

Organising *Organised Sound*: A coming of age

MARY SIMONI

Rensselaer Polytechnic Institute, 110 8th Street, Troy, NY, 12180, USA
Email: msimoni@rpi.edu

This article puts forth the author's views on a panorama of contemporary influences that presage the future of higher education. The author describes how these views have shaped a new curriculum and pedagogy at Rensselaer Polytechnic Institute.

The ability to innovate new curricula is predicated upon our creative capacity to forecast trends and develop programmes that push the boundaries of human creativity and knowledge production. Rooted in research, new curricula arise when there is sufficient momentum to forge a new path through a body of knowledge and the motivation to share that path with others. Forecasting trends draw from an understanding of history that may be used not only to contextualise the present, but also to imagine a number of possible futures. It is the past, coupled with imagined futures, that guides the formation of these new paths.

The globalisation of music is a fact that needs to be addressed through curricular innovation. Globalisation, the integration that arises from the interchange of world views, has contributed to surprising musical juxtapositions. For example, a symbiosis of Malaysian and Western art music resulted in the acousmatic composition *The Curse of the Screaming Seruni*. In contemporary popular music, it's not uncommon to hear a fusion of reggae and rap. What was mostly discrete, separate and different is now mostly conjoined, interdependent and rediscovered. The contemporary norm is one of cultural combinatorics, contributing to an escalation of organised sound, each strand with its own provenance – all searching for validity and re-validation, context and re-contextualisation.

The significance of globalisation should impart a reverent curiosity about musical differences. It is important to understand the origin of threads that weave the tapestry of contemporary culture. The values of intellectual and artistic diversity must be fully integrated into every curriculum, recognising that the Internet has given voice to many on an international stage while oftentimes paradoxically reducing community involvement in the real world. There are virtual communities that exist only on the web with social involvement is targeted toward music production and dissemination. Our goal in curriculum development should be to elucidate the promise and perils of the paradox.

In order to create innovative curricula, one must have an appetite for and tolerance of risk. Simply put, it is impossible to know the precise outcomes of a curriculum whose theory and practice is embryonic. The process of government and accreditation review can sometimes serve as an unintended disincentive to innovation, anchoring curricula in accepted theories and practices that produce predictable results for the greatest number of students. Educators must honour the rigour and tradition of peer review, but not succumb to the bureaucracies that sustain it.

Globalisation spurs the development of curricula that are based on two or more disciplines. Educators must understand the historical lineage of each of the contributing disciplines in a curriculum comprising multiple disciplines. In fact, each contributing discipline may have arisen from multiple others before being recognised as a discipline in its own right. By recognising the historical theory and practice of each participating discipline, the educator is well positioned to push the boundaries of knowledge production through their students by forecasting the outcomes of the juxtaposition of multiple disciplines. The making of something new from multiple disciplines forges a gestalt – a fresh perspective that occurs as a direct result of a new combination.

In order to succeed as a curriculum designer of the twenty-first century, an educator must have a reflexive sense that balances forecasting with an intuition of what will succeed. Forecasting is the educator's ability to connect the dots of history and predict any number of possible futures. The intuitive sense of what curricula will succeed is honed after years of experience as an educator. Yet because of the review process for new curricula, what is intuitive and inductive must be expertly translated into the prose of deduction.

When developing new curricula, the educator must be cognisant of the recursion that advances to new theory and practice. The creative process by its very nature is usually messy. It's hard to know exactly what if anything will come from the mess. Creativity may be motivated by intentionality, but sometimes overly prescriptive goals can thwart a breakthrough. When theory and practice are misaligned, creative accidents can happen. Some of these accidents are fortuitous, others may be quickly relegated to the trash.

It is the triangle of knowledge of theory, expertise in practice and selfless critical analysis that allows the creator to decide which artefact is worthy of further development. Because of the complexity of the interchange of theory and practice, it is important to build a network of roadways of increasing complexity throughout a curriculum with paths devoted to theory, practice, creativity and criticism.

Higher education has experimented with new technological forays into the delivery of instruction. Chief among these are MOOCs: massive open online courses. These courses hold the pledge of free access to education on a global scale. Sadly, MOOCs are plagued by the same shortcomings as their distance-learning predecessors. Completion rates are low and it's hard to safeguard academic integrity (e.g. monitor cheating). There are many good outcomes that have come from MOOCs as a matter of addressing these shortcomings. Among them are the use of peer critique and assessment as a way of providing feedback to students as well as designing interactive modules that allow for inquiry-based learning. The promise of MOOCs is that they erode the notion of a particular faculty associated with a specific bricks-and-mortar university. If a student wishes to study with a certain faculty member, she or he no longer needs to pass through an expensive and time-consuming admissions barrier to gain entry to a physical location prior to commencing work with a faculty member. Many prospective learners have taken advantage of free access to higher education through MOOCs and have benefitted from their persistence.

In order to address global influences on education, we need to fully understand the economics of education. As it stands now, the rhetoric of higher education is held hostage by the filibuster dominated by return on investment (ROI). This concept is based on the notion that higher education is an investment and that the investor should see a financial benefit to investing in his or her education. Currently, the discourse is stuck on compensation: the salary of an investor (student) should exceed the cost of the investment (tuition) over a certain period of time. The equation is skewed as the cost of higher education has skyrocketed while we are plagued with a persistently sluggish job market. It is no longer the case that a bachelor's degree is a ticket into the middle class. If we assume that it is appropriate to apply ROI to post baccalaureate salaries, then the fix is to work toward continuing to lower the cost of higher education and reducing student loan debt while cultivating a bountiful variety of employment opportunities for students of all disciplines. It is only when we can affect this change that we will be assured that ROI provides a value proposition that cultivates a diversity of student talent across a wide range of disciplines.

How should forecasting, globalisation, intuitive design of theory and practice, technological innovation

and economics conjoin to advance curricula in the philosophical and ideological domain of organised sound? We should borrow from the same methodologies that pushed the boundaries of research in computer music that gave rise to contemporary curricular design. The historical impetus to advance research was born from studio reports: brief accountings of the initiatives of any one of a number of research programmes throughout the world to a community of like-minded individuals. These studio reports prompted discussion around the formation of best practices that accelerated research in the fledgeling field of computer music. From these discussions came programmes, and from these programmes came curricula.

We have seen presentations of pedagogical initiatives for nearly all age groups at international conferences, yet pedagogy – *how we teach* – seems to be less of a concern for our community than curriculum – *what we teach*. Overshadowed by contemporary technological innovations, the number of educational submissions is generally less than other categories, the presentations are typically not well attended, and the results rarely spur others toward pedagogical or curricular innovation. Despite these shortcomings, the discussion has been lively – inquisitive about the application of pedagogical practice from one cohort to another. What prompts this curiosity? We seem selflessly motivated by a genuine interest in being the best teacher or mentor for our students by trying to apply the best practices of a colleague to our own teaching.

Now that the field of computer music has contributed decades of theory, practice and research to its canon, we need to protect the passion and innovation that brought us to this point. It's time for us to work toward a mature understanding of the philosophical and ideological underpinnings of curricula, what constitutes the building blocks of curricula, and what are the pedagogies that produce the desired learning outcomes for our students.

In the spirit of a studio report, I share with you a curricular innovation that is underway at Rensselaer Polytechnic Institute. The proposed curriculum is in response to globalisation, multidisciplinary, creativity and innovation that make ample use of both historical and contemporary technologies. The *what we teach* is a unique collection of the knowledges that compose our history and aspirations: modalities of music and sound representation; world musics and ethnomusicology; theory and practice in the media arts; theory and practice of deep listening, meditation, improvisation and composition; and historical and contemporary performance practices.

It is difficult to innovate *how we teach* when the ways we manage time and resources are highly constrained. In the USA, a baccalaureate degree should be earned in four years; the annual academic calendar is steadfastly rooted in a bygone agrarian culture; and the

faculty of a research university divide their time among teaching, research and service. Another factor to consider has spawned from an increasing specialisation in graduate education, yielding a professoriate that are content experts. As a result, the *how we teach* has become aligned with appointing a faculty member with content expertise to disseminate that content in a class that meets at a particular time and place, and, quite mysteriously, during a time of year that is not aligned with agricultural productivity. The act of dissemination is typically based on the lecture format: a lecture is provided by one faculty member who organises and presents the content to many students and that faculty member subsequently evaluates their learning. Although the lecture format of one-to-many is efficient for imparting content, particularly with larger student-to-faculty ratios, and may be effective, depending on a host of variables, it is not well suited to the influences that underpin our proposed curriculum.

The proposed curriculum at Rensselaer Polytechnic Institute called *Music and Media* will draw upon faculty expertise around collections of *what we teach*. These faculty, unified into a collective, have content expertise in a collection of the knowledges that make up the curriculum: modalities of music and sound representation. A faculty member is a member of at least one collective and is encouraged to belong to other collectives to diversify their skills and talents while learning about other parts of the curriculum. This cross-collective membership supports curricular coherence. The faculty within a collective develop the learning outcomes for their collection and work with the other faculty collectives to bridge the learning outcomes across collections. Imagine the metaphor of a ladder: each side rail is a collection of knowledge, the height of the ladder is the duration of the curriculum, and each rung of this ladder creates an intermediary between and among collections of knowledge throughout the curriculum.

These intermediaries between and among collections inspire the provocative question 'What is the most effective pedagogy given these intermediaries and our expertise and resources?' This question is the foundation of pedagogical innovation. Resources will always be constrained, but our approach to pedagogy

should not be. Pervasive ineffectual assumptions about constraints, such as time being organised into recurring classes or one faculty member teaching a prescribed number of classes, should be challenged when these assumptions do not align with the most effective pedagogy. And just as resources are routinely realigned based on practical matters such as budget, the vitality of a curriculum is dependent upon the faculty's commitment to regularly assessing and realigning pedagogy. Pedagogy must be transitory in order to be persistently transformative.

One of the rails of our ladder is world musics, rooted in globalisation. One possible learning outcome in world musics is to demonstrate the knowledge, theory and practice of Afro-Cuban drumming through improvisation, composition and performance. Another rail of our ladder is modalities of music and sound representation. Learning outcomes for modalities of music and sound representation may include music literacy across multiple notational systems and mastering the theory and practice of sound recording and production. The innovative pedagogy that may be spawned is prompted by the question 'Given our resources, what are the most effective pedagogies that combine music literacy, sound recording and production with a music that is based in the oral tradition?' It may be that the pedagogical response deviates from the construct of a class or requires some form of distance learning, be it Skype or MOOCs, where other experts can provide commentary and context that deepens student engagement with the material and thus learning. *How we teach* must be driven by what is impactful and efficacious. Particularly in multidisciplinary curricular design, it is important to clearly articulate the rungs of the ladder and the intermediaries that conjoin those rungs. These articulations will form the basis of complex multidisciplinary learning outcomes capable of pushing computer music pedagogy to take the next step.

How we teach is based not only on *what we teach*, but who we are. It's about the ways we consider ourselves in relation to others, and how working with others can create a gestalt that is larger than what any one person could achieve. We give of ourselves in order to advance both the individual and shared voice that gives rise to knowledge and artistic creation.