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A scholarship approach to embedding creativity and sustainability in Marketing Principles curriculum

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ABSTRACT

In business, creativity and innovation can be the difference between success and failure, especially in a world challenged by sustainability issues. Yet creativity and sustainability are rarely discussed with students and seldom appear as part of the formal material in tertiary marketing studies, certainly at the introductory level. This article reports on a curriculum initiative which sought to address this gap in the context of a first-year undergraduate Marketing Principles, multi-cohort course. To help warrant the rigour of the initiative, drawing on the literature, a six-step scholarship of teaching and learning (SoTL) theoretical framework was used to describe the initiative, and to determine its effectiveness. The investigation was informed by a multi-method study comprising descriptive analysis of 323 students' performance scores, content analysis of 59 student groups' preliminary marketing plans, descriptive analysis of 113 students' attitudes (survey), and content analysis of 35 students' post-assessment reflections. The results indicate that sustainability-oriented creativity can be successfully taught and assessed in large, first-year marketing cohorts, provided the curriculum is scaffolded and the teaching team is 'on-board'. Further, viewing teaching and learning initiatives through the SOTL lens is a valuable way for scholarly academics to enhance their intellectual contributions to their schools, to improve student learning experience and outcomes and to help the business school faculty, as well as the marketing discipline.

Introduction

> If teaching involves a scholarly process aimed at making learning possible, it follows that the scholarship of teaching is about making transparent, for public scrutiny, how learning has been made possible.
>
> (Trigwell, 2012, p. 254)

It is widely recognised that the competitive global knowledge economy the knowledge and skills of a nation's people will determine a country's wellbeing, and the need to enhance the quality of learning and teaching is quite urgent. This has been driving a growing interest in the scholarship of teaching and learning (SoTL) in higher education, as is evidenced by numerous educational journals and conferences, graduate certificates in higher education and national SoTL programs around the world (Prosser, 2008). Despite this endorsement, SoTL is marginalised in most universities because of the emphasis on teaching over learning, conceptual confusion as to what it is, as well as the difficulty in operationalising it (Boshier and Huang, 2008). This indicates why SoTL has been described as a form of 'troublesome knowledge' (Manarin and Abrahamson, 2016) and its relevance has been questioned, given that it appears to be more popular among academic development and support staff than among faculty members (Tight, 2018).

Within the marketing education literature some authors report that marketing educators are comfortable with critical assessment of marketing curricula and practices (Caterall et al., 2002). Yet few published marketing education articles explicitly refer to SoTL or apply a SoTL approach. Three review studies investigated the nature and prevalence of SoTL within the marketing discipline in terms of publications in the discipline's two primary education-related journals – Journal of Marketing Education (JME) and Marketing Education Review (MER): McIntyre and Tanner (2004) reviewed 439 articles published between 1990 and 1999; Abernethy and Padgett (2011) reviewed 467 articles published between 2000 and 2009. Using content analysis, both studies categorised the papers into 33 categories. Papers dealing with SoTL were not identified as a separate category; the category most consistent with SoTL referred to in the studies is arguably 'curriculum issues (e.g. what courses belong in a marketing or business major)'. In this category the proportion of studies has declined from 13% (57) in 1990–1999 to 5% (24) in 2000–2009. In a more recent review study of Gray et al. (2012) reduced the topic areas identified by McIntyre and Tanner (2004) and Abernethy and Padgett (2011) "*to a more manageable set of potential categories*" (p. 218), in order to facilitate cross-era comparisons. They extended the review period, and

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reviewed articles 802 published in JME between 1979 and 2012. Their revised categorisation covered nine main categories (assessment, career development, course management, ethics, experiential learning, higher level thinking, international, marketing mix and technology). As with the two prior reviews, Gray's et al. (2012) review did not identify SoTL as a category or subcategory; the subcategory 'curriculum redesign reviews' comes closest. In the period 1970 to 2012 less than 5% of JME papers (36) related to this subcategory. The dearth of SoTL-related publications in JME and MER supports the finding of Mentzer and Schumann (2006) that "relatively little attention has been devoted to this vital topic in marketing" (p. 179). The dominant SoTL discourse appears in the general education literature, which most marketing academicians tend not to follow (Albers-Miller et al., 2001).

The lack of publications dealing explicitly with SoTL in marketing education may be in part attributed to an under-emphasis in business schools (possibly in universities at large) of formal pedagogical training of university educators. In its Standard 15 on 'Faculty qualifications and engagement', the Association to Advance Collegiate Schools of Business, 2017 (AACSB) refers to Scholarly Academics (SA) – those who are doctorally qualified and whose sustained engagement activities are academic (research/scholarly). While the AACSB expects SAs to "*demonstrate sustained academic and/or professional engagement related to the field of teaching in order to maintain professional qualifications*" (p. 45), it does not require SAs to have qualifications in higher education teaching. Rather the standard "*provides guidance only; each school should adapt this guidance to its particular situation and mission by developing and implementing criteria that indicate how the school is meeting the spirit and intent of the standard*" (pp. 43–44). Basically, each school can develop its own policies related to SA higher education qualifications. While business schools may encourage SAs to undertake higher education qualifications, most usually prescribe initial formal teaching training, typically only to new staff. Such basic pedagogical competence does not sufficiently equip SAs to undertake SoTL effectively. Because marketing scholars often lack specialised teaching qualifications or learning about teaching experiences and limit their exposure to general education literature, they tend to have a poor understanding of the concept of SoTL and how it may be applied to their own field of teaching. This is problematic, particularly in view of a number of factors characterising the modern higher education sector and adding to the challenge of effective SoTL: Rising student expectations of the value of teaching (resulting from higher study fees); teaching issues associated with widening student participation (e.g. higher share of students from lower socio economic backgrounds, international students and part-time students with work commitments); challenges of teaching and learning in the digital age and Web 2.0 world with new communication and interaction capabilities.

Hence, the purpose of this paper is to promote the professional development of marketing educators by demonstrating a scholarship approach to enhancing marketing curriculum. The particular focus is on the Marketing Principles curriculum for undergraduate business students, and ensuring that it provides a diverse first-year student cohort with more contemporary, real world and meaningful learning experiences, namely by introducing creative problem solving for sustainable market offerings to the curriculum. The paper is organised as follows: First, a brief overview of the SoTL process steps and standards is provided. Next, the curriculum initiative and implementation is explained, analysed and evaluated in terms of each of the SoTL process steps. The paper finishes with a discussion of the results of the initiative and the value of adopting a SoTL theoretical lens.

What is SoTL?

The founding father of scholarship, Boyer (1990), identified four forms (or dimensions) of scholarship: scholarship of discovery (i.e. discipline-based research), of integration (synthesis, i.e. fitting one's own research, and that of others, into larger intellectual patterns), of application (service activities tied to one's professional activity) and of teaching (involving pedagogical learning and research). Boyer envisaged that all four forms would operate in symbiotically to counteract the tendency within universities to separate the scholarly functions (Mentzer and Schumann, 2006). For a detailed account of the origins and meaning of SoTL, the reader is referred to Tight's (2018) recent paper titled 'Tracking the scholarship of teaching and learning', as well as Mentzer and Schumann's (2006) history of modern scholarship and discussion of the four dimensions of scholarship in the marketing education context.

Hence, SoTL goes beyond both excellent teaching (ability to engage students) *and* scholarly teaching (that which is informed by the new developments in the field and in pedagogy (Hutchings and Shulman, 1999). While there is continuous debate in universities about the exact definition of SoTL (Glassick, 2000), the emerging view is that SoTL is a distinctive form of research shaped by multi-disciplinary context focus on practice-driven institutional/curricula/classroom inquiries with an explicit transformational agenda (Hubball and Clarke, 2010). The latter point is vital, because, according to Prosser and Trigwell (1999) and Trigwell (2012), SoTL is first about improving student learning and second about scholarship (a systematic, peer-supported, research-like process), both of which ultimately lead to higher quality teaching. As noted by Huber and Morreale (2002), SoTL invites all teaching faculty to treat teaching as a form of inquiry into student learning, to share results of inquiry with colleagues and to critique and build on one anothers' work.

Of relevance to business schools are the 'Eligibility Procedures and Accreditation Standards for Business Accreditation' (Association to Advance Collegiate Schools of Business, 2017), in which the AACSB refers to SoTL as 'teaching and learning scholarship'. AACSB Standard 2 (Intellectual contributions, impact and alignment with mission) within its cluster of 'Strategic Management and Innovations' standards presents SoTL as one of three forms of scholarship in the portfolio of intellectual contributions, i.e. "*original works intended to advance the theory, practice, and/or teaching of business and management*", p. 18. (The other two forms of intellectual contributions are with basic or discovery (discipline-based) scholarship and applied or integration/application scholarship that contributes to and impacts the practice of business.) The AACSB (2017) defines SoTL as scholarship that "*develops and advances new understandings, insights, and teaching content and methods that impact learning behavior. Intellectual contributions in this category are normally intended to impact the teaching and/or pedagogy of business*" (p. 18).

A range of benefits flow from SoTL to faculty, students and the institution: For instance, it leads to more reflective and informed teaching practice and renews faculty's enthusiasm for teaching; student learning is enhanced through development of innovative teaching methods and attention to outcomes; the institution's reputation is strengthened (Hubball and Clarke, 2010; Iowa State University, 2001). SoTL is also consistent with a range of pedagogical concepts raised in recent marketing education literature, such as master teaching (Smart et al., 2003), the principle of servant teachers as stewards of the teaching and learning environment (Chonko, 2007), metacognition and transfer (Ramocki, 2007), pedagogical competence (Madhavaram and Laverie, 2010) and conscientious reflective practice to grow as an educator (Titus and Gremler, 2010).

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Table 1
Overview of the process for SoTL inquiries.

Step	(Trigwell, 2012)	(Hubball and Clarke, 2010)
1	Use a theory, model, framework to ground the initiative and provide justification for action	Research context and research issue
2	Identify an intervention designed to enhance learning	
3	Formulate an investigative question	Central research question
4	Conduct an investigation	Methodological approach Data collection method
5	Produce a result	General outcomes
6	Invite peer review	

The SOTL process

The systematic and iterative, ongoing nature of SoTL is emphasised in the SoTL literature (Hubball and Clarke, 2010; Huber and Morreale, 2002; Hutchings and Shulman, 1999; Mentzer and Schumann, 2006; Trigwell, 2012). To this end, three SoTL process frameworks have been advanced in the contemporary literature – two for SoTL in a general higher education context (Hubball and Clarke, 2010; Trigwell, 2012) and one for the marketing education context (Mentzer and Schumann, 2006). The first two are quite similar. The SoTL process usually starts by problematising one's institutional/curricula/classroom practice (Hubball and Clarke, 2010) and developing an idea of how student learning might be enhanced (or made possible) in the particular discipline and context (Trigwell, 2012). The scholar identifies a theory or model to ground the initiative and provide justification for action. The second step is to determine the initiative to enhance student learning. Next, an investigative question is formulated. Thirdly, the research design to investigate the question is developed and implemented. The fifth step involves analysing the result produced. Finally, other scholars are invited to review the SoTL process undertaken. Trigwell's framework posits a sixth stage, namely for peer review. Table 1 summarises the key steps in these two SoTL process models.

In contrast to Hubball and Clarke's (2010) and Trigwell's (2012) somewhat sequential, linear SoTL process frameworks, Mentzer and Schumann's (2006) process model of marketing scholarship is iterative and visualised in a closed loop flowchart (see Fig. 1). Further, by incorporating Boyer's (1990) four dimensions of scholarship (teaching, integration, practice and discover) it seeks to deliver the true integration sought by Boyer. In short, their framework attempts to *"(1) Depict the interactive environment where marketing scholarship occurs; (2) label and organise the different types of feedback necessary for the marketing scholarly process; (3) identify and describe the origination of inputs within various forms of feedback, and (4) demonstrate the flow of marketing scholarly activity*" (Mentzer and Schumann, p. 184).

The before-mentioned linear and iterative conceptualisations of the SoTL process essentially encompass the same set of scholarship activities, albeit with different emphases. Hubball and Clarke (2010) and Trigwell (2012) are more focused on clearly justifying, articulating, implementing and assessing the scholarly initiative; Mentzer and Schumann (2006) place more value on the flow of insights – from observation to dissemination – between the scholar and different audiences (students, other scholars and practitioners). Reconciling these somewhat different SoTL process approaches would be helpful to make the task of SoTL more manageable for scholarly academics. Fig. 2 provides a first attempt at doing so. It captures the iteration and four types of scholarship expressed in Mentzer and Schumann's (2006) model, as well as the systematic method of SoTL at the heart of Hubball and Clarke's (2010) and Trigwell's (2012) framework. This revised model of SoTL process in marketing is used to guide the initiative reported in this paper.

In addition to the SoTL process frameworks, certain standards for demonstrating achievement of scholarship have been proposed. For all four forms of scholarship identified by Boyer (1990), i.e. scholarship of discovery, of integration, of application and of teaching, Carnegie Foundation (1989) has provided six generic standards (see Table 2). In the specific case of scholarship of teaching, Hutchings and Shulman (1999) outline three particular criteria that must be met in addition to scholarly teaching (also in Table 2). The two sets of standards are mostly consistent, if we consider that that Hutchings and Shulman's 'scholarly teaching only' standards reasonably match the Carnegie Foundation's standard of 'Adequate preparation'. An exception are the Foundation's two additional (shaded) standards – 'clear goals' and 'significant results'. Of note is that Hutchings and Shulman's standards appears to be more stringent, as they require that the SoTL work be reproducible, available for peer critique and be made available publicly.

Ground the initiative (SoTL process step 1)

The first step of the SoTL process is to use a theory, model or framework or possibly even a substantial teaching tip to ground the initiative and provide the justification for action in the particular context (Trigwell, 2012). It may draw on inputs from observing marketing phenemona in the scholar's learning environment or through the scholar's interpretation of existing knowledge in the literature pertaining to the learning environment (Mentzer and Schumann, 2006). This section describes the context of the study reported in this paper. The focal research problem is reasoned, namely the lack of attention given in marketing teaching and learning to fostering creativity and creative problem solving (CPS) skills for developing sustainable business offerings. Pertinent theoretical concepts relating to education for creativity and education for sustainability are introduced.

The context

The context of curriculum development is an important means for fostering SoTL because it may be conceived of as the nexus between teaching, learning, knowledge and educational context (Warren, 2005). The particular context for the teaching and learning problem of interest in this article was the first-year Marketing Principles curriculum within a Bachelor of Business program offered at mid-sized regional university in Australia. Of the approximately 11,000 students enrolled in an undergraduate Bachelor degree at the University, about one-third is business students. These learners are very diverse in terms of location (domestic, offshore), mode (on-campus/residential, distance/online), enrolment status (full-time, part-time) and other characteristics, such as age (high-school leaver, mature age). Approximately one-half of business students are enrolled in distance/online mode, with a high proportion working part- or full-time. Hence, business programs delivery is flexible and blended, that is using e-learning through the Blackboard learning management system (LMS) with

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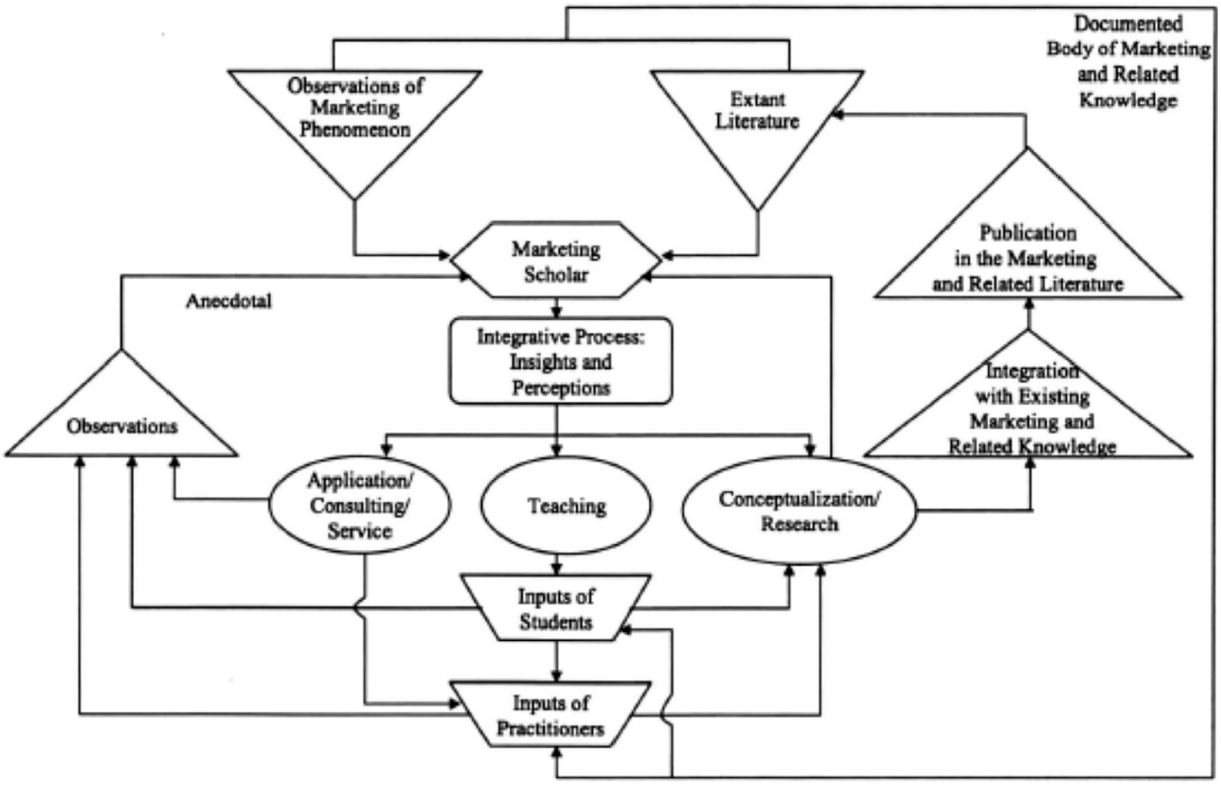

Fig. 1. A process model of marketing scholarship. Source: Mentzer and Schumann (2006, p. 185).

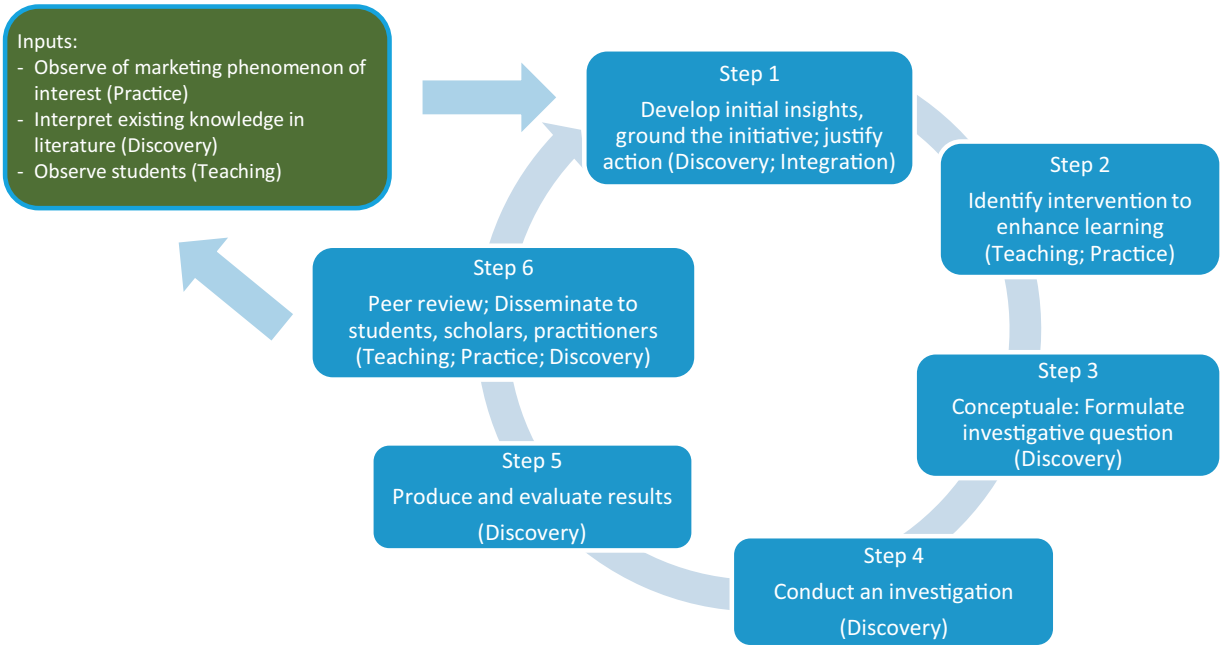

Fig. 2. Iterative process for SoTL inquiries in marketing, Source: Developed for this research based on Mentzer and Schumann (2006), Hubball and Clarke (2010) and Trigwell (2012).

its suite of tools (e.g. online quizzes, Discussion Board, Collaborate virtual classroom, video-linked lecture recordings through Mediasite), as well as traditional classroom interactions. The study of Marketing Principles is crucial for all business students and is undertaken as a core or mandatory unit in the first-year within the Bachelor of Business program or equivalent programs across almost all regional and mainstream Australian universities. Every year more than 400 students undertake this subject at ABC in Australia and via international partnerships

Justify education for creativity in Marketing Principles

The pivotal role of creativity in modern business success has been widely acknowledged by the academic community

Table 2
Overview of standards for SoTL.

Generic (The Carnegie Foundation for the Advancement of Teaching, 1989)	*Specific* for SoTL (Hutchings and Shulman, 1999)
Adequate preparation	*Scholarly teaching only:* – Teach well – Engage students – Foster important forms of student learning – Sound practices of assessment and evidence gathering – Informed by latest ideas in the field – Informed by latest ideas about teaching in the field – Invites peer review and collaboration
Clear goals	
Appropriate methods Significant results	Work must be able to be reproduced and built on by other scholars in the same community
Reflective critique	Work must be available for peer critique and evaluation
Effective presentation and dissemination	Work must be made public ('community property')

(Burroughs et al., 2011; Griffith University, 2004 provides a concise overview). As a key factor in innovation (White and Bruton, 2011) and new product breakthroughs (Titus, 2007), creativity contributes to competitive advantage (Couger, 1995) and provides the seeds for growth and prosperity (Titus, 2000).

Creatively deriving solutions to problems involves a systematic approach, whereby this process has been conceptualised in a number of different ways (e.g. Cropley, 2001; Guilford, 1959; Infinite Innovations Ltd., 2009). In his seminal article '*Marketing and the creative problem solving process*', Titus (2000) conceptualises CPS as a six-stage process: (1) problem identification, (2) problem delineation, (3) information gathering, (4) idea generation, (5) idea evaluation and refinement and (6) idea implementation. The first five steps resemble those required for concept development in an innovation project (White and Bruton, 2011) – the process whereby new and improved products, processes, materials and services are developed, transferred to a plant and/or market where they are appropriate (Rubinstein, 1989). For the purposes of teaching and learning Marketing Principles, CPS is a more appropriate approach than NPD. CPS process is very adaptable. CPS focuses more on the critical problem finding stage of creativity and innovation. The NPD process covered in most marketing textbooks assumes a company's innovation strategy, as well as the problem to be solved are known, so that the students leap quickly to idea generation. On the other hand, the CPS journey starts earlier, namely with problem identification. This forces students to be problem-sensitive and to observe the environment. Students need to independently identify unmet needs and/or shortcomings with current product offerings. The second CPS step, problem delineation' then challenges the student to thoroughly understand the (consumer) problem and its multiple dimensions. Symptoms are distinguished from underlying causes. CPS Step 3 'information gathering' is also still about honing the problem to be solved. Students learn to question assumptions, in order to acquire the pre-requisite information needed to thoroughly understand the problem and to facilitate idea generation. In his article Titus provides all the tools needed for students to navigate their way through CPS, e.g. bug lists for problem identification; progressive abstraction to redefine the initial problem as a set of problems requiring a set of solutions needed for problem delineation; questioning to reveal assumptions and to verify the full range of possible factors contributing to the problem.

Further, Titus (2000) conceptualised marketing - typically defined as the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (American Marketing Association, 2007) – as "*the process of offering creative solutions to consumer problems*" (p. 225). CPS and marketing both commence with a problem-finding phase and conclude with solution-finding and solution-implementing activities and are, therefore, "*hopelessly intertwined*" (Titus, 2000, p. 233). CPS with its methodical, disciplined and sustained cognitive effort (Couger, 1995; Gilbert et al., 1996) is ideally suited to marketing pedagogy (Ramocki, 1996). Hence, Titus recommends that CPS be presented in introductory marketing courses to alert students to the integral role creativity plays in marketing practice. Following Levitt's (1983) call for more 'marketing imagination', Hill and McGinnis (2007) also advocate a pedagogical shift from teaching for content to teaching for cultivating the curiosity in marketing thinking.

Despite this strong endorsement from marketing scholars, a lack of creativity has been observed in university classrooms in the United States and Australia (Dodds, 1998; Gilbert et al., 1996; Ramocki, 1994). It is also one of the most common graduate skill deficiencies cited by Australian employers (ACNielsen Research Services, 2000). According to industry experts in the United States, the development of meta skills, including the ability to creatively identify, formulate and solve problems is the highest priority for improvement in marketing education (Finch et al., 2012). Although universities often include creativity as a graduate attribute, it is "*rarely discussed as a concept with students, and rarely appears as part of the formal material of a course of a course of tertiary study, at least in business*" (Petocz et al., 2009, p. 414). Creativity is "*rarely an explicit objective of the learning and assessment process*" (Jackson, 2006, p. 4). An exploratory study about assessment of creativity in first year undergraduate marketing subjects found a deficiency in training and practice in creative problem solving (von der Heidt, 2010b). Montuori (2012) attributes this absence of creativity to our 'reproductive education', in which we view learners as consumers of and spectators to knowledge, rather than as "*embodied and embedded participant*[s]" (p. 67). In the case of business studies, this void in creativity teaching and learning may be due to several factors: (1) Creativity is viewed as a trait rather than a skill that can be developed; (2) creativity is confined to the visual and performing arts; (3) creativity is too difficult to pin down - teach and assess, and (4) creativity is just not a high priority in a crowded curriculum. In any case, the absence of creativity in curriculum is particularly problematic in marketing education, as marketing is essentially about creating offerings that have value to customers, clients, partners and society at large (American Marketing Association, 2007).

Where creativity *is* taught in marketing subjects, few scholars have sought to empirically test the effectiveness of teaching CPS, especially to novice marketing students in first-year intakes. One such study is McCorkle's et al. (2007) research into undergraduate marketing (versus other business) student perceptions on

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the importance of creativity and their abilities to learn creativity skills. Most extant studies of creativity in marketing education are conducted in graduate programs. For instance, Eriksson and Hauer (2004) applied their convergent-divergent-convergent (CDC) approach for creativity to graduate students. Fernandes et al. (2009) (2009) study of the importance of teaching structured methods of new product development and creativity was small-scale (four cases) and for a Masters-level engineering program. Likewise, Jaskari's (2013) use of the Structure of the Observed Learning Outcome (SOLO) taxonomy as an assessment tool in CPS in client-based projects was developed in the context of single client problem for a cohort of 25 masters students. In their review of empirical creativity research in seven leading management journals 2001–2010, Chen et al. (2011) found that most creativity research focuses on creativity as an outcome, with limited attention given to possible *interactive* effects. This particular results focus seems to apply to most extant empirical creativity research in the marketing discipline. For instance, Gilbert et al. (1996) examined improvements in students' creativity scores after creativity instruction. McCorkle's et al. (2007) study of student perceptions of creativity is also concerned with creativity as an outcome. One exception is the study by Laverie et al. (2008), in which the role of marketing program creativity was tested within a theoretical model of team-based learning using self-reported student data. On the whole, empirical evidence about the effective use by students of CPS as an *input* to marketing tasks, such as product development and marketing planning, within introductory marketing subjects, is limited.

Justify CPS for developing sustainable market offerings in Marketing Principles

Sustainability is a mega trend which will profoundly affect the ability of companies around the globe to compete and survive (Polkinghorne, 2007). The often-quoted definition of sustainable development is one that "*meets the needs of the present without compromising the ability of future generations to meet their own needs*" (Brundtland, 1987, p. 8). Sustainability is an evolving paradigm for planning and decision-making, which requires a basic understanding of the interconnections and interdependency among ecological, economic, and social systems (Kemp et al., 2005; Munier, 2005; Schmuck and Schultz, 2002). These three independent dimensions or pillars of sustainability – ecological preservation, social wellbeing for all members of society and economic viability – represent the widely recognised triple bottom line (Mawhinney, 2002).

With their financial resources and innovative capacity, businesses are well placed to drive progress towards sustainable solutions (Hargroves and Smith, 2005), particularly when managers have the requisite education and motivation to implement such practices (Bridges and Wilhelm, 2008). With growing consumer demand for more sustainable products (Moscardo et al., 2013), smart companies treat sustainability as innovation's new frontier and place a premium on environmentally-friendly (green or eco) innovation (Nidumolu et al., 2009). Accordingly, individual creativity is the key resource needed to solve the problems of the 21st century, notably those associated with sustainability, e.g. climate change (Fergusson, 2011). Through CPS new and improved market offerings can be developed, which are more sustainable than existing offerings (Maxwell et al., 2006). The caveat is, of course, that creativity is exercised with a 'sustainability sensibility', instead of the predominant practice of unsustainable innovation resulting from a narrow profit orientation (Sandri, 2013).

A key place where prospective managers and employees could gain new skills for CPS necessary for the sustainability shift is as part of their undergraduate or graduate university education, particularly within the business schools. However, current training approaches do not appear sufficient for meeting the challenges associated with a shift to sustainability (Hatfield-Dodds et al., 2008). Current marketing pedagogy has been criticised for catering to the economic elite and neglecting 80% of the global consumer population participating in subsistence markets (Rosa, 2012). There is little clear evidence within business education that either staff or students are increasing their engagement with or prioritising sustainability ideas. According to some scholars (Sheng and Kok-Soo, 2010), business schools are lagging behind other disciplines and other business sustainability leaders in terms of 'going green' and offering low levels of education about and for sustainability, especially in first-year subjects (von der Heidt et al., 2012).

Scholars on sustainability education advocate a holistic concept of education for sustainability – one which merges both the material and practical aspects of education *about* sustainability (EaS), as well as the holistic, action-based platform of education *for* sustainability (EfS). As Tilbury et al. (2004, p. 2) observe: "*When combined, education about and for sustainability* [EafS] *provide people with not just the knowledge and understanding to engage with sustainability issues but also the skills and capacity to plan, motivate and manage change towards sustainability within an organisation or industry*". Seven main generic skills for sustainability have been identified, and these may be taught and can be embedded in any discipline: (1) Futures thinking (visioning), (2) critical thinking and reflection, (3) participating in decision making, (4) partnering and stakeholder engagement, (5) systemic, interdisciplinary thinking, (6) actioning to motivate and manage change and (7) practical problem-solving and managing a project (Tilbury et al., 2004, 2005; Tilbury and Wortman, 2004). The Australian Government's (2009) "*Living Sustainably*" National Action Plan refers to these skills as 'principles of EfS'. Through embedding in curricula and assessment as graduate attributes, sustainability skills can potentially be developed in all units in a truly interdisciplinary way. It is widely accepted that integrating social responsibility and sustainability education in the curriculum better prepares students to face environmental and societal challenges (Albinsson et al., 2011; Hasan, 1993; Munilla et al., 1998) and enables them to contribute to and to develop sustainable marketing practices (Bascoul et al., 2013).

The concepts and practice of creativity, marketing and sustainability are highly interrelated - the marketing function is both a natural place for creativity to occur, and its practitioners are a key stakeholder group in addressing sustainability-related issues. Consequently, marketing educators might reasonably be expected to embed creativity and sustainability concepts in their curriculum, including in major assessment. With respect to undergraduate marketing curricula at Australian universities, this expectation has not yet materialised. Here the teaching and learning focus remains with predominantly traditional marketing concepts and practices (von der Heidt, 2010b). This misses an opportunity as undergraduate units, in particular the core (mandatory, first-year subjects), are most effective at developing graduates with the capacity to achieve sustainability outcomes in their early careers. Moreover the first-year is crucially important in terms of grounding students' critical awareness about sustainability and its role in business in a cross-disciplinary context. Doing so provides a sound foundation for developing sustainability skills in later, more advanced units. Shortcomings in undergraduate business education could have widespread implications (Fisher, 2010), as most students enter the workforce prior to undertaking postgraduate education (University of Sydney, 2009). Despite the obvious fit between creativity, marketing and sustainability, there is paucity of empirical data on designing and implementing CPS for sustainable products in an undergraduate Marketing Principles subject.

To sum-up, applying the first SoTL step produced a justification for action in introductory marketing subject curriculum: The lack

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Table 3
Curriculum design in Marketing Principles (at time of study).

Key objectives in Marketing Principles	Key graduate attributes assessed (with absolute weighting)	Assessment tasks (with relative weighting)	Learning content provided
Identify key concepts and principles	Discipline competency (100%)	Online quizzes (20%)	Textbook
Critically analyse and communicate orally a critical opinion on a contemporary marketing issue	Oral communication (50%) Reasoning (20%)	Oral presentation on critical contemporary issue in-class or Blackboard Collaborate (20%)	Range of multi-media oral presentation resources; Readings on issues & critical thinking
Collaboratively develop a new market offering positioned on sustainability using principles of creative problem solving (CPS)	Creativity (35%) Reasoning (30%) Teamwork (10%)	Collaborative marketing plan Part A (25%)	Detailed scaffolding on range of team work aspects; Dedicated study topic on creativity, CPS and sustainability marketing with readings & exercises; group wikis
Collaboratively research and construct a marketing plan for the offering.	Reasoning (55%) Teamwork (10%)	Collaborative marketing plan Part B (25%)	As above + new textbook resources on marketing planning
Demonstrate professionalism by reflecting on marketing plan and team experience	Professionalism/reflection (80%)	Individual reflection on Parts A&B (10%)	Resources on undertaking self-reflections

of creativity and education for sustainability in marketing curricula is problematic as skills in these areas are needed for marketing students to develop more sustainable market offerings. Theoretical frameworks to develop both creativity and sustainability skills in business students are available and may be adapted to suit the marketing context.

Identify the initiative (SoTL process step 2)

The second step of the SoTL process involves identifying (a) the intervention or initiative designed to enhance learning, (b) a current practice thought to be affecting learning or (c) a collection of information that might lead to enhanced learning (Trigwell, 2012, p. 255). This section outlines the curriculum innovation initiative, which the author developed to address the need for action discussed in Step 1.

To enhance student learning outcomes, a 'CPS for sustainable market offerings' orientation was introduced to the Marketing Principles curriculum. The theoretical framework for this approach was grounded in Titus' (2000) conceptualisation of CPS. Pedagogical principles for teaching creativity (Laverie et al., 2008; McWillam and Dawson, 2008; Sefton-Green et al., 2011) were followed: Learning (rather than teaching)-centredness; team-based projects; opportunity to pursue passions and connect with real-world; sharing of collective responsibility for project; minimal command and control while providing scaffolded opportunities for members to engage in a way that optimises performance; opportunity to learn from errors. Further, current thinking on EafS, such as Tilbury et al.'s (2004) skills for sustainability, was also incorporated in the curriculum initiative. In this way, the initiative represented an inter-disciplinary, problem-based approach to creating sustainable development change agents, as envisaged by Dobson and Tomkinson (2012).

Table 3 summarises the overall curriculum design covering learning objectives, graduate attributes, assessment tasks and learning content provided in the first iteration of the initiative. The shaded areas in Table 3 show the major, three-part collaborative assessment related to the 'CPS for sustainable market offerings' initiative. The assessment was carefully designed and scaffolded to guide students through an experiential, team-project-based learning activity. In the first part, the students were required to apply CPS steps 1–5 to determine a new or improved market offering (product or service) of their choice. CPS step 6 (implementation) was simulated in the second part of the task, which involved developing a marketing plan for the concept. In the third part, students were asked to reflect on their experiences with CPS, collaboration, marketing planning and sustainability in the course of undertaking the assessment. New instructional materials on creativity and CPS, the concept of sustainability and CPS for a sustainability-oriented marketing plan were developed and supplied to students.

Unique to the assessment were (1) the requirement to apply CPS for developing the new concept and (2) the constraint that the offering needs to be positioned on sustainability, i.e. reflective of a 'triple bottom line' approach. In other words, in addition to the general product innovation goal of adding value to the organisation (profits) and the market (consumer or industrial) (White and Bruton, 2011), the students' concepts needed to lead to an improvement of ecological quality, in order to qualify as an environmental innovation (Klemmer et al., 1999). In this way the marketing plan assessment was explicitly designed to build students' CPS skills to address real-world problems.

The experiential aspects of the new assessment were heightened by designing it as a collaborative the task. The details for this design are provided elsewhere (von der Heidt, 2013, 2014) and are available from me on request. In brief, the group-based experiential learning (Dewey, 1938; Kolb, 1984) assessment aimed to draw on the merits of group-based experiential learning projects for developing interpersonal skills (Burdett, 2003; Kennedy et al., 2001; Lang and Dittrich, 1982) and elicit a deep approach to learning, as opposed to surface or strategic learning approaches (Munn, 2003).

Overall, the SoTL initiative addresses the need for 'sustainable' assessment – one that fosters learning throughout life (Boud and Falchikov, 2006) and meets the needs of the present without compromising the ability of students to meet their own future learning needs (Boud, 2000). Both are important in the contemporary higher education sector with its growing focus on accountability, quality assurance and enhancement (Biggs et al., 2001). Sustainable assessment goes hand-in-hand with learner-and learning-centred approaches (Blumberg, 2009). Students in a learning-centred paradigm construct knowledge through gathering and synthesising information and integrating it with the general skills of inquiry, communication, critical thinking and problem solving (Huba and Freed, 2000).

Pose the research questions (SoTL process step 3)

Formulating an investigative question related to teaching and/or student learning in the chosen context is the third SoTL step

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(Trigwell, 2012). It is also fits with the Carnegie Foundation's (The Carnegie Foundation for the Advancement of Teaching, 1989) standard of setting 'clear goals'. Three research questions were formulated in relation to the curriculum initiative. The first question aims to establish the effectiveness of teaching CPS to novice marketing students which, as discussed earlier, has not yet been empirically tested. *RQ1. Can CPS be used effectively by first-year business students for collaboratively developing new or improved market offerings positioned on sustainability?*

As mentioned in the previous section, contemporary university curricula help students build lifelong learning (Boud and Falchikov, 2006). This is underpinned by a learning-centred approach emphasising the process of learning rather than the transmission-of-knowledge orientation of the teaching-centred approach (Blumberg, 2009). In introductory marketing courses, experiential learning through marketing plans is often used for deeper, learning-centred assessment (von der Heidt, 2010a). Likewise, CPS is a learning-centred method, in which students experience the knowledge construction process characteristic of the learning-centred approach (Titus, 2000). The extent to which students recognise the benefits of this approach is examined in the second research question. *RQ2. Do students value using CPS to collaboratively develop new or improved market offerings positioned on sustainability?*

The third research question is concerned with CPS for sustainability. Another aim of the research was, therefore, to understand how a major CPS task impacts on the extent to which each of these generic sustainability skills or dimensions of sustainability consciousness is being developed in students. *RQ3. Does using CPS to collaboratively develop new or improved market offerings positioned on sustainability build skills for sustainability in students?*

Develop the methodology (SoTL process step 4)

Step four of the SoTL process is about conducting the investigation (empirical, theoretical or literature-based) designed to address the research question (Trigwell, 2012) using 'appropriate methods' (The Carnegie Foundation for the Advancement of Teaching, 1989). Hubball and Clarke (2010) have purveyed the diverse range of methodological approaches for SoTL in higher education settings (e.g., experimental design, action research, self-study, case study research, survey research, classroom ethnography, program development/evaluation research and implementation analysis).

In the year the curriculum initiative was introduced, 387 students from five cohorts (three Australian internal, two Australian Online and one internal/China) were enrolled (post-census) in Marketing Principles. The data used in this paper relates to the 323 students who passed the subject and excludes 64 students (16.5%) who failed to achieve the 50% pass mark overall. Approximately 115 groups of three to four students undertook the assessment task. The assessments were marked by one of six markers – all experienced marketing tutors who had received instruction in CPS). Each student received the group score for this task, whereby the individual scores could be adjusted if teamwork was greater or less than the average contribution of each group member.

A four step methodology was used to address each of the two research questions.

1. *Individual performance scores for CPS part of marketing plans*

   To inform RQ1 on whether CPS can be used by first-year business students to develop market offerings positioned on sustainability, individual student assessment performance scores (out of 25) for the CPS part were analysed for each of the five cohorts.

2. *Content analysis for CPS part of marketing plans*

   In order to develop an initial profile of each group's proposed market offering, around one-half of the CPS part of the group-worked marketing plans assignments (30 Australian and 29 Chinese student groups) were assessed by the researcher in the following four ways. (Note: This analysis of the instructor's developmental work is based on a single-researcher perspective, and the scope for bias is acknowledged).

   (a) One of the two key dimensions of creativity is aptness or meaningfulness (Amabile, 1983; Henry, 2001; Sandri, 2013). As indicated by Klemmer et al. (1999), a technical environmental innovation (including a sustainability-oriented market offering) leads to an improvement of ecological quality, regardless of any additional advantage of motive. Hence, to establish aptness in this study, the primary realm of the environmental innovation (Huber, 2005) – also referred to as eco-innovation benefit (Reid and Miedzinski, 2008) or type of environmental focus (Dangelico and Pujari, 2010) – was assessed as follows: (i) material used or resource efficiency gain, (ii) pollution or waste reduction gain, (iii) energy or energy efficiency gain.

   (b) To further ascertain 'aptness', each proposed market concept was classified in terms of Huber's (2005) four main categories of technical environmental innovation according to chain position: (1) primary production or base products, (2) materials processing and intermediate products, (3) final production, end-products and (4) use behaviour and consumer practices.

   (c) To establish the extent to which the proposed concept was novel or new relative to the perceiver – the second key dimension of creativity (Amabile, 1983; Henry, 2001; Sandri, 2013) – each concept was assessed: 1 'radical innovation', 2 'incremental innovation' or 3 'no innovation', as per Dangelico and Pujari (2010).

   (d) Effective CPS requires application of all five pre-implementation steps (Titus, 2000). The extent to which each CPS step was undertaken in developing each proposed market concept was scored: 1 'above average', 2 'average' or 3 'below average/not undertaken'.

3. *Survey of students' attitudes*

   To inform RQ2 on whether students value CPS and the collaborative marketing plan assessment, student survey data was used. Students were asked to indicate the extent to which they were challenged to do their best work through (a) CPS and (b) marketing planning. Students' responses were measured on a five-point attitude rating scale from 1 'not at all' to 5 'extremely so'. Analysis was undertaken to determine any cohort differences.

4. *Content analysis of students' reflections*

   To inform RQ2, students' individual written reflections on the CPS aspects of the collaborative marketing plan assessment were content-analysed to establish their views on the saliency of CPS for their learning and professional lives. Such narration provides a fundamental way to get close to the participants and elicit their own views of reality (Polkinghorne, 2007). Through iterative readings of descriptions of the CPS experience, the themes and structure of variation across the group emerged, providing the outcome space for the phenomenon. Ritchie et al. (2013) recommend

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Table 4
CPS for concept development and situation analysis (Means).

	N	Mean	Std. dev.	Std. error	95% Confidence interval for mean		Minimum	Maximum
					Lower bound	Upper bound		
A-Online Session 2	83	18.412	3.5316	0.3876	17.641	19.183	8.8	24.0
A-Coffs Harbour	28	17.579	2.5296	0.4780	16.598	18.559	12.5	22.0
A-Gold Coast	53	17.555	2.1009	0.2886	16.976	18.134	12.5	22.0
A-Lismore	33	19.348	2.0982	0.3653	18.604	20.092	15.5	23.1
C-China	90	16.239	2.3633	0.2491	15.744	16.734	11.0	20.0
A-Online Sess.3	36	18.193	3.4260	0.5710	17.034	19.352	9.4	23.5
Total	323	17.665	2.9528	0.1643	17.342	17.988	8.8	24.0

A=Australia; C=China.

that before applying codes to text, a researcher should create key thematic ideas which may be derived from the literature review, key documents or an initial reading of transcripts. a traditional method of thematic analysis, which essentially entails sifting and re-sifting the data (Rice and Ezzy 1999). To ensure representativeness of the overall group, a proportional sample of 10% of passed students from each of five cohorts was drawn, yielding 35 reflections.

Present the findings (SoTL process step 5)

Producing a significant result and some sort of public artefact is the purpose of the fifth SoTL process step (Trigwell, 2012) and consistent with the Carnegie Foundation's (1989) standards for SoTL. According to Trigwell, the artefacts of the process include a new subject description, i.e. the curriculum (which the author can make available upon request). Scholarly publications might also be considered SoTL artifacts, however as they are peer-reviewed, they may be more appropriately considered in the final, peer-review step of the SoTL process. This section summarises the key findings of the SoTL investigation in relation to the two research questions.

Effective use of CPS and sustainability in marketing plans (RQ1)

Individual students' scores for CPS in early collaborative marketing planning

The marks achieved for the CPS part of the assessment (worth 25%) were examined, whereby students with 'absent fail' grades were excluded and those with 'fail' grades were retained only if both parts of the assignment were submitted (see Table 4). Based on the 50% pass mark (the midpoint of 12.5 out of 25), the 323 passing students from all campuses performed well in the CPS phase of their marketing plan, with an average mean of 17.67 or 70.7% (Credit grade). Australian cohorts achieved highest scores: Lismore – 19.35 (n = 33), online Session 2 – 18.41 (n = 83), online Session 3 – 18.19 (n = 36), Coffs Harbour – 17.58 (n = 28), Gold Coast – 17.55 (n = 53) and China – 16.24 (n = 90). This indicates that, on the whole, students undertook all CPS steps to a satisfactory level.

To determine whether the differences between cohort are significant, an analysis of variance (ANOVA) was conducted with cohort/location as the independent variable and the marks for the CPS part of the marketing plan entered as dependent variables. Post-hoc comparisons (Tukey HSD) revealed significant differences in values for the CPS assessment in relation to four of the five cohorts (see Table 5). The mean difference was highest (3.11) between the Lismore (M = 19.35) and the China (M = 16.24) cohorts. The mean of the China cohort was also significantly lower than both online student cohorts.

Content analysis for CPS in collaborative marketing planning

The following four results of the content analysis also inform RQ1.

(a) Nine (15%) of the 59 proposed market concepts had no obvious eco-benefit. The results of assessing the single primary eco-benefit of each of the remaining 50 proposed market concept compared with empirical industry results is shown in Table 6. While the proportion of proposed student market concepts focusing on energy is similar to those actually occurring in industry, students emphasised waste reduction far more than the industry results suggest.
(b) Table 7 presents results of the analysis of the 59 student marketing concepts compared with Huber's (2005) findings. The higher proportion of end products (66% versus 25%) and low proportion of base products (0% versus 44%) can be explained by the marketing emphasis of the task. However, a substantial proportion of concepts (36%) were targeted at the business market, as appears to occur in practice (27%). Huber argues that the further chain upwards products are placed, the more important the potential environmental impact. The findings, therefore, indicate that the student concepts are generally of lower environmental impact than that which is found in practice.
(c) 11 of the 59 proposed market offerings did not involve product innovation, but focused instead on market expansion. The proportion of potential radical innovations was higher in the student sample (38%) than in that found by Dangelico and Pujari (2010) (25%), reflecting the hypothetical nature of the assignment. While about one-half of all product concepts (both Australian and Chinese) students were incrementally innovative, Australian students had twice the share of radical concepts and half the share of non-innovative concepts compared with the Chinese students. See Table 8 for details.
(d) All 59 student proposed market concepts addressed each of the five pre-implementation CPS steps to some degree. The first two CPS steps (problem identification; problem delineation) were most successfully undertaken by students overall (M = 2.12; 2.17. The most popular CPS tools were bug list (for problem identification), progressive abstraction (for problem delineation), questioning (for research), fishbone diagram (for idea generation). While many creative concepts were developed, idea evaluation and refinement was generally weakest (M = 1.93), which may account for sub-optimal proposed offerings.

Students' attitudes toward using CPS for collaborative marketing planning (RQ2)

Survey results

Of the 323 students who passed the unit across the five cohorts in 2011 and were eligible to respond to the semester-end feedback

Table 5
Multiple post-hoc (Tukey HSD) comparisons of differences between cohorts for CPS in Part A or marketing plan (significant results only).

(I) Cohort	(J) Cohort	Mean dIfference (I–J)	Std. error	Sig.	95% Confidence Interval	
					Lower bound	Upper bound
A-Online Sess.2	C-China	2.1729*	0.4251	0.000	0.954	3.392
A-Gold Coast	A-Lismore	−1.7938*	0.6194	0.046	−3.570	−0.0180
A-Lismore	A-Gold Coast	1.7938*	0.6194	01.046	0.018	3.570
	C-China	3.1096*	0.5685	0.000	1.480	4.740
C-China	A-Online Sess. 2	−2.1729*	0.4251	0.000	−3.392	−0.954
	A-Lismore	−3.1096*	0.5685	0.000	−4.740	−1.480
	A-Online Sess. 3	−1.9542*	0.5509	0.006	−3.534	−0.375
A-Online Sess.3	C-China	1.9542*	0.5509	0.006	0.375	3.534

* The mean difference is significant at the 0.05 level. A=Australia; C=China.

Table 6
Comparison of market offerings by eco-benefit (a).

	This study (n = 59)			Huber (n= 500+)	Dangelico and Pujari (n = 12)
	Chinese	Australian	Total		
No eco-benefit	3	6	9	–	–
(i) Material or resource efficiency	4	9	13 (26%)	65%	6 (50%)
(ii) Pollution or waste reduction	10	10	20 (40%)	8%	1 (8%)
(iii) Energy efficiency	12	5	17 (34%)	27%	5 (42%)
	29	30	59		

Table 7
Comparison of market offerings by chain position (b).

	This study (n = 59)	Huber (n = 500+)
Primary production or base product	0	44%
Materials processing and intermediate products	19 (36%)	27%
Final productions, end-products	39 (66%)	25%
User behaviour, consumer practices	1 (2%)	4%

Table 8
Comparison of market offerings by type of product innovation.

	This study (n = 59)			Dangelico and Pujari (n = 12)
	Chinese	Australian	Total	
No/negligible product innovation	7	4	11	0
Incremental product innovation	16	14	30 (62%)	9 (75%)
Radical product innovation	6	12	18 (38%)	3 (25%)
	29	30	59	

Table 9
Survey sample overview.

Session	Location	Number of responses	Number of passed students	Response rate (%)
Session 2	Online (O2)	39	83	47.0
	Coffs Harbour (C)	6	28	21.4
	Gold Coast (G)	14	53	26.4
	Lismore (L)	21	33	63.6
Session 3	Tianjin (T)	26	90	28.9
	Online (O3)	7	36	19.4
Total		113	323	35.0

surveys (online or in-class), 117 surveys were received. 113 were sufficiently completed (34.8%) and used for further data analysis. Of these, 8 cases had partially missing values, which were replaced by the mean for that item. A profile of the sample in terms of location is provided in Table 9.

In terms of the mean value of responses relating to each of the six assessment items, students rated the two-part marketing planning assessment, including the CPS tasks highest in terms of challenging them to do their best work (M = 4.04 in part 1; M = 4.06 in part 2) – see Table 10. By contrast, students were considerably less challenged and rewarded by multiple choice question knowledge tests (M = 3.36), even when these were offered open book and with multiple opportunities to attempt. This is consistent with the results of a previous study in which students perceived that exams play only a relatively small role improving their learning and stated a clear preference for a more practical assessment task, such as a marketing plan (Hay et al., 2010). The means for the remaining assessments were located in between, i.e. oral presentation on contemporary issue (M = 3.91) and reflection on marketing plan (M = 3.41). A between subjects multivariate analysis of variance was conducted with cohort/location as the independent variable and the six assessment variables entered as dependent

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Table 10
Assessments challenging students to do their best work (means).

The following assessments in this unit challenged me to do my best work	Mean	Std. dev.
Marketing plan (Ass2B): Final with marketing mix strategies	4.06	0.938
Marketing plan (Ass2A): Creative problem solving and situation analysis	4.04	0.896
Oral presentation on contemporary issue (Assignment 1)	3.91	0.922
Group work aspect of Marketing plan (Ass2 Parts A and B)	3.85	1.113
Reflection on marketing plan and group work (Ass2 C)	3.41	1.080
Online quizzes	3.36	1.053

variables. An overall effect between cohort and the set of dependent assessment variables was not found.

Results from content analysis of student reflections

The students' own views have been interpreted and contextualised to aid understanding, carefully chosen to ensure inclusion of best quotes only and expressed as concisely as possible. Structuring the writing around thematic headings is also consistent with principles of *internal validity* ensuring that data is presented in a coherent, consistent and robust manner (Yin, 2010). Further, presenting the findings via thematic headings provides a logical scaffolding to host an argument, provide data extracts and embed discursive commentaries (Holliday, 2007). The students' reflections centred on five main CPS-related themes: General impressions of CPS, particular aspects of CPS, CPS and marketing, CPS and sustainability and CPS and group work. Within some of these a number of subthemes are identified. To identify any possible differences, significant quotes drawn from the reflections of Australian students (numbers 1–25) and Chinese students (26–35) are presented separately.

Both Australian and Chinese students reflected on their general impressions of the CPS method for developing a market offering. Four main subthemes emerged, as highlighted in Table 11. Some students in both cohorts praised the 'exciting' side of CPS. Most students commented on the challenging nature of CPS. In general, students are not accustomed to this approach and tend to find it uncomfortable initially. This suggests that the education system in both countries provides limited scope for CPS activities. Based on one student's comments, it is possible that the opportunities for planning are even fewer in Chinese higher education. Despite the difficulties, virtually all students found CPS to be rewarding. Australian and Chinese students alike found CPS to be a useful approach – not only for the marketing task at hand but also for achieving their future goals.

Australian and Chinese students also reflected on particular aspects of using the CPS method (see Table 12). Four subthemes were also evident here. Some students within both groups indicated some initial difficulty with the problem identification and idea generation steps of CPS. Students explained that they initially lacked awareness or knowledge about 'problems', were unaccustomed to different ways of thinking and challenged in reconciling different ways of thinking with their group. Students from both cohorts identified a strategy to help analyse problems and more quickly reach agreement: Individual students need to invest time in adequate research and preparation. One point of difference between the cohorts was a greater level of risk-awareness on the part of Australian students.

As shown in Table 13, some students from both cohorts reflect on how the CPS-based assignment helped with their understanding of marketing. This view was more strongly manifest in the Australian students' reflections.

A number of Australian students reflected on how the CPS-based assignment enhanced their understanding of sustainability and its important role in contemporary marketing and, indeed, society (see Table 14). No noteworthy comments were evident in the Chinese students' reflections.

The final theme emerging from the student reflections related to CPS and the group work experience. Table 15 shows that Australian and Chinese students alike commented on how the assignment helped them with giving and receiving feedback within the group, which the group work literature suggests is a challenging, but vital skill to acquire (de Janaszh et al., 2015; Turner et al., 2008). Students from both cohorts appeared satisfied with the group work aspect of the assignment and the learning gained from a team versus an individual approach.

Students' attitudes toward using CPS and collaborative marketing planning for building sustainability skills (RQ3)

RQ3 asked whether using CPS to collaboratively develop new or improved market offerings positioned on sustainability built skills for sustainability in students. The findings from the second survey question informed this RQ. The mean value of total responses relating to each of the nine skills for sustainability developed in this unit (Table 16) show that the marketing planning assessment helped students develop transferable skills for sustainability. According to the student survey rating data, the skills most developed were 'being able to participate in groups' ($M = 3.65$), 'better manage projects' ($M = 3.64$), 'think and problem solve more creatively' ($M = 3.58$) and 'being more able to motivate and manage groups' ($M = 3.58$).

A between subjects MANOVA was conducted with cohort/location as the independent variable and the nine sustainability skills as dependent variables. While the means for Chinese students were consistently higher than for all Australian cohorts, only two significant effects were found: (1) For 'thinking more critically and reflecting more deeply', the mean for Chinese students ($M = 4.00$, SD = 0.926) was significantly higher than the mean for Australian Online students ($M = 3.03$, SD = 1.134). (2) For 'better managing projects' the mean for Chinese students ($M = 4.14$, SD = 1.082) was significantly higher than the mean for Australian Online students ($M = 3.28$, SD = 1.162).

Peer review (SoTL process step 6)

The final, sixth step of the SoTL process invites peer review on the clarity of each of the theory, practice, question, method and results steps of the procedure. As per Hutchings and Shulman (1999), SoTL work must be available for peer critique and evaluation, as well as made public (as community property). Trigwell (2012) distinguishes three levels of SoTL investigation: (1) verified by self, (2) verified by those within the same context and (3) verified by those outside the context. According to Hutchings and Shulman (1999), only level 3 qualify for SoTL, while levels 1 and 2 suffice for scholarly teaching. As mentioned earlier, Mentzer and Schumann's (2006) conceptualisation of the SoTL process emphasises transmission (to students, practitioners and peers), but there does not appear to be a clear requirement for peer review and critique.

The SoTL initiative reported in the paper attempted to meet level 3 standards of peer review. Because the initiative was multidimensional (i.e. marketing planning, creativity, sustainability, collaboration), the outcomes of the initiative have been investigated in a number of ways to achieve validation. Level 3 review from different peer sources was sought at the time of the original initiative. Evidence of level 3 peer review includes a number of peer-reviewed publications (von der Heidt, 2012a, 2012b, 2013, 2014; von der Heidt and Lamberton, 2015; von der Heidt and Quazi,

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Table 11
Reflections on general impressions of CPS method.

	Chinese	Australian
Exciting	"The work about thinking divergently to generate novel ideas is exciting." (32)	"The concept and ideas of developing our concept were completely exciting." (1) "The assignment has shown me how entertaining and fun marketing can be." (20)
Challenging – overall	"I appreciated the opportunity to think independently rather than learn with assistance." (27) "The whole planning process is not an easy job for us, who have always received traditional Chinese style education, and who seldom or even never do such kind of professional practice." (29)	"The CPS has been by far the biggest challenge of this marketing plan experience. I was shocked to discover how lazy my thoughts toward opportunities are. I am certainly a better thinker as a result of having to 'see' rather than 'look'." (7). "My CPS skills were tested to the limit. It was an eye opener to learn how methodical and systematic marketers have to be if they want a product to succeed." (8) "It was very challenging and rewarding". (16)
Useful for task at hand	"CPS showed me that a bright idea is very important, but that it should stem from everyday life and be of use". (28)	"CPS helped ensure that our product was differentiated from (competitors' products)." (3) "I learned how to offer a solution to an existing problem by taking two existing offerings and combining them together." (12) "Through CPS I learned about getting insights into customer needs." (14) "Many CPS skills were learned in the group. I learnt that all age groups and customers have different needs." (17)
Useful in the future	"This experience has become a good preparation for my professional life." (26) "The knowledge the CPS activities gave us was far greater than books." (30)	"The CPS skills I have learned from doing this marketing plan will be easily implemented to many tasks in the future." (11) "I will be able to use a similar (CPS) approach for my future goal of running my own business." (21)

Table 12
Reflections on particular aspects of CPS method.

	Chinese	Australian
Problem definition and delineation	"I have not found enough problems, so that problem solving was not comprehensive. I hope to do a detailed bug list next time." (32) "The bug list summarising shortfalls of current products was useful. We changed positions and put ourselves close to markets to hear the customer's voice and to find unmet needs." (34)	"The process of problem identification was the simplest yet most difficult task" (7). "The bug list approach was simply too abstract in context of the assignment and we struggled." (14)
Problem solution and divergent thinking	"We often used brainstorming to solve the problems. When we had some problems about which we had no knowledge, we often changed our way of thinking. We also used reverse thinking in our group. From this questioning we drew some innovative ideas." (26)	"With divergent thinking I was able to come up with possible solutions to problems and with mental flexibility I was able to see resolutions from different perspectives." (11) "Divergent thinking was a skill that did not work for me as well as I had anticipated, as I found it difficult to think outside of what is considered the usual" (24).
Risk taking	No significant comments made	"I experienced what it would be like to take risk in marketing. We didn't truly know if our sustainable product would be embraced by our target market." (15) "We surveyed people about their thoughts, which was a little risky as we didn't know how they would react." (17)
Research and preparation	"Our group leader insisted that sufficient preparation be made before each group discussion. We refused to get together for a group talk without reading and analysing the materials carefully." (29) "Next time I will use CPS to analyse the problems by myself, so that when our group discusses, I can have a good preparation." (32)	"We needed to solve the problem of disagreement over CPS, and did this by backing-up our thoughts through research, which easily persuaded members of the group." (9)

Table 13
Reflections on CPS and marketing.

Chinese	Australian
"The whole process has strengthened my understanding of marketing." (28)	"I learned many insights into reality and the business of marketing." (1) "By undertaking a marketing plan I realised how much more goes into it than I had thought." (14) "The assignment improved my very narrow insight into customer needs. I was forced to think like a marketer and consider why different products are advertised and marketed in different ways. It has really changed how I look at products now when I am shopping or watching television." (15) "I have a broader knowledge of customer needs and understand the requirements of what is to be carried out to achieve a successful marketing plan." (19)

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Table 14
Reflections on CPS and sustainability.

Chinese	Australian
No significant comments made	"Business plans built around sustainability I believe now to be very important for a business in modern society." (1) "Sustainability as the big factors in this assignment and is mainly what made it more challenging. It taught me that sustainability is going to continue to grow and play a major role in marketing – whether or not marketers actually do care." (15) "The marketing plan helped gain an appreciation s for the value of a sustainable oriented plan. It will be a crucial skill in the changing world to be able to be a forward thinker and orientate a market offering to the growing concerns of society. "(16). "I now have a broader understanding of sustainable living – an area I knew very little about before commencing this assignment." (21) "The aspect of sustainability not only entails opportunities, it also limits the scope of action when it comes to operative details. I gained a sound overview of what can be deemed sustainable and by which means a business notion can be rendered sustainable, which will definitely gain importance in future years." (22)

Table 15
Reflections on CPS and group work.

	Chinese	Australian
Helped with giving and receiving criticism	"I found it hard to patiently discuss with other people, and I am hard to be convinced. I am not good at arousing the enthusiasm of others. I like this cooperation work mode because it can help me find a lot of my own problems, and I can correct them when I work in the future to avoid making the same fatal mistakes." (30)	"One of the biggest issues I faced was giving criticism. Initially I was extremely blunt with my criticism. It became somewhat a problem and closed off communication at times. I gained an appreciation and the ability to give criticism in a way which didn't affect the communication flow. Our team practiced overcoming difficulties by stopping all work and expressing our honest feelings, which allowed for the problem to be solved quickly and efficiently." (16) "My suggestions have been criticised within my group, which I found hard to accept. I have learned to improve this aspect in the future." (23)
Helped with other group work skills	"We found that our understanding was divided a lot. We had to reunite some of the ideas that differed. The next time we changed our way." (28) "I appreciate the importance of teamwork. Work was completed much faster and the quality was better than my own work." (30)	"Group work on the marketing plan is a very useful way to improve group work skills as well as marketing skills."(2) "All members were ready for challenges, were prepared and committed. Though we had differing opinions, we were all motivated by one another to get the work done." (17) "The skills I received completing the group work were good. I could see how to work well for a team to succeed." (19) "Working in a group has given me more confidence in expressing my own ideas and thoughts." (20) "Or group achieved more than a set of individuals alone. This aspect proved to be a great opportunity as more innovative and resources achievements could be made." (23)

Table 16
Sustainability skills developed in the unit (means).

My studies in this unit have helped me…	Mean	Std. dev.
e. be more confident to participate in groups	3.65	1.158
h. better manage projects	3.64	1.079
c. think and problem solve more creatively	3.58	0.972
g. be more able to motivate and manage groups	3.58	1.051
f. think more systematically, i.e. look at issues in a broader, more relational way	3.53	0.956
d. be more self-reliant and organised	3.50	1.071
b. think more critically and reflect more deeply	3.45	1.001
i. achieve beyond the limits of this unit	3.44	1.101
a. more actively envisage a preferred future	3.31	1.029

2013), by senior teaching and learning academics and by the University Vice Chancellor, who awarded a citation "*for a scholarly driven approach to improving learning-centred curriculum design in first-year marketing*" (Southern Cross University, 2011). For SoTL work in Marketing Principles as a member of the Education for Sustainability in the Bachelor of Business Team the author was awarded a national, competitive Office of Learning and Teaching (OLT) Australia award for outstanding contribution to student learning "*for a scholarly-driven, team-based approach that transforms the undergraduate business curriculum through education for sustainability*" (Office of Learning and Teaching, 2014). This award testifies to the importance of the 'CPS for sustainable market offerings' initiative, the sustained nature of the inquiry and the significant impact on student learning outcomes. The author's SoTL initiatives have been described by one renowned scholar "*as unique and quite commendable. I do not know of any other research that indicates that professors have achieved this degree of learning centredness with distance, first-year students. This implementation is very impressive. Her research methods employ best practices*" (Blumberg, 2012).

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Discussion of findings

A SoTL approach was followed to investigate first-year marketing student learning for a curriculum initiative, in which the creative problem solving (CPS) process was connected to marketing planning for sustainable new offerings. A range of insights can be gained from the empirical results.

Firstly, the analysis of student scores showed that the majority of students succeeded in using the five-step CPS process to generate a new or improved market offering positioned on sustainability. Although many students reflected on the challenging nature of CPS, most worked through and completed each of the five pre-implementation steps quite well, often spurred on by fellow group members. The higher mean of some Australian cohorts' scores versus the Chinese students' scores may reflect the higher average age, work experience and independent learning orientation of the former group relative to the younger, less work-experienced Chinese undergraduates. English language issues may also have played a role. The differences between Australian cohorts are more difficult to explain. While the possibility of marker bias cannot be discounted, it is possible that the more effective CPS teaching methods and/or ability of student may have played a role. The experience of undertaking CPS was viewed by most students as a positive, enriching one, which many thought they would draw on in the future.

Secondly, the analysis of student groups' sustainable marketing concepts showed that the majority of Chinese and Australian students appear equally capable at developing market concepts based on an eco-benefit, whereby the nature of the eco-benefit varied. The 15% of students (9 of 49) with proposed marketing concepts which had no obvious eco benefit) may have failed to properly understand this part of the sustainability-oriented marketing task because they did not engage sufficiently with the learning materials. Ensuring that all students properly understand the expectations of assessment task is a key focus for each member of the Marketing Principles teaching team. Most undergraduate business students, therefore, are willing and able to start practising 'ecopreneurship', i.e. articulate (a) the priority of environment as a business goal and (b) the desired market effect of a business (Schaltegger, 2002). However, the two cohorts differ in two other regards. (1) The finding that relative to their Australian counterparts, the Chinese students' concepts are generally more downstream (end user) and, hence, of lower environmental impact, indicates their focus on solving problems they face in daily life. To broaden their understanding of the whole value chain and business-to-business markets, further educational emphasis may be warranted. (2) The considerably lower proportion of radically innovative product concepts and higher proportion of non-innovative concepts developed Chinese groups points to a greater risk-averseness or uncertainty avoidance, a characteristic of CHC (Hofstede, 1997). It also appears to reflect the general propensity of Chinese business to imitate rather than innovate, as discussed by Bastin (2011b). However the fact that a small proportion of Chinese student groups have attempted to develop a radical sustainable product concept indicates that the potential for Chinese companies to "*upgrade core capabilities and migrate up the value chain*" (Tse et al., 2003, p. 7) and the recent exponential growth of creativity and innovation in China (Bastin, 2011a).

Finally, the content analysis of students' reflections on the CPS approach revealed mostly shared themes between Chinese and Australian students, for instance valuing the diverse aspects of the CPS method and self-discovery of own strengths and weaknesses using collaborative CPS. The issues faced by groups in this CPS task were remarkably similar for both Chinese and Australian students. The most surprising finding was the absence of Chinese student comments on CPS for sustainability. This contrasted sharply with many Australian students interest in marketing for sustainability. This suggests that the sustainability paradigm shift is at a much earlier stage in China than in Australia, where more than 80% of the population is concerned about the social and environmental impacts of the products they buy (Moscardo et al., 2013).

Overall, the results demonstrate that CPS for developing a sustainability-oriented concept in collaborative marketing planning aided by appropriate teaching support and with use of a structured method as discussed by Fernandes et al. (2009) can foster – even in a large, heterogenous intake of students - skills for creative problem solving relevant to developing sustainable market offerings. Further, by integrating creativity for sustainability instruction into marketing curriculum, this initiative helps address the mismatch between student expectations and industry practices in the 'real world'. As creativity does not in and of itself result in sustainable products, creativity needs to be exercised in a sustainability sensible way – both in education and in industry practice. Equally, we cannot assume that creativity is implicit in sustainability skills, even though both call for tolerance of ambiguity, risk taking and systemic thinking. Hence, it is important that we – marketing scholars - explicitly deal with both creativity and sustainability in our university curricula. Stimulating a wider uptake of CPS and sustainability concepts in marketing curricula is a key purpose of this paper.

Conclusions in regard to SOTL

This paper roots for the SoTL in marketing education, just as our colleagues in the management discipline root for SoTL in their discipline (Schmidt-Wilk, 2011). To the author's knowledge it is the first paper in the marketing education literature to explicitly deconstruct SoTL and provide a public account for a marketing curriculum initiative. It is hoped that the paper meets the final SoTL standards regarding 'effective presentation and dissemination' (The Carnegie Foundation for the Advancement of Teaching, 1989) and for the work to be reproducible and built on by other scholars in the same community (Hutchings and Shulman, 1999).

When teaching is seen as scholarly and inquiring and when it is made public and peer reviewed, there is a stronger likelihood that the improving student learning purposes of SoTL are being achieved (Trigwell, 2013). By anchoring SoTL firmly in evidence-based practice, the mechanisms of curriculum change can be clarified and changes in student learning outcomes can be measured (Saroyan and Trigwell, 2015). This drive and commitment to SoTL will lead to better quality teaching and learning, and our graduates are more like to have the skills they need for meaningful employment in the real and fast-changing global market place. In the case of Marketing Principles, most students are benefiting from engaging with the 'CPS for sustainable market offerings' SoTL initiative. Each year approximately 400 first-year on-campus and online students domestically and offshore apply CPS to develop sustainable 'solutions' to consumer 'problems'. Students identify unmet consumer needs with existing products and services, such as lack of recyclability of materials used. They then develop new or improved market offerings, which provide customer value and sustainability benefits. In this way students incorporate sustainability into the practice of marketing planning, generating more than 100 sustainability-oriented marketing plans each year. Given that SoTL is an ongoing process to improve student learning, the author – in consultation with the Marketing Principles' teaching team, the School's course coordinator and the University's Centre for Teaching and Learning – continues to innovate and optimise the Marketing Principles curriculum.

By demonstrating the application of SoTL to a Marketing Principles curriculum initiative of SoTL in marketing education, the paper aimed to boost the uptake of SoTL at three levels – the individ-

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ual marketing academic, the school/faculty and the marketing discipline. Firstly, marketing educators are encouraged to consciously consider the SoTL process to better understand and evaluate their teaching and learning initiatives. There are a variety of ways in which to undertake, not just scholarly teaching, but scholarship of teaching to enhance the extrinsic and intrinsic impacts of their teaching efforts. Viewing teaching and learning initiatives through the SOTL lens is a valuable way for scholarly academics to enhance their intellectual contributions to their schools. In this way they can to work on explicit knowledge transfer and strengthen their individual pedagogical competence, as called for by Madhavaram and Laverie (2010). Doing so may also help to garner a reputation and achieve institutional expectations of reward and recognition through promotion, as called for Vardi and Quin (2011).

Secondly, by enfranchising SAs/faculty members who wish to understand, expand and enrich teaching in their disciplines and engage in curriculum renewal and innovation, a community of SoTL research endeavour can be developed and sustained. In the case of the curriculum initiative reported in this paper, influencing faculty members is a work in progress. Presentations at university-wide teaching and learning events helps build some SoTL community of practice. To engender a stronger, school-wide commitment to SoTL, stronger messages about the significance and relevance of SoTL need to be communicated by school leadership to SAs.

Finally, it is hoped that the paper will contribute to discussion about where we stand as a marketing discipline in terms of SoTL, what our conceptions of it are and how we engage with it, as called for by Mentzer and Schumann (2006). The sharing of practice helps to broaden the concept of SoTL – taking it beyond the classroom to, hopefully, influence interested others and contribute to scholarship in the marketing discipline. As noted by Hubball and Clarke (2010), SoTL is not value free, because it is undertaken by faculty (e.g. marketing scholars) with a key stake in the curriculum they are investigating. Further, because SoTL inquiries can be undertaken from multiple perspectives, multiple truths are possible. This means that interpretations of SoTL research, as with other forms of research, need to be undertaken with due care. Ideally, our SoTL research needs to be ongoing and open to alternative methods and perspectives, thus "*enlarging our pedagogical imaginations*" (Huber and Morreale, 2002, p. 20). The SoTL process model in marketing education presented in this paper (Fig. 2) attempts to guide such best practice SoTL inquiry – one that is viewed as an ongoing, cyclical process and fed by an enfranchised consciousness at subject, school and discipline levels.

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