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The 4 Cs Strategy for disseminating innovations in university teaching: Classroom, Corridors, Campus, Community

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Abstract

University educators are encouraged to be innovative in their teaching practice, and are often recognised and rewarded for these innovations. However, the effective dissemination and consequent adoption of such innovations is still relatively ineffective, despite the development of diverse dissemination frameworks and strategies. The literature suggests the uptake of innovations is constrained especially by 'people factors' related to change, transition and perceived risk, which limits the effectiveness of top-down dissemination. Through a reflective methodology guided by an appreciative inquiry stance and the Discover, Dream, Design, Destiny model, the authors explored dissemination of university teaching practices. Through the Discovery phase, the authors reviewed the literature on innovation and dissemination in the context of reflective inquiry into their own experiences as innovative educators. In the Dream and Design phases, the authors used this new understanding to develop an educator-centred approach strategy for sharing innovations in ways that capitalise on people factors and the principles of persuasive influence towards effective change. The 4Cs Dissemination Strategy systematically connects innovators to their students, colleagues, institutions, and broader networks. After building a scholarly evidence base of the impact of teaching innovations in the Classroom, the focus shifts to person-centred interaction with colleagues in Corridors, across the Campus and into the Community. The Destiny phase is in progress: as a structured professional learning framework supporting innovators to become the advocates for their own innovations in practical ways, the 4Cs Dissemination Strategy has the potential to facilitate the sharing of innovative practice and enhance innovation leadership.

Practitioner Notes

1. Innovation in university teaching is encouraged, recognised and rewarded by institutions.
2. Effective dissemination of innovative teaching helps good ideas spread rapidly, but natural human reluctance to change is a limiting factor.
3. Overcoming reluctance to adopt innovative practices is best achieved through personalised engagement with innovators.
4. The 4Cs Dissemination Strategy is a novel systematic approach that focuses on individual innovators sharing across widening spheres of personal influence—Classroom, Corridors, Campus and Community.
5. The 4Cs Strategy facilitates the sharing and adoption of innovations, and develops capacity and capability in innovators and adopters alike.

Keywords

innovation; dissemination; dissemination strategy; university teaching; 4Cs

Introduction

In their classrooms, whether real or virtual, university educators are constantly encouraged to find novel, more effective—or at least more efficient—ways to meet the needs of new student cohorts seeking learning experiences that provide high-quality engagement and employability. Evidence-based innovation that improves opportunities or solves problems for learners has thus long been considered a critical component of excellence in university teaching practice (Kirschner, 2012; Smith, 2011), with strong advocacy for institutional cultures that nurture the creativity underpinning innovation (Kaloudis et al., 2019; Sandberg & Aarikka-Stenroos, 2014; Smith, 2011). However, Johnson (1996) argued classroom innovations that are not actively shared and subjected to peer review are unlikely to be adopted or adapted by others, with their impact remaining localised at best. The same still holds true today. Moreover, researchers such as Liu et al. (2020), Rapanta et al. (2020), Downie et al. (2021), and Menzli et al. (2022) have all found a marked reluctance among academics to adopt technologies—the most common form of today’s university teaching and learning innovations—despite encouragement, requirement, or compulsion. These findings accord with Rogers’ (2003) Diffusion of Innovations theory, which argues for the importance of interpersonal networks to the spread and adoption of innovations. While evaluative evidence does count—that is, the innovation with the most proven advantages is more likely to be adopted than similar innovations—Rogers (2003) found that even clearly advantageous innovations are not necessarily readily adopted as quickly and broadly as expected (e.g., the Dvorak keyboard layout, which has still not been adopted widely; pp. 19-21). This is especially true in the absence of intensive marketing or incentives (Sandberg & Aarikka-Stenroos, 2014).

The evaluation and dissemination of innovative practice have long been seen as complementary priorities in advancing university teaching (Elton, 2003; Gannaway et al., 2011, 2013; Johnston, 1996; Southwell et al., 2005; Tassone et al., 2021). Dissemination in this context can be broadly defined as the spread, broadcast, dispersion or “targeted distribution” (Schillinger, 2010, p. 1) of specific approaches to teaching and learning. When Southwell et al. (2005, p. 17) empirically explored the experience of dissemination of higher education teaching practice, they defined the process as action “to embed and upscale” the innovation in its original context and to replicate, transform and embed the innovation in a new context.

Elton (2003) provided a key insight by connecting dissemination with change and change management: “The dissemination of an innovation—and this is not always understood—is an exercise in change and hence requires an understanding of change strategies and the management of change” (p. 200). Guided by this insight, Gannaway et al. (2011) redefined dissemination in the context of higher education innovation projects as “the planned process of understanding potential adopters and engaging with them ... *to facilitate commitment to sustained change*” (p. 53, our emphasis). However, we believe the relationship between innovation and change is even more fundamental. Innovations in educational approaches and teaching practice cannot become mainstream without previous practices changing, perhaps even being abandoned altogether. For example, educators must lose enthusiasm for closed-book examinations if authentic assessment strategies are to flourish. This means that university educators, who have generally themselves been successful using traditional approaches to learning and assessment, are highly subject to what Kegan and Lahey (2001, 2009) call

“immunity to change”: at the same time that they may appear to be embracing change “many people are unwittingly applying productive energy toward a hidden *competing commitment*” (Kegan & Lahey, 2001, para. 2, authors’ emphasis). In terms of assessment, for example, individual educators may have competing commitments towards closed-book exams in invigilated halls on the basis these are more effective than innovations involving diverse authentic assessments or the use of digital exam platforms (A. Galea, personal communication. November 3, 2022). Such thinking, often unconscious or sub-conscious, constitutes what Ertmer (1999) described as second-order barriers to change.

The problem we (the authors) had been pondering for some time before 2020 was how evidence-based innovations in teaching practice could be most effectively shared with colleagues in ways that would overcome reluctance and immunity to change. We had not found any of the mostly top-down dissemination strategies suggested in the literature really reflected our personal experiences of dissemination success as two change-creating innovators and educators. Then, in the sudden, complex, and extremely challenging circumstances of the COVID-19 pandemic, our interest in this discrepancy was brought into sharp focus. In March 2020, the world’s universities had to transition, almost overnight, all their face-to-face or blended courses to fully online teaching—regardless of location, discipline, subject or context—while remaining committed to teaching excellence (e.g., Bao, 2020; Carolan et al., 2020). As two technology-focused educators, we had already contributed to the digital revolution fuelling innovation in teaching (e.g., Beckmann, 2010; Beckmann & Martin, 2013; Gribble & Wardrop, 2021; Turnitin, 2019), and thus had personal experience of issues around persuading academics to adopt technologies for teaching. Institutions have long sought the greater efficiencies and removal of geographical borders that teaching at scale with technologies can deliver, and today’s ‘iGen’ students (Twenge 2017) expect digital innovations to underpin and support their personal learning and career-focused learning goals. While much innovation in university teaching was thus already technology-centred long before the pandemic compelled an accelerated global shift to fully online learning and assessment (Kaqinari et al., 2021; Marinoni et al., 2020; Reis et al., 2021), we were keen to observe the subsequent impact on dissemination activities and outcomes.

We soon realised that the educators in most demand by colleagues were those who could confidently and effectively share high-impact online teaching practices that were proven to keep students fully engaged in learning. Importantly, in these extraordinary circumstances educators shared highly experiential evidence locally, regionally, and internationally through thousands of virtual gatherings, conferences and symposia. In other words, during the pandemic the dissemination of innovative teaching practice shifted significantly—and apparently successfully—from the traditional time-consuming research/publication/award cycle and top-down institutional initiatives to a grassroots approach that emphasised more personal, social, and collegial elements of peer engagement, influence, and scholarship. Observing this, and the resultant rapid rate at which innovations in practice were being adopted by our teaching colleagues across the world, re-ignited our interest in dissemination as an academic practice.

In this paper, we describe how we pursued reflective, narrative, and appreciative inquiries into our own, and others’, experiences of innovation and dissemination in university teaching. Aided by a critical exploration of the relevant literature, we explored known barriers and constraints on

the dissemination of teaching innovations, considered others' experiences, and reflected on our own sharing practices over two decades. From that base, we now suggest a new systematic, participatory, and practice-based approach—the 4Cs (Classroom-Corridors-Campus-Community) Dissemination Strategy. We believe this approach could provide every innovative educator with a structured, strategic, and collegial pathway towards sharing their evidence-based innovations to improve learning and learner experiences. Moreover, we consider this approach could be taught in the context of professional learning and mentoring, contributing to individual academic development.

Methodology

Given we have both created and shared many new practices in university teaching, we decided to explore how we had done this by taking a deep learning approach (Jackson, 2012) to understanding our own dissemination practice. We used reflective inquiry (Brookfield, 1995, 2010) and narrative inquiry (Downey & Clandinin, 2019; Magalhães & Veiga, 2015) to consider our own many years of experience in disseminating innovations related to university teaching. Overall, we took an appreciative inquiry stance (Clouder & King, 2015; Cooperrider & Srivastva, 1987), loosely using Cooperrider and Whitney's (2005) Discovery, Dream, Design and Destiny model.

This approach initially requires an intentional focus on what individuals and organisations are doing best—positive experiences and perceived strengths (Discovery)—and how this can be “converted into a strategic vision of future possibilities” (Dream: Clouder & King, 2015, p. 174). In the Discovery phase we reviewed relevant literature on dissemination and influence. We considered how universities encourage, support and reward innovation and its adoption in teaching practice, and how these institutional strategies might sustain or constrain individual innovators. We underpinned the Discovery phase with our personal reflective and scholarly perspectives. Guided by our own disciplines (organisational behaviour and academic development respectively), we reflected on how we developed evidence-based innovations; how we communicated those innovations; who we influenced, why, and how; and how we observed/measured outcomes. We conducted this stage over two years as a co-mentoring dyad, through many conversations and the construction of purposeful reflective narratives that detailed some of our multiple innovations and their dissemination over many years.

This all laid the ground for the Dream phase, where we invited external scrutiny of some of our narratives by submitting them for peer review for professional recognition. We also jointly reflected on two of these narratives for a conference paper, as a specific exercise in double-loop learning (Argyris, 2002). To broaden our context, we also engaged casually, but reflectively, with many other colleagues from diverse disciplines, listening to and asking questions about their individual stories of innovation and dissemination. While not formally included as data for this paper, this input served to keep us internally accountable in our reflective inquiry.

We then moved into the Design Phase, where we harvested the knowledge and implications of our literature review, reflective analysis, and narrative inquiry to imagine an effective approach to dissemination that both resonated with our own experiences and was supported by the literature. This became the 4Cs Dissemination Strategy, which we present here, along with a scholarly interrogation of the extent to which it is supported by relevant literature.

Discovery (Literature)

Many years ago, Johnston (1996) argued that innovative educators needed to be supported by their institutions providing resources, funding, “moral support and encouragement” (p. 303), and rewards such as promotion. Today, throughout the world, governments and institutions do use funding, reward, and recognition processes to encourage and support innovation in higher education teaching. Most universities have competitive teaching awards, academic promotion processes, and/or teaching academy membership that require, or implicitly expect, applicants to showcase high-impact innovations (Carbone, 2021; Felten & Finley, 2013; Israel & Bennett, 2018; Seppala & Smith, 2020). This is also often the case with national and international teaching awards. For example, all categories of the Australian Awards for University Teaching are required to show “creativity, imagination and/or innovation” (Universities Australia, 2022). Similarly, the global Wharton QS Reimagine Education (WQS-RE) Awards annually seek to “identify and reward those who are best adapting to, and directing, the nature of educational change” (Moran, 2016) by identifying “innovative approaches that enhance student learning outcomes and employability” (Reimagine Education, 2021). All award programs are highly competitive—in 2021, the 1,350 WQS-RE applicants in 16 categories underwent a selection process described as “gruelling” for 92 awards (Reimagine Education, 2021). Yet the dissemination and adoption of even the most prestigious award-winning innovations in teaching practice appears more incidental than planned. Awards are rarely accompanied by systematic processes to encourage adoption of the recognised effective innovations, even in the same institution. In our experience, *ad hoc* publicity media around competitions, awards and scholarly publications are more often ‘miss’ than ‘hit’ in terms of conscious dissemination leading to the adoption of innovative practice.

A key criterion for success in all such awards is being able to show measurable impact on students, colleagues, and institutional practices, including evidence of evaluation, dissemination, and uptake of innovations by others. However, collecting such evidence takes time and money. Adler et al. (2015) argued that innovation grants can fund intellectual space for both creativity and evaluation, but generally require foresight and planning that can limit responsiveness; may require existing data from pilots (i.e., after the creativity and innovation have already happened); and limited availability, size and scope make them highly competitive. Moreover, Tassone et al. (2021) argue that any required focus on institutional directives may inadvertently hinder grants from fostering truly creative innovations and breakthroughs. Even innocuous teaching quality audits may inhibit innovation by diverting academics “towards administrative tasks rather than seeking to bring about a change” (Greatbatch & Holland, 2016, p. 4). Grant and award schemes are also vulnerable: for many years the Australian Federal Government supported national teaching awards and a national grants program for large-scale innovation in university teaching, but ceased funding the grants in 2016 and the awards in 2022 (Bower & van Bergen, 2021).

Given potential recognition and reward is so competitive, rarely are these the drivers of an educator’s urge to innovate in teaching. Rather, university educators often develop their ‘what if?’ ideas almost incidentally while addressing a need evident in their students, their colleagues, or their workload. Our experience is that innovations in teaching rarely arrive as ‘Eureka’ moments. More often, they occur as creative contextualised responses to long-standing issues,

concerns, or problems. Rogers (2003) argued that the concept of innovation depends on the perception of something being 'new' rather than on its quantifiable novelty. This applies particularly to teaching and learning environments, where innovation rarely means invention, but is more usually simply the expression of a more effective way to accomplish part of the educational process—whether in curriculum design, student support, learning activities, student engagement, assessment, or the myriad other components of quality learning experiences—in new contexts or with new cohorts. For example, innovations in teaching practice may adapt existing technologies in a new way rather than use new technologies. Evidence that such innovations are effective often comes from action research (Huber, 2017; Rogers, 2011), involving interactive trials of new approaches in the (face-to-face or virtual) classroom, building the data of positive impact through evaluation of student feedback and outcomes.

However, while universities demand and reward innovative practices in teaching, the parallel need for effective dissemination of those innovations appears less clearly championed. Several researchers have developed relevant strategies (e.g., Gannaway et al., 2013; Southwell et al., 2005; Treleaven et al., 2012), but notably these strategies have generally been top-down, designed to be instigated at the institutional or large project level. This may be because university teaching leaders have borrowed the notion of dissemination from the research tradition “in which innovations are developed, and the knowledge of these innovations transferred to others through verbal and written forms” (Johnston, 1996, p. 303). This approach is arguably less effective when the required outcome is a change in teaching practice: “learning to teach in new ways comes about from a more complex set of circumstances than applying theoretical knowledge disseminated in formal modes” (Johnston, 1996, p. 303). For example, the well-known Impact Management Planning and Evaluation Ladder (Hinton, 2016)—developed under the auspices of the Australian Government Office of Learning and Teaching at the height of its national innovation grants scheme—somewhat simplistically compacts the crucial initial dissemination process into just one rung on its 7-rung ladder—“spreading the word”—with most examples involving publications of some kind.

Dissemination has previously captured the minds of many thoughtful researchers. Southwell et al. (2005) described the institutional factors around effective dissemination of teaching practice as complex and multi-faceted—including effective multi-level leadership and management; a climate of readiness for change; the availability of adequate human, financial and infrastructure resources; and comprehensive systems (for communication, reporting, dissemination, planning, quality assurance and managing people) in institutions and funding bodies. In its comprehensiveness, however, this approach perhaps minimises the perspectives of both innovators and adopters as individuals. By contrast, the D-Cubed Framework (Gannaway et al., 2013) emphasises change in the target audience (i.e., the anticipated adopters). Nevertheless, this project management approach still essentially positions the innovators as 'senders' and the audience as 'receivers' of the innovation message, rather than seeing all parties as active participants subject to the barriers and constraints inherent in any change and transition process. Somewhat more focused on the individuals involved, Treleaven et al.'s (2012) methodology proposes engagement in participatory action research that enables the embedding of innovations across three organisational domains—curricula, policies, and procedures;

resources, tools and databases; and, highly relevant to this paper, distributed leadership in communities of practice.

Successful dissemination means that innovative practices that transform and add value to learning are shared in ways enabling rapid adoption by others. However, this is often easier said than done: shifting towards the new and away from the old often requires risk-taking. First-time innovations may negatively affect key metrics in Student Evaluations of Teaching (Byrne & Richard, 2012; Darwin, 2016), which are widely used as proxy measures of academic performance and teaching effectiveness in promotion and award decisions. Academics at 'boundary' levels for promotion may thus be more risk-averse than expected in adopting innovations, even with top-down insistence. In addition, teaching academics often work relatively independently across highly diverse disciplines—in business parlance resembling sole traders more than organisational employees—and may therefore be individually less skilled at distinguishing exactly how innovations from another discipline could be translated into their own contexts.

As already noted, technologies have long held a central role in innovative teaching and learning, so educators' relative interest in the dissemination and adoption of technologies is informative. Until the compulsion of the pandemic—and even despite that compulsion (Rapanta et al., 2020; Watermeyer et al., 2021)—educators have been relatively reluctant to engage with new technologies and related teaching innovations as readily or in the ways expected by their institutions. For example, Liu et al. (2020) completed a large-scale systematic review of pre-pandemic research studies on academics' adoption of learning technologies, which showed that the process of adoption of new technologies is complex, often unpredictable, influenced by multiple contextual factors, and rarely achieves the institution's aspirational goals. In another pre-pandemic study, Downie et al. (2021) found that university educators were more reluctant to engage with technology-enhanced learning than their institution expected, citing barriers such as fear, time, organisational culture, knowledge, technical issues, and support. Rapanta et al. (2020) contend that, pre-pandemic, most university educators lacked the pedagogical content knowledge needed to teach online effectively (e.g. general pedagogical foundations, technical/administrative aspects, online design/engagement principles). This lack of preparedness to embrace technological innovations had significant impacts on educators' wellbeing during the pandemic-enforced shift to fully online (distance) learning (Codioli McMaster et al., 2021).

Liu et al. (2020) identified four key institutional strategies as the most likely to enhance academics' adoption of technologies—strategic intent; facilitative leadership; participation and collaboration; and academic development. Notably, the latter three of these strategies relate to what could be called 'people factors', which is where we want to focus: the rate at which any innovation is adopted appears to be much less obviously related to impact evidence (e.g. publications about the innovation) but more commonly to "diffusion ... a social change, a process ... involving interpersonal communication and relationships" (Genlott et al., 2021, para. 17). In this context, Liu et al. (2020) identified five specific attributes that influence the likelihood an individual educator will adopt a technological innovation—the educator's attitude to change; their perceived level of control over that change; their pedagogical beliefs and practice; their capabilities (skills); and their fundamental typology as an adopter. We see these five attributes

as describing the potential ‘susceptibility’ of individual academics to dissemination i.e., how they would respond to attempts to convince them to make the effort (take the risk) to adopt a pedagogical, technological, or mixed innovation. Notably, despite the size and systematic nature of Liu et al.’s (2020) study, we still see in this research a one-way focus on the adopters, rather than acknowledging that many educators are both innovators and adopters at the same time, often acting as Mavens—using solutions to their own problems to help others solve theirs (Gladwell, 2000).

When Southwell et al. (2005) considered the human elements of innovation and dissemination in higher education institutions, they distinguished two roles (among other key players) of particular relevance here. ‘Enthusiasts’ comprise the “very creative academics, researchers and teachers” who are usually the innovators themselves and the “early adopters of the innovation, highly motivated to see the innovation embedded and adopted elsewhere” (Southwell et al., 2005, p. 52). ‘Second-generation innovators’ are those who are prepared and motivated to take an innovative concept and make the considerable commitment to adapt it to their own context (Southwell et al., 2005, p. 52). We find these terms useful descriptors of educators with different profiles towards innovation, and convenient to combine with Rogers’ (2003) identification of five groups of people in relation to adopting innovations. The innovators themselves, the ‘early adopters’ (i.e. the first ‘followers’ of the innovators’ leadership), and the ‘early majority’ are those groups most quickly influenced to engage with innovation, while the ‘later majority’ of adopters and the ‘laggards’ are those most difficult to convince around the value of a given innovation (Rogers, 2003).

Discovery—Reflection

We are both highly experienced academics who have been involved in different contexts of university teaching and learning for more than two decades, and are recognised by institutional, national and international teaching awards as consistent and successful innovators in our academic practice. However, we cannot say that these formal acknowledgements of themselves have increased our impact and dissemination outcomes, a circumstance not uncommon among award-winners (Israel & Bennett, 2018). Rather we believe our ideas have thrived because of our willingness to share our practice with colleagues and across professional networks and invite scrutiny of our practice through formal and informal peer review.

Mindfully connecting to our own disciplines (organisational behaviour and academic development respectively), we conducted the Discovery reflective phase of this research over two years as a co-mentoring dyad. We reflected on how we developed evidence-based innovations; how we communicated those to others; who we influenced, why, and how; and how we observed and measured outcomes (e.g., Gribble, 2022). Focused on double-loop learning to identify our own explicit and implicit assumptions, norms and objectives (Argyris, 1977, 2002), we carefully identified key features of our processes in reflective narratives, some of which we subjected to external peer review for professional recognition. We presented our reflective comparison of two of these narratives to a national conference for further peer review, for which we received the Conference Best Full Paper Award (Beckmann & Gribble, 2021).

Our personal experience and observations thus corroborate the key role played by individuals—innovators and adopters—in the processes of both dissemination and the uptake of innovations

in university teaching. Moreover, we have observed that effective educators are constantly reflecting on their own practice while always on the lookout for new ways to improve that practice: in other words, they continually shift from the role of innovator to that of adopter.

Dream

Throughout the exploration (Discovery) phase of our reflective inquiry, we repeatedly found that the crucial factor in the dissemination and adoption of innovations appeared to be the ‘who’ rather than the ‘what’—who had come up with the innovation; who was sharing it; and who was supporting the adopter. Our narrative inquiry into our personal experiences also emphasised that it had been our personal interactions and influence with colleagues—rather than the affordances of specific technologies or structural approaches—that had been the ‘clinchers’ in their willingness to adopt our innovations. Observing the pandemic-induced dissemination of practice, we saw that—rather than policy-driven initiatives or scholarly publications—it was individual educators who most often advocated, modelled, mediated, and led the required changes in practice quickly and successfully. What we were seeing in action was the influence of these innovative practitioners.

Returning to the literature, we noted that these personal approaches are fully consistent with Cialdini’s (2007) six principles of persuasion, crystallising the socially-mediated elements of human behaviour that influence change as Reciprocity, Scarcity, Authority, Consistency, Liking, and Social Proof. Sharing ideas with colleagues is modelling Reciprocity, while offering specific expertise influences through Authority. Encouraging colleagues to identify what they want for their learners and to test new ideas for themselves, by first taking small steps and seeing their impact before making more changes, influences through Consistency. Being friendly and supportive influences through Liking, and having personal recommendations by colleagues, peer esteem, and teaching awards, speaks to Social Proof. With late adopters (Roger, 2003), Scarcity can be important as they seek to access support to meet group norms or compliance.

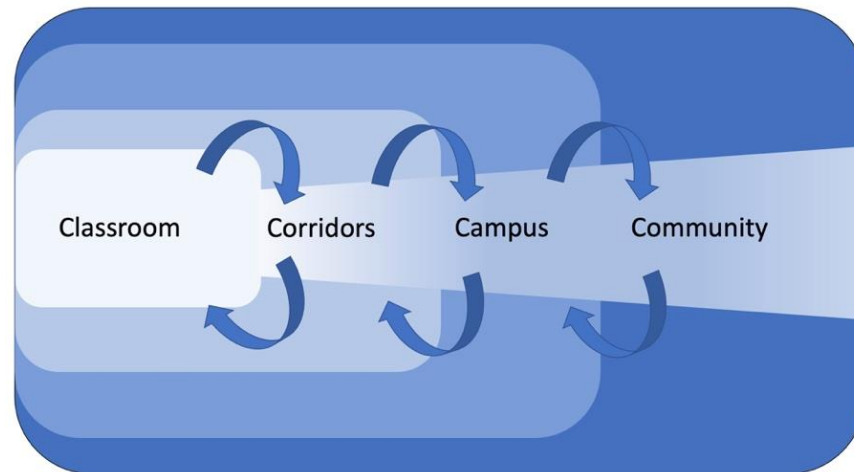
We also recognised that a personalised approach to dissemination accords with empirical research findings that (pre-pandemic at least) human factors rather than institutional factors dominated in the adoption of technology (Downie et al., 2021; Liu et al., 2020). We thus cannot but agree with Hasanefendic et al. (2017) that the importance of individual academics in driving both innovation and “processes of endogenous change” (p. 113) should not be underestimated. Along with similar arguments about the need to do more to support individual innovators as disseminators of their own practice (e.g., Fraser, 2019; Schophuizen & Kalz, 2020), we therefore agree with Tassone et al. (2021) that long-term innovation needs to be fostered “through both the *self-determined actions of educators* as well as the strategic innovation choices of the institution” (p. 11, our emphasis). Our Dream phase thus led us to decide that an effective dissemination strategy is one that engages both innovators and adopters in thoughtful change management towards more effective approaches to teaching and the support of students’ learning.

Design—The 4Cs Dissemination Strategy

The outcome of our Dream and Design phases is the 4Cs Dissemination Strategy. This responsive, dynamic and strategic approach to dissemination focuses on shining the light of an innovator’s personal experience and impact systematically and interactively through a sequential set of enlarging spheres of influence—the four domains of Classroom, Corridor, Campus and Community (Figure 1).

Figure 1

The 4Cs Dissemination Strategy—Classroom, Corridor, Campus, Community



For an innovation to have broader influence, it must first be shown to be effective and then mainstreamed—that is, it must emerge from an individual educator’s classroom into those of others to be re-tested through peer review that questions and strengthens the innovative approach in new contexts. The 4Cs strategy thus initially visualises innovation as a tool for both problem-solving and extension in the Classroom. When evaluation shows an innovation to be robust, scaffolded engagement with colleagues at a personal level in the Corridors (whether real or virtual) builds trust in the innovation while allowing for adaptation to new contexts. If such adaptation proves effective—i.e., the innovation survives further evaluation—then the innovator continues the dissemination process systematically across Campus and finally into the broader higher education Community.

The 4Cs Strategy envisions the innovator personally initiating awareness and adoption of innovations by connecting to personalised professional relationships among educators near and far. This accords with Johnston’s (2006) recommendation for “the use of [dissemination] strategies which involve discussion, sharing of experiences, reflection and collaborative learning” (p. 303). Using the 4Cs, the appropriate spheres of influence are deliberately selected by the innovator, and clearly always start in the ‘Classroom’ (envisaged as a learning environment in its broadest sense), but over time a skilled innovator may be informing multiple

spheres contemporaneously. Importantly, the 4Cs strategy implicitly assumes that innovations are also encouraged to spread organically—to be adapted as well as adopted—through a ripple effect, with adopters often becoming innovators themselves as they adapt practices to their own needs. Each stage is now described in the context of its rationale and supportive literature (i.e., interrogative outcomes of the Dream and Design phases of our appreciative inquiry).

Classroom

First, the innovative educator (termed ‘innovator’ from hereon) focuses on students’ needs in the Classroom, introducing and trialling new approaches to seek better student learning. This requires the innovator—an ‘enthusiast’ in Southwell et al.’s (2005, p. 52) terminology—to maintain a scholarly, evaluative, reflective practice that responds to the nature and intent of institutional policies and procedures; focuses on evidence-based pedagogies as the basis for innovation; and incorporates rigorous qualitative and quantitative monitoring of the diverse impacts of any introduced changes. The reality of university teaching is that many innovations will be trialled and refined ‘in the wild’ (Rogers, 2011, p. 58)—essentially risk-contained ‘experimentation’ with a focus on ‘fast failure’ (Matson, 1992). Nevertheless, a portfolio of evidence-based practice will emerge from this classroom phase if the innovator’s focus remains on effective scholarly evaluation that uses relevant data such as students’ learning behaviour, feedback, grades, and satisfaction ratings (Huber, 2017).

Corridors

When innovation is deemed measurably successful (i.e., evidence-based) in the classroom, the innovator begins sharing with colleagues. Students may well become an innovation’s greatest advocates, requesting other academics to adopt the innovator’s approaches. Educators approached by these ‘change agents’ or looking for a solution to a similar teaching problem of their own will seek out the ‘enthusiast’. Such approaches are often very informal (‘How are you doing that?’), taking place incidentally in the Corridors shared by colleagues in cognate courses and disciplines. These corridor or tea-room conversations have long been identified (e.g., in clinical practice; Long et al., 2007; Pearce, 2003) as key factors in opportunistic learning and reflection based on the sharing of highly relevant expertise and experience. It is the very informality and spontaneity of these conversations that provide the more challenging kinds of peer review (‘But what happens when ...?’). Crucially in the light of the human factors in dissemination previously described, Waring and Bishop (2010) note that this “‘water cooler learning” or “backstage knowledge sharing” is “premised on shared understanding, trust and mutuality and situational opportunity” (p. 325).

What is crucial in the Corridor phase—which naturally also includes virtual equivalents, and other informal groupings or networks of educators—is that the innovator is showing more than telling, listening as much as sharing. The innovator must become the best kind of ‘salesperson’—providing details of the innovative practice and evidence of impact while supporting the psychological transition and transdisciplinary adjustment necessary in colleagues embracing the possibility of adopting the innovation in their own teaching. Given the cognitive overload often experienced by academics (Thiruvathukal, 2013), this gentle interactive encouragement phase is especially important if the innovation involves the adoption of a new pedagogy, or a new technology, or an unknown tool in a known platform. This is active

professional development. Williamson et al. (2020) found educators globally were keen to embrace innovations in pedagogy during the pandemic, but wanted reassurance from experts or experienced colleagues of the specific benefits for them and their students, especially in diverse cultural contexts or disciplines. This collegial engagement reflects Cialdini's (2007) Authority, Liking and Reciprocity principles of influence. Along with practical evidence of an innovation's impact on student learning, the sharing of a new approach by a friendly trusted source—an authentic expert in teaching, even from a different discipline—sees the pebble of influence firmly cast into the pond, and the ripples begin. Sometimes very gradually, sometimes much more quickly, the innovative practice will find its way through the Corridors into cognate courses, whole teaching programs, disciplines and beyond (Gribble, 2022). Importantly, this personalised strategy allows the innovator to influence not only Rogers' (2003) expected 'early adopters', but also colleagues who might otherwise fall into the 'early majority' group, those more likely initially to 'wait and see' than to change.

Campus

Moving from the Corridors to the Campus—i.e., from localised teaching to an institutional context—can happen slowly or quite rapidly, depending on the type of innovation, the innovator's reputation, and the institution(s) involved. Universities with institution-wide educator-led communities of practice, practice-based sessions in teaching development programs, teaching showcases, or other mechanisms for grass-roots dissemination of teaching practice across disciplines have many natural Campus opportunities. In institutions where dissemination is primarily top-down, indirect avenues can be used, such as applying for institutional, national, or international teaching awards, or making presentations to governance committees. However, the opportunity to influence second-generation enthusiasts through these means is limited, whereas enabling academics to feel ownership of innovation through even small-scale informal communities of practice contributes to change (Beckmann, 2017).

Community

The most extended step in the 4Cs strategy involves taking innovations to other institutions and across the higher education Community and beyond. Activities can include conference presentations, professional development workshops, roundtables, social media, online videos, and podcasts, as well as scholarly publications. Sometimes these activities will happen contemporaneously, or back and forth, with Campus or even Corridors' activities, as educators in other disciplines or institutions are sought to validate the innovation's broader application. The Campus and Community phases speak particularly to influence through Authority and Social Proof (Cialdini, 2007). Ensuring that the ripples reach this far, and remain constructive, requires strategic development of collaborations, including informal or formal communities of practice (for example within an institution or discipline teaching association) and multiple diverse presentation avenues. In this context, the European Union project on effective and innovative ways of disseminating research is highly relevant (Ross-Hellauer et al., 2020).

Discussion

In university teaching, there are generally institutional funding, reward and recognition processes that encourage innovative practice. However, without complementary effective

dissemination strategies, educators may find themselves constantly reinventing every kind of wheel, or missing out on useful approaches to teaching and learning. By contrast, effective dissemination of innovative practice—by which we mean active engagement of others in new ideas, rather than simply presenting results or processes for others to copy—builds capacity in educators to innovate and problem-solve in their own practice. The 4Cs strategy has several key elements that make this outcome more likely.

First, building on research showing the importance of human factors in dissemination, the 4Cs strategy is person-centred. It is designed to enable the person at the heart of an innovation to engage directly, practically, and influentially with the people who could benefit from adopting that innovation. The personalised 4C interactions allow for direct connections to the personal attributes that Liu et al. (2020) identified as influencing (pre-pandemic) academics' likelihood of adopting technology, particularly the perceived level of control, and pedagogical beliefs and practice. By focusing on dissemination to specific people, starting with local peers and colleagues in the Corridors, rather than solely or predominantly to journals or websites, the 4Cs strategy formalises the generally *ad hoc* process of collegiality and collegial networks. Among members with a shared context and purpose, trust is built in personal interactions that allow information to be retrieved and transformed into knowledge in ways that external observers may not see (Ostrom, 1990; Roxå et al., 2011; Wenger, 1999). Innovators using the 4Cs can thus capitalise initially on similarities among colleagues' teaching problems and learner cohorts: they build trust as a 'known' entity who has expertise and experience, and can be questioned directly.

Second, the 4Cs strategy consciously and actively engages with dissemination as a process of change. For educators to adopt a new approach generally means they must first acknowledge, to themselves and to others, that their existing approach is no longer best suited to achieve the teaching outcomes they seek. Bridges (2009) advocated a model recognising three stages of psychological reorientations, or transitions, that people encounter in adopting a change, namely endings, explorations, and new beginnings. By providing personalised support, the 4Cs Strategy fully accommodates colleagues going through these transitions. Endings occur, for example, when educators realise accepting an innovation means giving up the approaches (e.g., 'sage on the stage' lectures) that led to their current success. Bridges (2009) notes that institutions rarely attempt to accommodate this letting-go process and the feelings of loss that change generates, yet "in overlooking those effects, they nearly guarantee that the transition will be mismanaged and that, as a result, the change will go badly. Unmanaged transition makes change unmanageable" (p. 7). In contrast, the 4Cs strategy requires the innovator to consciously help colleagues manage that 'letting go' and other impacts of change by unpacking more deeply both the practicalities of the new practice and the potential pedagogical implications in different teaching contexts (e.g., different year group, different size classes). Using the 4Cs strategy, the innovator is also active in supporting the exploration phase of transition, by enabling adopters to ask questions about the potential benefits of the new approach for both them and their students, and strongly encourages adopters undergoing new beginnings through the perceived risks and challenges to current competencies.

By recognising that colleagues must be willing and motivated to change their practice before they can adopt an innovation, and providing guided pathways into and through that change, the

4Cs strategy actively addresses some common barriers to dissemination. Theoretical frameworks on initiating and supporting change in organisational management, such as the highly influential 8-step model (Kotter, 2012), often suggest top-down approaches. While these may be highly appropriate when institutions are considering large-scale changes—the introduction of a new learning management system or a new assessment policy—the 4Cs strategy has the potential to support individual innovators and adopters to work through both the process of change and the psychological transition identified by Elton (2003) and Bridges (2009) respectively. This also accords with research by Samarawickrema and Stacey (2007), who found encouragement by colleagues and peer networks was as important in the adoption of specific technologies as top-down institutional directives.

Third, in the 4Cs strategy it is the innovative educators—the ‘enthusiasts’ (Southwell et al., 2005, p. 52)—who are themselves implementing dissemination of their proven ideas, and leading the adoption and adaption of these innovations by colleagues throughout the Corridors, Campus and Community spheres as ‘second-generation innovators’. Rather than overwhelming the latter with fervour, the 4Cs specifically encourages the enthusiast to seek informal peer review, willingly embracing double loop learning (Argyris, 1977; Laksov & McGrath, 2020). The latter requires the educator to challenge their own innovation’s underlying assumptions, making explicit any mismatch between goals and experience, reflecting on personal and organisational values and norms, and exposing their tacit knowledge about how the innovation could be operationalised by people with different knowledge and skill sets. The Corridors stage thus especially provides a time for openly exploring and refining the nuances, positive and negative, of the innovation as it might be applied in diverse contexts and enabling adaptation by adopters.

The 4Cs strategy also makes good use of the principles of persuasive influence described by Cialdini (2007). In the Corridors, the innovator builds on Reciprocity, Liking and Social Proof. These are also in play as the innovator advocates across Campus and in the Community, with increased emphasis on Social Proof and Authority. The principle of Scarcity can also come into its own as the innovator becomes sought after. Across the whole strategy, the innovator brings Commitment and Consistency to bear as colleagues agree to adopt the innovative practice and to provide feedback on their adaptation according to their context.

In the Campus and Community phases, the 4Cs strategy is especially focused on developing the leadership capacity and capability that encourages the conscious adaptation of an idea for different contexts rather than simply spreading exactly the same idea further afield. At every stage, the dissemination thus spreads further into more local spheres of influence as well as those further afield (Figure 1). It is here that Treleaven et al.’s (2012) concept of dissemination through distributed leadership in communities of practice comes to the fore, as the innovator and second-generation adopters become advocates for not only the original innovation practice but also its derivatives, and the adopters often become innovators in their own right.

Another key aspect of the 4Cs Strategy is that it allies well with Harmsworth et al.’s (2001) categorisation of dissemination by purpose—for awareness, understanding, or action—rather than by agent. All three approaches reach audiences in positions to bring about change, but dissemination for action is most likely to visibly change practice. First- and second-generation innovators (Southwell et al., 2005) are those who most often disseminate for action. The 4Cs Strategy expects and welcomes second-generation adaptations for new contexts (e.g.,

discipline, student level, learning needs, institution): the greatest impact is likely when adopters are coached to become scholarly innovators themselves. This accords with suggestions for institutional cultures in which pedagogical content knowledge and expertise are developed and sustained along career trajectories (Corradini, 2022).

Universities could provide enabling pathways and funding that explicitly advocate the 4Cs strategy and support individual innovators to follow 4Cs systematically. For example, formal and informal professional development avenues, such as communities of practice or learning networks, could support Campus and Community phases. We believe educators who strategically follow the 4Cs would come to exercise both distributed and transformational leadership (Jones & Harvey, 2017; Strasser et al., 2019) on a growing network of colleagues. This in itself would expedite positive change, and contribute further to the development of the institution as a learning organisation—skilled both at creating and acquiring new relevant knowledge from its own and others' experiences, and at transferring relevant insights and innovations quickly and efficiently throughout the organisation (Senge, 2007; Garvin, 1993).

Reluctance to change—and hence to take the required risk in shifting commitment from one practice to another (Kegan & Lahey, 2001)—underpins adopter aversion in innovation theory. The 4Cs Dissemination Strategy provides individual educators with a scaffolded systematic approach to reaching out to others, a strategic guide to structuring communications about their innovations in ways that effectively address colleagues' natural reluctance or concerns while supporting the transition needed for change to happen. The innovation processes themselves—solving problems, building trust, questioning assumptions, evidencing impact—thus become part of a systematic strategy that we believe can motivate educators to drive effective and powerful change from a grass-roots collegial perspective, while still supporting innovation and institutional goals more broadly.

Conclusion

In this paper, we have presented a case for individual educators to take a new participatory approach to disseminating their own innovations. The 4Cs—Classroom, Corridors, Campus, Community—Dissemination Strategy is a framework that every innovative educator can apply systematically to their own activities, with the goal of innovations being rapidly shared and adopted by others for the benefit of students and staff in higher education. This approach allows individual innovators to support colleagues while building trust and commitment towards evidence-based continuous improvement and a shared vision of best practice.

Although 'released' by our reflective methodology, we recognise that the 4Cs Dissemination Strategy has come to fruition organically and intuitively over the many years of our commitment to innovative teaching. However, since designing the 4Cs Strategy, we have both found that by consciously and systematically applying its principles we have already changed how we approach our work as educators, innovators, and mentors. Realising that others are interested in what happens in the classroom provides more impetus to describe our efforts; to explore the underpinning theories or frameworks that help us share the 'why' as well as the 'how'; to pursue action learning and action research approaches to both innovation and dissemination; and to seek continuous improvement and peer review. We have become confident in using the 4Cs

consciously to facilitate our work as Mavens and connectors (Gladwell, 2000), the builders of networks that solve problems.

We encourage readers who are innovators to consider implementing the 4Cs Strategy in their own careers: we have created a simple user guide to help (Gribble & Beckmann, 2022). For our part, we have started exploring whether, as an effective person-centred approach to dissemination, the 4Cs Strategy could become a professional learning tool to influence academic development in the realms especially of strategic leadership and innovative practice (Beckmann & Gribble, 2022). To do this, we are establishing a community of practice and professional development program to support those who want to take a conscious 4Cs approach to sharing their successes in innovative university teaching practice, and contribute to an evaluation of the strategy's effectiveness in diverse contexts.

Conflict of Interest

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