

Trying-out digital technologies in trying times: A collection of observations from a collegial adventure during Covid-19

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CONTEXT

In recent decades there has been significant discussion in the popular press about digital technologies enabling society to transition to a working-from-home scenario. Similarly, literature in the engineering education space has extolled the possibilities and potential for on-line education, digital technology, asynchronous, poly-synchronous, remote and flipped classroom learning. However, what is less well known are the strategies that academics use to cope with these technologies, as few studies explore the academic “voice”.

PURPOSE OR GOAL

The concept of the “modern” student being a “digital native” has, rightly or wrongly, been widely presented as a truth of education in the 21st century. This “truth” rests heavily on the assumption that students have lived in an age of personal computing and thus will have (somehow) developed the skills to work in “virtual” spaces. Of course, this may be interpreted as taking a rather cynical view, although it does open us to the consideration of how students acquire these skills.

Furthermore, if there is the expectation that students have the skills to cope with on-line education, how do we equip academic staff to also meet this expectation?

APPROACH OR METHODOLOGY/METHODS

Many universities offer some form of orientation or training in the use of electronic tools or learning management systems, however anecdotal evidence would suggest that these are not always highly regarded by academic staff. With the rapid transition to online education precipitated by the Covid-19 pandemic, the need for academic staff to at least be conversant, and ideally be proficient, in the use of online education tools reached a crescendo.

This work presents a collection of narratives from a group of academics who early in the transition grouped together, outside any formal institutional structure, in a journey of (online) educational discovery. It examines the concept of the academic as student and the value of peer-to-peer instruction in developing the skills to facilitate online education.

ACTUAL OR ANTICIPATED OUTCOMES

Through the use of personal narratives, this work highlights the value that the, perhaps antiquated, notion of collegiality can still bring to professional development. It also demonstrates that academics, given autonomy, can collaborate in educational endeavours to deliver outcomes beyond what typical institutional structures might deliver.

CONCLUSIONS/RECOMMENDATIONS/SUMMARY

This work highlights the value of peer-based mentoring for academics new to online education. It also acknowledges that the success of the strategy lay in fostering a “safe space” for professional development. Moreover, it delivers an alternative perspective to formal Learning and Teaching structures within universities, suggesting that these could be improved by allowing academics to “run wild” (within a safe space) while exploring technology.

KEYWORDS

Academic voice, online education, professional development, distance learning, collegiality

Prologue

Late 2019, another academic year over, everything is winding down. It's that strangely busy, but often quiet, period between finalising grades, attending conferences and graduation ceremonies, and the obligatory shut down of the university that heralds the start of summer. Summer's going to be a hot one if the long-range forecast is anything to go by (NIWA, 2019). Some time at the beach and a chance to relax will be greatly appreciated.

January 30, 2020, the World Health Organisation (WHO) designates the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) to be a Public Health Emergency of International Concern (WHO, 2020). Less than two months later it is declared a pandemic. Borders close, international travel is curtailed, and countries worldwide go into varying degrees of lockdown. The weather's great, but so much for that trip to the beach. And what the heck are we going to do about teaching.....?

Introduction

In recent decades there has been significant discussion about digital technologies enabling society to transition to "working-from-home". The rapid transition to online education precipitated by the Covid-19 pandemic (the disease caused by SARS-CoV-2), pushed the need for academic staff to work-from-home, and to be proficient in the use of online education tools, very much to the forefront. While there is a widespread assumption that many students have lived in an age of personal computing and thus will be able to work in "virtual" spaces, there is an unspoken question about how we equip academic staff to also meet this expectation.

One of the challenges that faces academics in "the modern world" is the push toward a market-based approach, which has led to a greater emphasis on competition between academics to "publish or perish". Scott and Bereman (1992) discuss in detail the impact that this tension has led to with respect to academic salaries and across disciplines. In their essay, they highlight the potential impacts that a market-based approach could have on, not only disciplines, but also on the future of academia. They liken the approach to Pandora's Box with unforeseen consequences, such as academics become reluctant to encourage the next generation of academics and increasing turnover of staffing.

The result of such a philosophy is likely to also lead to a move from collegial to transactional relationships between academics. Bacon (2014), refers to this shift as a move towards "new managerialism". A consequence of this "new managerialism" is that a significant proportion of university staff feel that they are unable to have their voice heard. Bacon argues for a move towards a "neo-collegial" structure as a potential mechanism for maintaining the benefits of a collegial environment with the modern-day pressures on university structures.

Patrick et al (2010) suggest that "collegiality" is a key component of the induction process for new teaching staff, and that the benefits do not flow solely to new entrants. They noted that experienced practitioners also benefitted from the process of sharing their knowledge. Harris and Anthony (2001) noted similar outcomes in their study, but also noted that a fundamental barrier to success was the lack of a supportive environment. In their study, they noted a number of participants felt that they were being observed and judged, which led to negative feelings.

The idea of collegiality can, of course, be more broadly be viewed as a collaboration. In turn it can be extended into other structures such as professional learning communities or communities of practice. Scott (2005) examined the use of a peer-to-peer mentoring in nursing education, suggesting that it could lead to being better equipped with the skills needed in their professional practice. This peer-to-peer approach is even more important in highly isolated environments, a fact that was noted by Jarzabkowski (2003) in their discussion of the experience working in an isolated Aboriginal community in northern Australia and the role that connection to colleagues and community played.

Of course, in a purely online context, it is conceivable that collegiality may be harder to establish and maintain, a point that was highlighted by Terosky and Heasley (2015). They point to online faculty environments lacking a sense of “community” and the need to invest in professional development that fosters a sense of community around online education. This reflected the findings of Kelchtermans (2006), who undertook an extensive review of such collegial structures, which led to the conclusion that such structures “*ought to be conceived of not so much as structural arrangements, but rather as cultural and political environments in which those forms of collaboration and collegiality can take place that really contribute to pupils’ learning, teacher development*”.

In this vein, and against the backdrop of the growing Covid-19 pandemic and a government mandated lockdown of indeterminate length, the authors set out on an adventure to rapidly transition to online delivery of their courses in electrical and mechanical engineering. This work documents the authors’ experience with, what was initially, a relatively unknown environment for all of them. It explores, through their individual narratives, the value that they found in establishing a collegial and collaborative online forum outside any formal institutional structure.

Reflections on lockdown and online learning

Pre Covid-19 the authors regularly met at 8 am each morning for a tea/coffee and to discuss any challenging issues in a supportive manner to help students and colleagues overcome any problems. Entering lockdown, the group formed the “Breakfast Club”, using the Microsoft Teams platform, in an attempt to replicate the collegial support of face-to-face meetings in an online environment. In addition, the authors would often have a debrief of the day’s experiences in the afternoon to reflect on, and share, their experience. These are their stories.

Personal narrative 1

Team meetings were very helpful in discussing any problems with online Assessment, Synchronous and Asynchronous teaching, using MS Teams and features within Blackboard (Discussion Board/Collaborate Ultra, etc). They highlighted where each of us had found elements that worked well together, and those that were not successful and should be avoided. The Team collaborative effort fostered a platform for interactive experimentation, using team members to act as students and staff within a simulation of what the real environment might be like when we were to go live with actual students.

The development of methods for online assessment within Blackboard was particularly challenging, and I helped colleagues wanting to explore similar methodologies to the techniques I had developed. I often ran Problem Solving Questionnaires for Papers that I delivered during Semester 1. These take considerable effort to build and run and to get Blackboard to do what you want it to. As a team we all worked well together. Even though I might suggest a particular technique other interested parties would also find additional enhancements. This would enhance the efforts I had made and provide a better end result.

In addition to getting Blackboard to do what we wanted and helping others with this, we also developed smooth running methods for marking and streamlining feedback. Spreadsheet marking schemes were developed allowing a streamlined transfer of feedback/marks from the spreadsheet into the Blackboard feedback system. Several members of the Breakfast Club found this helpful and reduced their workload. Where online multiple-choice assessments were set the marking can be entirely automated. However, an even higher level of testing and diligence is required. The techniques applied were regularly methods based on the experiences shared by members of the Breakfast Club Team. All members shared their experiences which is the essence of the Team’s success and the success of students.

A further discovery from the Teams collaboration was uncovering some of the elements that few had ever used, or were even aware of, within the Blackboard software environment. The ability to monitor student study patterns and activity during assessment was very interesting

especially when trying to understand how students learn and how they react. Analysis of such patterns provided some interesting observations of student behaviour based on the data available from Blackboard. A telling outcome was that senior administrators contacted me directly to help figure out ways around problems experienced by other academics in their online assessments.

Personal Narrative 2

As a lecturer, abruptly, I lost all face to face contact with students to embark on a new journey with communication via Blackboard Collaborate and Microsoft Teams. It was challenging to hold space and deliver academic content for students facing so many challenges, financial, poor/no IT hardware, unfamiliar delivery techniques, assessments and feedback and all the while trying to humanize online instruction. There were times when the gap between my laptop and their device felt so far away.

I had already been using online teaching to complement my on-campus sessions so being forced to deliver completely online presented few problems for me. My students were also well used to delivery through One Note with lectures available through Blackboard so the move to delivery synchronously or asynchronously posed few problems for them. What was missing was the feedback to class discussions during face to face on campus sessions. I tried to encourage some online group discussions, but they were not well attended; maybe this was unfamiliar to all including me and may be more successful in the future.

One of the major difficulties with my papers related to online summative assessments. Setting engineering examinations via blackboard proved challenging. The collaboration between this group enabled all of us to find various ways of assessing in a broadly satisfactory way. Generally, we felt that our assessments were not as challenging as end of semester examinations. Many in our group randomised questions to prevent students simply collaborating or copying others' solutions. This worked well. However, we could not be sure that the student completing the solutions was the correct student.

Overall, I found the experience challenging but enjoyable and feel that having time to step back and re-evaluate both content and delivery improved me as a lecturer.

Personal Narrative 3

The initial announcement was made that we would be locked down for a period of time was quite a shock for some of us used to a lifetime of face-to-face teaching. I usually prefer using the whiteboard and develop mathematical concepts in engineering line by line. On the odd occasion I had used Microsoft PowerPoint to summarise many of the material. However, I never consider PowerPoint to be sufficient on its own. I decided to put my lectures on video and used a Microsoft Surface Pro to develop the line by line material. In this way I could mimic the real classroom quite adequately. Producing the material was not too difficult; in fact it was far easier and less stressful than doing it live. This of course did not allow for interaction with the class.

Our group of educators met twice daily to discuss various matters of presentation and platforms. It became more a matter of personal preference as to what platform to use. I was fortunate to have a Surface Pro and would have considered myself quite handicapped without one during lockdown teaching. I opted for Microsoft Teams to do live tutorials and feedback sessions with my class. I could also post my online portfolio of work (a series of problems covering the learning outcomes of the paper) on Teams and even mark it with an electronic pen. It seemed that life had almost returned to normal and the crossover to online learning became relatively seamless.

It became essential to keep in touch with other staff and find other ways to achieve outcomes which were better than my chosen one. It appeared to me that each platform had its own pros and cons, and neither was ideal. Within a few weeks many of the aspects of the platforms became almost second nature due to constant practice by setting up trial classrooms and

small teams to experiment. My first foray into live teaching however was met with what appeared to me to be a deathly silence. The “buzz” of the classroom was missing, but I hoped the same information was being transferred.

The thing that concerned me and my colleagues the most was the security of any written work. In mathematical or engineering based subjects, Turnitin does not work other than to see if English has been copied. It cannot check for similarities in equations. Students mostly wrote in longhand anyway and did not type-set their solutions. This is very time-consuming with equations. Scanning into a Word document made it a very easy task of marking through Microsoft Teams. Something we as a group had already practiced long before the real event.

My overall verdict is that I truly enjoyed and cherished online teaching. It has opened up a new world to most of us that we had no desire to enter. The shock of the new has turned into the joy of modern technology.

Personal Narrative 4

LOCKDOWN! The early morning coffee and greeting my fellow colleagues each morning was gone. No more face to face lectures with the students. I was at home staring at the computer worried about what this online teaching was all about. What applications were I going to use?

How would I adapt to this different way of teaching? What was my style of delivery to the students going to be? Videos, synchronous or asynchronous delivery, Blackboard, or Microsoft Teams. Over the next few days as I began to develop what I needed but still uncertain about what exactly was required I received an invitation via Microsoft Teams to join the Breakfast Club. Those of us invited to join the Breakfast Club were the same group of colleagues I talked to each morning and during our lunch break.

Now each morning I could talk to them and discuss ways that could improve and provide effective methods of online teaching for us all. The support and assistance I received from each member of the Breakfast Club help me develop my online delivery technique. Being part of a collegial group gave me a sense of wellbeing and the knowledge that we all wanted the best for our students.

Personal Narrative 5

Initially the move into lockdown in March 2020 was extremely hectic for me. The students were put into a four week ‘lockdown’ break but as a University we were scrambling to figure out how we would continue teaching in this new online environment, not knowing what the future would hold. As a recently appointed acting Head of Department (HoD), and my first significant role as a people manager, I was having to deal with directives from the University and also provide leadership to staff members in the department. Staff were often bewildered, trying to figure out how they were going to deliver and assess their courses in this strange new online environment, as well as complying with the often bizarre and confusing direction from the University. And then I had my own courses that I had to figure out how I was going to deliver and assess and then find time to prepare those online resources.

In the midst of all this, the Breakfast club played a significant role in helping me keep sane. Although my busy schedule meant that I was just a part time member of the club it was refreshing to be able to talk to colleagues in an informal and supportive environment. There were a number of benefits. As a fellow academic and lecturer, I learned from my colleagues, things that worked and didn’t work and similarly I was able to share those things in my experience. We all had quite different ways of doing things, so it was helpful to hear what others were doing and adapt them for your own use. Personally, once I got the hang of recording my lectures, I was quite pleased with the final result. I was able to ensure that no important details were missed out as could often happen in a live lecture. Of course, I missed

the interaction with the students which you get when delivering face to face. And the issue of cheating and collaboration in online assessments was something that bothered us all.

As a manager I found that I was asked questions in the club about things that were going on in the School and University and, being a more informal environment, I was able to answer perhaps more candidly. It also gave me good insights into the sorts of issues that staff at the coal face were dealing with and their feelings about decisions being made at a University level and this was very helpful in discussions and planning with my manager and fellow HOD's.

Of course, it wasn't all serious all of the time and the humour and light heartedness in the club helped provide some welcome relief in what was (and is) a difficult time. I certainly am thankful that I was/am part of the club.

Personal Narrative 6

I have been teaching for over 30 years on a strictly face-to-face basis, and have continuously argued against videos and general online resourcing. I had always felt that the most important part of teaching was for the students and lecturers to be face-to-face and in the moment. When the sudden COVID-19 lockdown occurred, we were given a variety of directives, suggestions, and resources, many of which conflicted with one another. The general plan was to start teaching online, 4 weeks from the date of lockdown. I was reasonably hysterical at the thought of converting all my resources to online learning.

During the first day of lockdown, we set up a Team meeting for 8am the next day so that we would not miss our morning social interaction. At that first Teams meeting, it was clear that we were all stressed in different ways, and about different things. For each one with a concern, there were two with (conflicting) solutions. It was apparent that we would do much better as a group than as individuals, and at the first meeting we decided to book every 8am on weekdays.

Personally, this regular interaction, without agenda or specific purpose kept me sane, on track and gave me a soft transition into online learning. My issues were a mix of technical and psychological. Whatever was happening in my head, I knew that the next morning I could share my thoughts and experiences, knowing that after I got a laugh for being stupid, I would receive collegial concern and advice. BC is a mix of sharing stories and problem solving. For me, the greatest aspect of this group was the common focus to deliver quality engineering education.

I found it very difficult to figuring out "how to be" when running an online class and this would have caused me high stress levels. However, from the BC it was apparent that we were all in the same boat and I felt that some of my stress was offloaded to the rest of the Team. In fact, the time spent on the BC itself (in the weeks before going live online) gave me a chance to see how the others behaved and how I should "be" when online. The discussion and argument on the BC was very robust, and from that I learned how to be more effective in an online environment.

I am a different lecturer now. I believe that properly planned and prepared videos are much more effective learning tools than face-to-face lectures. The BC gave me the emotional strength to make this change and maintain my enthusiasm for teaching.

Discussion and Conclusion

From a thematic analysis of the narratives, several themes emerge: fear of the unknown (Narrative 5 – "Staff were often bewildered"), a desire to connect (Narrative 3 – "greeting my fellow colleagues each morning was gone"), concern about doing a good job (Narrative 6 – "we would do much better as a group than as individuals"), and ultimately, the transformative

power of collegiality in uncertain times and in a new (online) environment. In many ways these mirror the concerns colloquially referred to as “the human condition” and, from anecdotal feedback, are similar emotions to those encountered by the students the staff taught. However, what is most obvious is the willingness of the individuals to put aside any ‘ego’ and ask for help if needed, while similarly reciprocating (Narrative 1 – “As a team we all worked well together”). In essence, being truly collegial.

It is apparent that through the development of a self-organised structure, the “Breakfast Club” was able to develop a model to share knowledge around the use of digital tools such as MS Teams, Blackboard Collaborate and Blackboard Assessments. Their emulation of the online environment in which they would eventually interact with students, allowed the creation of a ‘safe’ online space, outside the constraints of any formal or mandated structure.

From the narratives it is clear that this ability to ‘run wild’ and try-out largely unfamiliar online tools, without fear of judgement, was a transformative experience. This is most clearly articulated in the final narrative (Narrative 6): “I am a different lecturer now”, a message that no doubt resonates with all academics forced to transition to an online environment as a result of the Covid-19 pandemic.

References

- Bacon, E. (2014). *Neo-collegiality: restoring academic engagement in the managerial university*. London: The Leadership Foundation for Higher Education
- Harris, D.L., & Anthony, H. M. (2001) Collegiality and its role in teacher development: perspectives from veteran and novice teachers, *Teacher Development*, 5(3), 371-390.
- Jarzabkowski, L.M. (2003), Teacher collegiality in a remote Australian school. *Journal of Research in Rural Education*, 18(3), 139-144
- Kelchtermans, G. (2006). Teacher collaboration and collegiality as workplace conditions. A review. *Zeitschrift Fur Padagogik*, 52, 220-237.
- NIWA (2019). Seasonal climate outlook December 2019 - February 2020. Retrieved September 2, 2020, from <https://niwa.co.nz/climate/seasonal-climate-outlook/seasonal-climate-outlook-december-2019-february-2020>
- Patrick, F., Elliot, D., Hulme, M. & McPhee, A. (2010) The importance of collegiality and reciprocal learning in the professional development of beginning teachers. *Journal of Education for Teaching: International Research and Pedagogy*, 36 (3). 277-289.
- Scott, J. A., & Bereman, N. A. (1992). Competition versus Collegiality: Academe's Dilemma for the 1990s. *The Journal of Higher Education*, 63(6), 684-698.
- Scott E,S. (2005) Peer-to-peer mentoring: teaching collegiality. *Nurse Educator*, 30(2), 52-56.
- Terosky, A.L. & Heasley, C. (2015), Supporting Online Faculty through a Sense of Community and Collegiality, *Online Learning*, 19(3), 147-161
- WHO (2020). Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). Retrieved September 2, 2020, from [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov))

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