Chapter 30
Academic Integrity Through a SoTL Lens and 4M Framework: An Institutional Self-Study

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Abstract Institutions are placing increased emphasis on the importance of academic integrity. Suffusing a culture of integrity is complex work. Influencing academic cultures (including the shared norms, values, behaviours and assumptions we hold) requires impact across multiple organization levels, stakeholders, structures and systems. These dimensions can be influenced by working with individual instructors, learners and staff (micro), across departments, faculties, networks and working groups (meso), through to the institution (macro), and disciplinary, national and international levels (mega). Akin to nurturing strong teaching and learning cultures communities and practices, institutions tend to support change at the institutional (vision, policies, structures) and individual levels (targeted programs to develop expertise). Less focus has been placed on how we establish strong networks of support and knowledge-sharing to influence decision-making, action, and change at the meso and mega levels. In this chapter we offer an institutional self-study of academic integrity through a scholarship of teaching and learning (SoTL) lens. Informed by the 4M (micro, meso, macro, mega) framework, we examine how integrity is upheld and enacted at each level. We examine both formal and informal approaches to academic integrity, looking at how a systematic, multi-stakeholder networked approach has helped to establish a culture of integrity at our institution, and make recommendations for others, wishing to do the same.

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Introduction

The purpose of this chapter is to examine academic integrity through a teaching and learning lens, using the University of Calgary as an institutional case study. We begin with a brief background on how and why it is essential to understand—and advocate for—academic integrity as part of the teaching and learning activities in education. We ground our inquiry in workplace learning theory and systems thinking. Then, we present the 4M Framework (Eaton, 2020c; Friberg, 2016; Kalu et al., 2018; Kenny et al., 2016; Miller-Young, 2016; Poole & Simmons, 2013; Simmons, 2016; Williams et al., 2013) as a model to disentangle some of the complexities inherent in systems and organizational theory. The model offers a simplified way to situate academic integrity within broader contexts.

From there, we bring together theory and practice through a conceptual model for supporting academic integrity at the University of Calgary. We expand on our initial simplified model to show how formal and informal networks, local-level leadership and microcultures play a role in institutional advancement of academic integrity. We highlight specific examples from the University of Calgary to show how our institution continues to develop with regards to academic integrity.

We discuss some challenges and limitations of this work, including (a) ensuring its sustainability; (b) how misunderstandings related to the evolution of an academic integrity culture within the university can impact institutional development; and (c) the invisible nature of much of the work. We conclude with concrete recommendations for how to continue to advance this work, advocating for a sustained focus on teaching and learning as being integral to academic integrity over the long term.

Background

Until about the twenty-first century, academic integrity was often viewed through a punitive lens, with a focus on student academic misconduct, and with students primarily being held responsible for preventing misconduct. Since the turn of the millennium, a shift has occurred to re-focus academic integrity as a multi-stakeholder responsibility (Carroll, 2007; Eaton, 2021; Macdonald & Carroll, 2006; McCabe et al., 2012; Morris, 2016; Tertiary Education Quality and Standards Agency (TEQSA), 2017). In a multi-stakeholder approach to academic integrity, students, educators, staff, and administrators have designated responsibilities within the learning organization.

This shift towards a shared responsibility model led to changing views from applying policy and sanctions after misconduct had occurred to a stronger focus on education and prevention. Although policy remains an important aspect of academic integrity to address breaches in fair and equitable ways, there is much educators and other members of our educational communities can do to help students build the skills associated with academic integrity, such as citing and referencing, as well as

an understanding of ethical-decision making for learning. It has long been recognized that academic integrity in educational contexts is related to ethical conduct in professional life (Austin et al., 2006; Guerrero-Dib et al., 2020; Yıldırım et al., 2019). It is important that students and educators understand that academic integrity is more than rule-compliance, but rather that it serves as a foundation for a lifelong practice of ethical decision-making, action and knowledge creation.

Academic Integrity Through a Teaching and Learning Lens

Academic integrity has been deemed to be a teaching and learning imperative (Bertram Gallant, 2008). Advocates promote proactive pedagogy and supports to help students learn the skills and expectations to uphold and enact integrity in their learning (Eaton et al., 2017; Eaton et al., 2019a, b; Howard, 1995, 2002; Morris, 2016; Williams et al., 2013). Further, academic integrity is not only the responsibility of students, but requires a commitment from all members of the campus community embedded throughout the organization. This multi-stakeholder approach to integrity ensures that a commitment to upholding ethical standards is shared across the institution (Morris, 2019; TEQSA, 2017).

Theoretical Foundations

We draw from workplace learning and organizational development theories to frame our discussion of a multi-level, multi-stakeholder approach to academic integrity.

Workplace Learning Theory

As we consider these multi-level approaches, it is important to explore how learning occurs in an organization. While many calls to action related to academic integrity emphasize increased focus on the training and development of academic staff, graduate students and staff supporting instruction, as well as providing educational programming for students (e.g., Christensen Hughes & McCabe, 2006b), there are many formal and informal processes which facilitate learning. Jarvis (2010) describes that learning must involve understanding, and that learning can happen through a range of formal education courses, programs and training that are intentionally planned, and through informal learning that occurs through everyday life, is often unplanned, unintended or *incidental*. He further suggests that learning is cyclical and occurs as we individually internalize local and global cultures, and then externally process this learning through social interaction. Importantly learning, "...must always be seen within the wider cultural context" (Jarvis, 2010, p.68).

Although we often privilege the learning that is planned and occurs in formal contexts, research has suggested that much of what we learn about our teaching and learning practices and approaches happens through small, but significant conversations with colleagues, which occur through relationships bound by trust, privacy and intellectual intrigue (Roxå & Mårtensson, 2009). These significant networks and conversations can have important influence on teaching and learning cultures, especially at the local level (Roxå et al., 2011). Individual learning is impacted by the cultural contexts within an institution (Jarvis, 2010), and these same cultures are influenced by conversational patterns and networks that guide shared sense-making and action (Roxå et al., 2011). In order to ensure learning related to academic integrity is meaningful, we must provide both formal and informal opportunities that are contextually based, that are embedded in practice, and that facilitate on-going reflection and action (Webster-Wright, 2009).

As it relates to professional learning for educators, these informal and formal opportunities may be conceptualized around a cycle of academic integrity that can guide conversation and practice (Fig. 30.1).

Building upon the work of authors such as Bertram Gallant (2017), Christensen Hughes and McCabe (2006), McCabe and Pavela (2004), and Morris (2016), this cycle includes the following dimensions:

- **Modelling:** modelling and affirming the values of integrity through our everyday academic practices (including teaching, research, scholarship, leadership and service).
- **Designing:** meaningfully designing learning activities that uphold the values of integrity and foster a love of learning, developing fair and relevant forms of assessment, and reducing opportunities for students to engage in misconduct.

Fig. 30.1 Professional learning cycle for academic integrity as a framework for conversation and practice for educators in postsecondary education
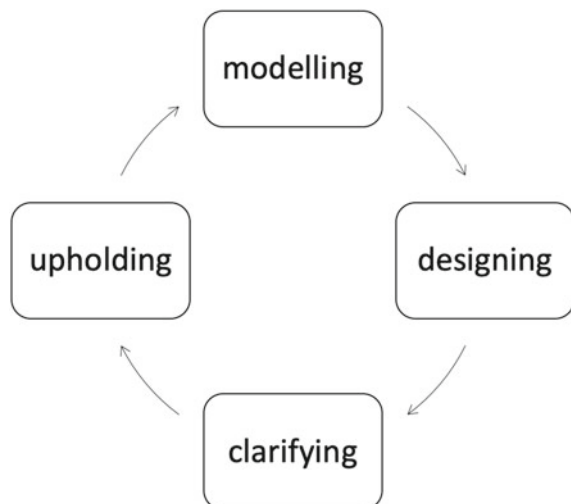
- **Clarifying:** clarifying expectations related to academic integrity in all forms of communication as it relates to teaching and learning activities and assessments, including helping to develop awareness of institutional and departmental policies and procedures related to academic integrity.
- **Upholding**: upholding the values of academic integrity by affirming actions that promote academic integrity and taking appropriate action on activities that contradict these values.

Organizational Learning Theory and Systems Thinking

Impacting organizational change and learning is complex. Shifting postsecondary teaching and learning cultures, communities and practices related to academic integrity requires change across multiple organizational levels. The idea of systems thinking is not new. It has existed for decades, or even longer, across a variety of disciplines. General systems theory (von Bertalanffy, 1968) and ecological systems theory (Bronfenbrenner, 1976, 1981) are two of the foundational theories that were later developed into other fields, including education. Approaching academic integrity from a systems perspective can provide a useful way to talk about this complex topic (Bertram Gallant, 2011; Bertram Gallant & Kalichman, 2011; Drinan & Bertram Gallant, 2008; Eaton, 2020c).

A Model of Integrity: The 4M Framework

The need for taking a multi-stakeholder, multi-level, systems-approach to fostering academic integrity in higher education has been highlighted by numerous academic integrity scholars (Bertram Gallant & Drinan, 2008; Bertram Gallant & Kalichman, 2011; Bretag, 2019; Christensen Hughes & McCabe, 2006a; Eaton, 2021)

Overview of the Model

Within the field of the scholarship of teaching and learning (SoTL), the 4M framework offers such an approach to understanding how the practices of teaching and learning, as well as inquiry around these practices, are connected to the broader educational landscape (Eaton, 2020c; Friberg, 2016; Kalu et al., 2018; Kenny et al., 2016; Miller-Young, 2016; Poole & Simmons, 2013; Simmons, 2016; Williams et al., 2013). The framework consists of four nested organizational levels: micro, meso, macro, and mega. Each level represents a particular lens through which an opportunity, issue or problem of practice can be framed (see Fig. 30.2).

Fig. 30.2 Simplified 4M
Model highlighting micro,
meso, macro, and mega
levels
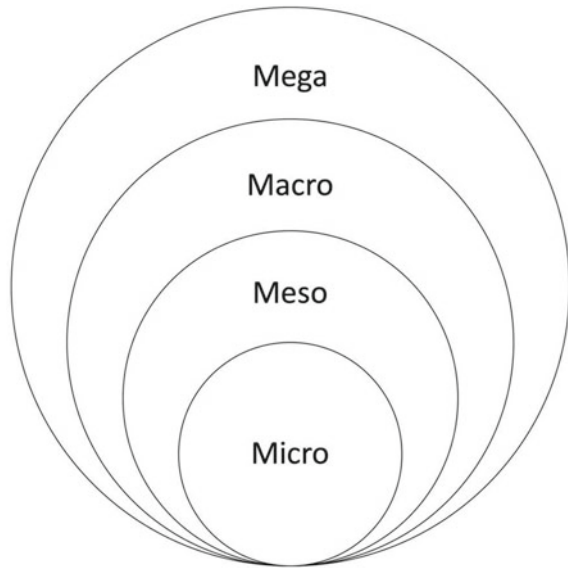
Hannah and Lester (2009) suggest that this multi-level approach to organizational learning occurs when leaders set the conditions for change to emerge through shared learning and knowledge flow. They propose that programs, resources and strategies must be provided to support targeted learning experiences for individual knowledge catalysts at the *micro* level. At the *meso* level, they emphasize the importance of creating learning networks, with embedded knowledge catalysts. Here, both informal (or *emergent*) and formal leaders play a critical role in influencing and championing change, especially at the local level (i.e., within and across university departments and faculties) (Mårtensson & Roxå, 2016; Verwoord & Poole, 2016; Williams et al., 2013; Fields et al., 2019). At the *macro* level, senior leaders influence the vision, policies, resources and infrastructure to support and champion change, as well as to allow for system-wide knowledge flow and diffusion (Hannah & Lester, 2009).

Translating their work through the lens of academic integrity, this work highlights the importance of: (a) establishing institutional policies, standards and procedures that uphold and affirm the importance of academic integrity (*macro*), (b) ensuring that faculties and departments have the appropriate committees, leadership and cultures to translate policies into academic practice and that cross-unit working groups are established to share information and knowledge related to academic integrity within and across faculties and departments (*meso*), and (c) supporting instructors, staff and learners in developing the skills, knowledge and behaviours to model and implement strategies to promote academic integrity in their teaching, learning, research, assessment and academic practices (*micro*). Bertram Gallant and Kalichman (2011) also emphasize the importance of academic integrity at the societal level, where political, society, economic and technological "factors can operate as models of accepted, or at least unacceptable, behaviors" (p.41). Within the context of fostering organizational

change in the scholarship, leadership and practice of teaching and learning, Simmons (2016) describes factors at this level as having influence at the *mega* level.

The Meso-Level Gap

When considering a multi-level approach to change, it is interesting to note that the primary focus for change related to teaching, learning and academic integrity has been put on implementing macro-level vision, policies, and procedures and establishing training and development at the individual or micro-level. Less emphasis has been placed on the importance of influencing change through faculties, departments and working groups *(meso-level).* Trowler et al. (2005) and Kenny et al. (2016) refer to the importance of addressing this *meso-level gap*, especially as it relates to supporting change in teaching and learning cultures, communities and practices. At the meso-level individual and collective actions are influenced by the microcultures, norms and structures which surround them (Roxå & Mårtensson, 2015; Trowler et al., 2005). These microcultures are, in turn, influenced by the behaviours, norms, decisions, actions and values of local leaders, as well as those that are established through social networks and working groups (Fields et al., 2019; Kenny et al., 2016; Mårtensson & Roxå, 2016). It is at the meso-level that action or change can either be "blocked or facilitated" by local microcultures (Trowler et al., 2005, p. 435). Christensen Hughes and Mighty (2010) reinforce that local leadership may be "one of the most significant barriers to academic change" (p. 269). Moving forward, local-level norms, cultures, values, behaviours, and political structures must become a critical component in catalysing, supporting and sustaining change in academic integrity.

Bringing Together Theory and Practice: A Conceptual Model for Supporting Academic Integrity at the University of Calgary

At the core of the model are four key elements for change (High-Impact Professional Learning; Local-level Leadership and microcultures; Scholarship, research and inquiry; and Learning spaces, pedagogies and technologies). Each of these elements is supported through Informal and Formal Processes that occur across multiple organizational levels (Micro, Meso, Macro and Mega). The core of the model highlights that academic integrity is influenced by:

- **High-impact Professional Learning for Individuals and Groups.** Professional learning activities are provided through formal and informal opportunities that are contextual, embedded in practice, and that facilitate on-going reflection and action (Webster-Wright, 2009). These professional learning activities are often

focused on the values, and principles of academic integrity, associated policies, and teaching, learning and assessment practices that most directly influence academic integrity.

- **Local-level Leadership and Microcultures:** At the local-level (i.e., faculties, departments, working groups, student leadership groups), informal and formal leaders act as catalysts to inspire action and change, and to help influence the development of microcultures that either support or hinder academic integrity (Fields et al., 2019; Hannah & Lester, 2009; Kenny et al., 2016; Mårtensson & Roxå, 2016). Change in local-level climates for teaching and learning, including academic integrity, must be visibly reinforced through the expectations, actions, and decisions of those who hold formal leadership roles (i.e., Deans and Heads); leadership must also be distributed through the actions, behaviours, norms and values held by several educators within a faculty or department (Christensen Hughes & Mighty, 2010; Knapper, 2010).
- **Scholarship, Research and Inquiry**: Scholarship, research and inquiry in teaching and learning (Felten, 2013; Trigwell, 2013) provide a lens for systematically investigating, disseminating and strengthening knowledge and practices that relate to academic integrity in postsecondary education, including the opportunities, challenges, issues and impacts of academic integrity on the academic community, as well as the factors that support or hinder academic integrity across multiple organizational levels (Hubball et al., 2013; Kenny et al., 2017).
- **Learning Spaces, Pedagogies, and Technologies**: Physical and digital learning spaces, pedagogies and technologies can have an enormous influence on academic integrity (Bertram Gallant, 2017; Sotiriadou et al., 2020). Never has the importance of the relationship between learning spaces, pedagogies and technologies and academic integrity been more apparent than through the rapid transition to remote and online learning during the COVID19 pandemic, as issues related to ethical assessment, contract cheating, collaboration and corroboration, online proctoring, and teaching and learning in remote spaces proliferated across the globe (Eaton, 2020a).

These core elements are consistently influenced informally through significant conversations, relationships, communities and networks, and formally through policies, committees, programs and resources that influence academic integrity across multiple organizational and societal levels (*micro, meso, macro, mega*) (Hannah & Lester, 2009; Kenny et al., 2016; Roxå & Mårtensson, 2009; Simmons, 2016). For example, at the macro level senior leaders, such as Presidents and Provosts and institutional committees, must reiterate the importance of academic integrity by articulating a compelling vision, modelling through action, setting guidelines for success, and providing the necessary structural, organizational, governance, procedural, strategic, and financial resources to catalyse and sustain change (Hannah & Lester, 2009; Kenny et al., 2016). At the meso level integrated networks of knowledge sharing must be established and maintained within and across disciplinary boundaries and local-level leaders must provide visible support for each of these elements (Hannah & Lester, 2009). At the micro level tangible resources and incentives must

be provided to ensure individuals are supported, recognized and rewarded for their work in advancing academic integrity as it relates to each element (Hannah & Lester, 2009; Kenny et al., 2016). It is critical to note the importance of ensuring the student voice and leadership are included in decisions and discussions related to academic integrity, especially as policies, procedures and practices are enacted at the macro (institutional) and meso (faculty, department) levels (Bertram Gallant & Drinan, 2008).

4M Model in Action: A Case Study of the University of Calgary

In 2019, the University of Calgary launched the Educational Leaders in Residence (ELR) program, designed to create leadership opportunities for faculty members focused on priority areas that aligned with the university's strategic academic and research plans (University Relations Staff, 2019). The roles were situated as two-year part-time secondments to the Taylor Institute for Teaching and Learning offered in partnership between various Vice-Provosts' portfolios, including the Vice-Provost Teaching and Learning, Graduate Studies and Student Enrolment Services. The first cohort of educational leaders in residence three distinct, but interrelated portfolios: (a) academic integrity; (b) online learning; and (c) graduate supervision and mentorship.

The ELR for academic integrity portfolio included objectives such as further building awareness of academic integrity across the university; advising on and contributing to the development of resources and supports; and developing local, regional, and national partnerships to connect practice and scholarship relating to academic integrity, as well as maintaining an active connection to other ELRs to share learning and further advance through collaboration.

Specific ELR Academic Integrity Projects

Within the broad terms of reference for the role, the ELR for academic integrity (Eaton) developed a work plan that aligned specific activities with the institutional academic and research strategies. The work plan was reviewed and approved by the Vice Provost Teaching and Learning, as well as the Senior Director for the Taylor Institute of Teaching and Learning (Kenny), with further endorsement from the Vice Provost, Student Experience, as well as the dean and vice dean of the school of education. The work plan reflected a systematic approach to activities to support institutional goals at a variety of levels.

Example #1: Research Project, "Academic Integrity: Faculty Development Needs for Canadian Higher Education"

One major project subsumed into this role was a major national research project, "Academic Integrity: Faculty Development Needs for Canadian Higher Education" (Eaton et al., 2019). This project involved a partnership with industry through the D2L Innovation Guild, as well as partners from the University of Manitoba, the University of Waterloo, and the University of Guelph. At the time of this writing, data collection was underway at all four universities to understand faculty perceptions and needs related to academic integrity in Canadian higher education. This project is an example of how the various levels of the 4M framework intersect. Through the micro lens, this project benefited the PI (Eaton) individually, as her research program focuses on educational ethics and academic integrity. Through the meso lens, the Senior Director of the Taylor Institute for Teaching and Learning (Kenny) served as the institutional (macro) representative to the broader steering committee, which operated at a mega level, including partners from various post-secondary institutions, along with D2L as a corporate partner. Because the project included collaborators from multiple universities, as well as industry, it also reached into the mega level.

This was the first research project in Canadian history on academic integrity to actively engage industry partners. From a networked perspective, the relationships built from this project have had a lasting impact, as evidenced by the fact that all the research team members from various universities involved in the project have also contributed unique chapters to this volume (see the individual chapters authored or co-authored by, Crossman, Stoesz, McKenzie, and Garwood). This project not only offered individual researchers an opportunity to collaborate on this particular study, but it also provided an opportunity for individuals to deepen their networked connections and strengthen their own professional learning and relationships beyond the project.

Example #2: Institutional Policy, Procedure, and Statement on Academic Integrity

In 2019, the University of Calgary launched its first academic misconduct policy and procedure. Prior to that, academic misconduct had been addressed in the university calendar as regulations. From a governance perspective, there is a difference between regulations which are intended to direct student conduct, and policies which articulate responsibilities and institutional expectations for a variety of stakeholders. The policy and procedure took several years to develop, as the process involved a number of drafts which were reviewed by both formal (e.g., councils, committees), as well as informally by student groups, and other stakeholders. Through various revisions, different stakeholders had an opportunity to provide input and feedback, including administrators, faculty, staff, and students. The policy and procedure became effective on July 1, 2019, the same day as the ELR Academic Integrity role was launched.

In the first year of the role, the Educational Leader in Residence for Academic Integrity supported the rollout and implementation of the policy and procedure, as well as offered informal support to faculties and departments at the meso level, by engaging in consultations and significant conversations with those who were responsible for developing unit-level processes for reporting and investigating breaches of academic integrity.

One aspect of the policy development work that remained unfinished was the institutional Statement on Intellectual Honesty, which had remained constant in the university calendar for longer than many administrators and faculty members could remember. With nothing to replace it, the statement remained in the calendar during the 2019-2020 academic year, but it became increasingly apparent that this statement reflected outdated ways of thinking about academic integrity and required revision. The ELR provided institutional-level guidance on how the statement might be revised. As with the policy, consultation was undertaken at various levels, led by the Provost and Vice Provost Student Experience, to recraft the statement so that it reflected current approaches and research related to academic integrity.

The process was accelerated during the COVID-19 crisis when members of the university community quickly pivoted to remote teaching and learning. This revised statement was officially written into the 2020–2021 academic calendar as follows:

Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity.

Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional code of conduct and promote academic integrity in upholding the University of Calgary's reputation of excellence. (University of Calgary, 2020–2021 Academic Calendar, n.p.).

This institutional statement served to reshape the narrative away from misconduct and towards integrity and served to anchor conversations around ethical teaching, learning, and assessment during the COVID-19 pandemic.

Example #3: Integrity Hour: Informal Online Community of Practice

An informal community of practice for academic integrity had been initiated at the University of Calgary some years earlier to help advance conversations related to academic integrity and misconduct across faculties by another professor, with one or two meetings happening each academic year. Stewardship of the group was passed on to the ELR, Academic Integrity in 2019. Seeing a need to build capacity and knowledge beyond what was happening on our own campus, particularly during the COVID-19 crisis when requests were coming in regularly for assistance both from on-campus faculty and off-campus colleagues, she reconceptualized and redesigned the community of practice to take place in a weekly format, via Zoom (Eaton, 2020b). Integrity Hour was launched in the last week of March 2020 creating an informal network of knowledge sharing and support.

Colleagues within the academic integrity community in Canada were invited to join in to the weekly one-hour meetings. Over the first six months of Integrity Hour (March-August 2020), a total of 255 attendees (including regular participants) joined in over the course of 21 meetings. This included attendees from an average of eight institutions (in addition to the University of Calgary) and four provinces each week.

During the coronavirus pandemic, Integrity Hour provided scholars, administrators and practitioners an informal opportunity to learn with and from one another. Participants repeatedly remarked that the value in this online community of practice was information and resource sharing, particularly around hot topics such as e-proctoring, case management, contract cheating, file sharing and academic labour issues related to academic misconduct during the coronavirus pandemic. Although institutional data regarding academic misconduct were not formally available through official means until much later, through a crowd-sourcing approach to information seeking and sharing, participants were able to engage in meso- and macro-level conversations at their own institutions about what was consistently being reported by colleagues on a regular basis in the community of practice. Integrity Hour continues to serve as a mega-level online community of practice many months later.

Example #4: Webinar Series: Urgent and Emerging Topics in Academic Integrity

The Educational Leader in Residence for academic integrity developed a webinar series to address topics relating to academic integrity that had been previously under discussed in the literature. Topics such as equity, diversity and inclusion as related to academic integrity and Indigenous perspectives on academic integrity were highlighted. Each webinar served not only to raise awareness, but also to promote public scholarship and community engagement at the macro level.

Each webinar typically attracted more than 100 registrants from a variety of countries. The ELR served as the series convener and host of each session, with guest speakers invited to address particular topics such as equity, diversity, and inclusion as they relate to academic integrity, admissions fraud, and contract cheating.

Example #5: Internal Educational Development

The ELR for academic integrity provided educational development for colleagues across campus in a variety of ways. This included collaborating with colleagues at the Taylor Institute for Teaching and Learning to present sessions such as "Academic Integrity for Emerging Academics." In addition, she led departmental discussions and guest lectures upon request and provided individual consultations with academic staff, teaching assistants, department heads and other administrators. This aspect of the work was sometimes planned in advance, but was often conducted in a responsive "just in time" way to address immediate needs as they arose.

The Educational Leader in Residence for Academic Integrity provided support to individuals (micro level), departments and other units on campus (meso level), the institution (macro level) and also involved advocacy and outreach to the broader community (mega level). Some of the work was visible and more formalized, such as webinars and workshops, but much of it was less visible, including informal activities such as individual conversations and consultations with members of the campus community, ad hoc meetings and special projects.

Challenges and Limitations

The Educational Leader in Residence program is not without its challenges. In this section we highlight three main limitations of this initiative through the lens of the ELR for academic integrity: (a) sustainability; (b) misunderstandings related to the evolution of an academic integrity culture within the university; and (c) the invisible nature of much of the work.

We address the issue of sustainability first. The Educational Leader in Residence Program was initiated as a special two-year initiative. "Soft funding" was provided to allow for part-time secondments. This means that project funds, rather than operating funds, were allocated to the program. Project funding is enough to start an initiative, but not to sustain it over the long term. In terms of the sustainability of the work, specific short-term projects were undertaken for which the scope could be contained within the two-year duration of the role. Longer-term initiatives that would have required more than two years to complete could not be undertaken within this role.

Next, we address the issue of misunderstandings related to the evolution of an academic integrity culture within the university. When an institution commits to developing a culture of academic integrity, one of the outcomes can be an increase in the number of academic misconduct cases reported. Reports of misconduct can increase when systems are in place to facilitate reporting. Also, when members of the campus community are aware of the processes involved with reporting and feel comfortable doing so, then more cases may be reported. The number of cases reported does not equal the total number of cases, so when reporting increases it does not necessarily indicate an increase in the incidence or rates of misconduct. Communicating this message is of the utmost importance when a campus community is actively undertaking a process to develop a stronger culture of academic integrity.

The third limitation is the invisible nature of academic integrity work itself. Although some of the work related to this portfolio is public or visible in nature, there are aspects of it that would be considered less visible. These include individual consultations, attendance at meso-level and macro-level meetings, document review, and so on. Evaluating the work done in the ELR portfolio remains ongoing, however, capturing and communicating the impact of this work in terms of contribution to the institution and beyond, remains complex. Akin to the work of educational developers, this work of connecting individuals, fostering relationships, creating communities and opportunities for collaboration, and sharing knowledge across once

disparate networks has been contextualized within social network theory as acting as, "weak ties connecting across disciplines, infusing new ideas about teaching and learning, and enabling the translation of innovations across these academic networks" (Matthews et al., 2015. p. 248). This work is often difficult to track, evaluate and communicate within the context of traditional academic structures and reporting processes, and its impact needs to be made more visible and explicit (Kenny et al., 2017; Matthews et al., 2015; Timmermans, 2014).

Implications and Recommendations

We conclude by offering concrete recommendations about how to support academic integrity work within the institution at a variety of levels. We then contemplate how what we have learned may have applicability beyond our own institution.

Recommendations

Based on our experience undertaking this work thus far, we can offer a number of recommendations:

Recommendation #1: Recognize that a Systematic Approach to Addressing Academic Integrity Is Needed

Institutional leaders must recognize and implement strategies that recognize the importance of addressing academic integrity across multiple levels, by engaging multiple stakeholders, and by establishing and influencing formal and informal activities, policies, processes and practices that impact professional learning and training, local-level leadership and microcultures, learning spaces, pedagogies and technologies, as well as research and scholarship related to academic integrity.

Recommendation #2: Provide Ongoing Training and Support to Various Institutional Stakeholders Across Multiple Levels

Academic integrity training is essential for academic staff, as well as those working in management and support staff roles. Because of the meso-level gap, those serving as leaders of departments, units, and other groups within an institution may benefit from opportunities designed specifically for those at that level. This might include both formal training, such as courses, but also informal opportunities for growth such as communities of practice.

Recommendation #3: Intentionally create informal and formal networked knowledge-sharing within and across units

When it comes to matters related to academic integrity, there is a need for informal and formal knowledge sharing within and across units. This may occur through formal governance and committees, as well as informal communities of practice, working groups, scholarly networks and conversations.

Recommendation #4: Recognize academic integrity as legitimate leadership and scholarly contributions

As long as academic integrity work is done "off the side of one's desk" it will continue to be marginalized or dismissed as administrative work. This can lead to decision-making that is neither informed nor evidence-based. Academic integrity work must be recognized as an important aspect of teaching and leadership at various levels of the learning organization.

Conclusions

Academic integrity work is situated within the broader context of applied ethics in educational contexts. The word integrity comes from the same Latin root, "*integritas*". The word "integrate", meaning to make something whole, is derived from the same root. When we think about academic integrity as something that makes our learning communities whole, we see that it goes beyond student conduct; it extends to teaching and learning, ethical assessment practices, ethical decision-making by individuals in a variety of roles, working in different units across the institution. Academic integrity is not just about students; it is about everyone working in a learning ecosystem.

Academic integrity work is inherently messy. The nature of academic integrity work is both systematic and complex. Systematic aspects are articulated through policies, procedures, and regulations, but as are realized in the broader academic culture. In and of themselves, these are insufficient to make our learning communities, and the experiences of those who learn, teach, and work within those communities—whole.

We began our chapter by presenting a simplified model of the 4M model (Fig. 30.2). The purpose of this was to provide a basic framework to understand how individuals are situated within units that are part of a learning organization, that then connects to society more broadly. After presenting this foundational framework of how individuals are part of a community, we went on to show how connections, networks, and relationships connect individuals in formal and informal ways (Fig. 30.3). We conclude by emphasizing the importance of taking a systemic approach to addressing academic integrity engaging multiple stakeholders across
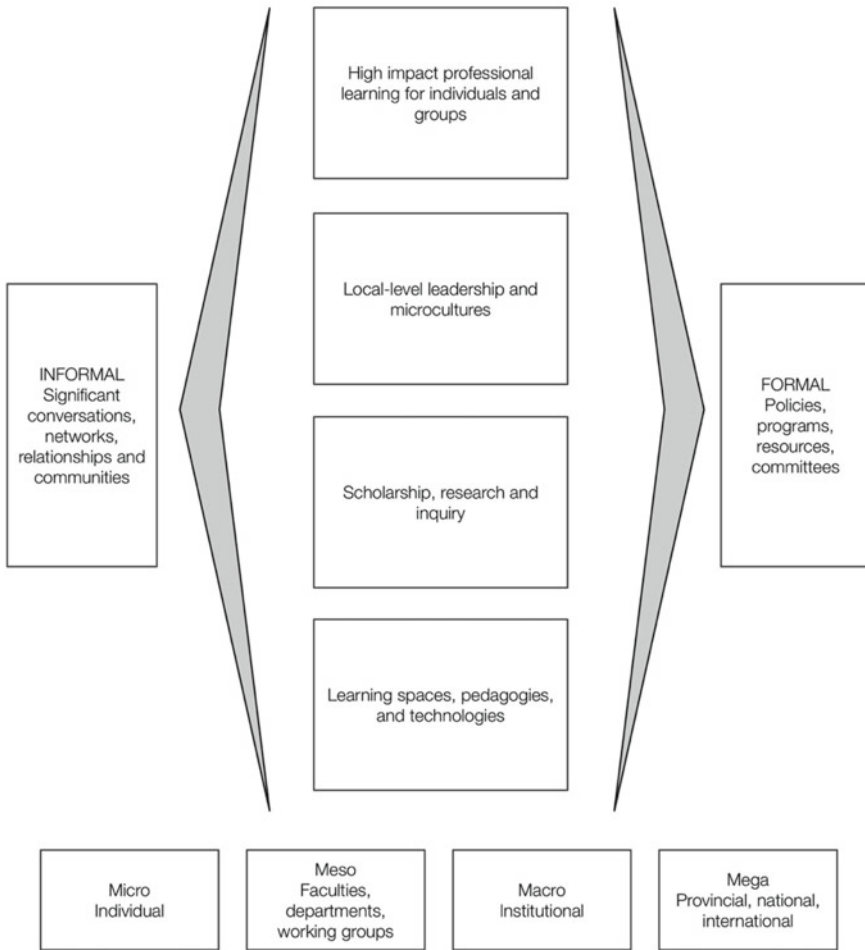
Fig. 30.3 Integrated model for academic integrity through a SoTL lens

multiple levels. We call on academic leaders to consider this systematic approach to addressing academic integrity: (a) by focussing efforts across multiple-levels (i.e., individuals, working groups, departments, faculties, institutions, society); (b) by engaging multiple stakeholders (i.e., students, faculty, teaching assistants, support staff, postdoctoral scholars), and (c) by establishing and influencing formal and informal activities, policies, processes and practices that impact high-impact professional learning, local-level leadership and microcultures, scholarship, research and inquiry related to academic integrity, and learning spaces, pedagogies and technologies.

We have shown how the University of Calgary established the Educational Leader in Residence roles to engage in boundary-spanning work to address complex

phenomena within a learning organization. We recognize the need for this work to continue to evolve, for relationships to be nurtured, and networks sustained through ongoing and committed efforts over time.

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