout their lives. In a capstone experience, the focus of assessment in supporting transitions should be critical self-reflection.

Student self-evaluation in the final year can promote reflection on what has been learnt throughout the degree and on the transition to post-university life (Smith, 1998, p. 92; Schilling & Schilling, 1998, p. 261). Self-evaluation is “an essential part of making that crucial transition to becoming an autonomous lifelong learner” (Smith, 1998, p. 93). Reflection on student learning from first year to final year can be aided by requiring students to keep a portfolio of work over the course of their degree (Schilling & Schilling, 1998, p. 255). The use of an eportfolio can assist to capture a range of learning outcomes including generic skills and professional competence (Kift, 2008) and has the advantage of being maintained by students online. Therefore, the eportfolio can be a tool for reflection in the final year on the development of skills throughout the degree and their applicability to future professional practices.

In addition to self-evaluation, many approaches to assessment that have traditionally been taken in capstones focusing on closure can be adapted to support transitions. For example, final year conferences may assist students in evaluating their own learning and the application of their learning to their future lives. Conferences are effective capstone experiences in supporting transition because they can address career management and planning, transferrable skills, and the development of professional identity in a way not possible in most learning experiences (Heathcote & Taylor, 2007). Where a conference
model is adopted, assessment can include a reflective report relating to career development and the development of professional identity.

One of the most common assessment approaches in capstones that focus on assisting students to find closure on their degree is problem-based learning. This is because problem-based learning enables the various threads of the course to be drawn together. Problem-based learning also supports student transition where it has connections to real world practice which allow students to make connections between their theoretical learning and its practical application. In addition, it has been argued that teaching through problem-based learning scenarios in capstone subjects would also improve students’ self-efficacy, in turn better preparing them for the workplace (Dunlap, 2005). However, other studies have been unable to replicate that result (Bailey, Oliver & Townsend, 2007, p. 75). This may be because students in capstone courses feel unprepared for the nature of the problem-based assessment tasks as they are overwhelmed and time pressured, or impacted by significant logistical difficulties in the assessment tasks (Bailey, Oliver & Townsend, 2007).

Problem-based learning also assists to prepare students for professional practice by encouraging students to solve problems in ways that reflect actual practice, whilst simultaneously developing expert knowledge and a range of employability skills (Dunlap, 2005). Problem-based learning scenarios, be they actual problems, or simulated problems, should confront students with the realities of professional practice (Hoffman, 2003) – students need to learn how to deal with the realities of the workplace, including budget management, working with diverse teams, design pragmatics, and prototype development.

CONCLUSION

This paper has examined the role of capstones in supporting transitions out of university. Work integrated learning can be useful to assisting students transition from university and become career ready. However, for work integrated learning to be part of a capstone experience, it is essential that transition pedagogies be adopted. We argue that capstone experiences should support transition by adopting specifically designed learning and teaching approaches, and assessment of learning methods, such as career planning, critical reflection, use of eportfolios and problem-based learning. Capstone experiences will only be successful when they are designed with both objectives of closure and transition in mind.

Reference List


