

2021

Exploring the impact of authentic assessment on sustainability literacy through reflective and action-oriented tasks: A roundtable podcast

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Recommended Citation

Freeman, Olivia; Duffy, Deirdre; McAlpine, Alaçoque; Nolan, Ciara Dr; McMahon, Cormac; and Walsh, Lucia (2021) "Exploring the impact of authentic assessment on sustainability literacy through reflective and action-oriented tasks: A roundtable podcast," *Irish Journal of Academic Practice*: Vol. 9: Iss. 2, Article 7.

doi:<https://doi.org/10.21427/CSYC-2271>

Available at: <https://arrow.tudublin.ie/ijap/vol9/iss2/7>

Exploring the impact of authentic assessment on sustainability literacy through reflective and action-oriented tasks: A roundtable podcast

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Exploring the Impact of Authentic Assessment on Sustainability Literacy through Reflective and Action Oriented Tasks: A Roundtable Podcast

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Abstract

Business schools must engage in fundamental change to retain their legitimacy and position themselves as providers of solutions to urgent economic, social, and environmental crises (Dyllick, 2015). To this end, we need pedagogy that enables students to become sustainability literate graduates and thus develop appropriate knowledge, skills, and mind-sets (Andrews & Soares, 2017). This roundtable discussion podcast comprises six colleagues engaged in conversation and reflection around a pedagogical initiative designed with the broad aim of enhancing sustainability literacy among business students using innovative digital tools as part of an authentic assessment strategy. The pedagogical approaches we discuss engage students with learning across several different modes and in a ‘deep’ reflective manner (Meyers & Nulty, 2009). We discuss our use of the UN supported Sulitest platform, specifically our use of the Sulitest quiz tool. The podcast transcript has been annotated through footnotes to direct the listener/reader to further reading on the various topics that emerge in our discussion.

Note

The podcast from which this transcript has been made forms a supplemental file with this paper, accessible from the IJAP website – <http://arrow.tudublin.ie/ijap> – Volume 9, Issue 2.

Keywords: activism; authentic assessment; business; fashion; impact; podcast; sustainability; sustainability literacy; Sulitest; supply chain management; UN Sustainable Development Goals (SDGs)

Podcast Transcript

Dee

You're very welcome to this roundtable discussion, which we are recording for this special issue of the Irish Journal of Academic Practice to commemorate and celebrate the TU Dublin Impact project. I'm joined today by five of my fellow colleagues and co-authors from the Technological University Dublin, or TU Dublin to discuss an IMPACT funded project we have been collaborating on for the last year or so. The project stems first and foremost from our own individual interests in sustainability, and a recognition of the needs to increase the sustainability literacy of students at TU Dublin.

As you will hear in the podcast, all six of us work in different disciplines within the university. We teach diverse modules. Yet, we were united by this interest to explore sustainability literacy and think about how we could ignite an interest in sustainability for our students in an active, purposeful manner through authentic assessment.

We discuss the impact we believe this project has made on our students and how they were motivated to become active change makers or at the very least reconsider their own relationship with sustainability after going through the assessment process. So joining me in studio today are the project leads Dr. Olivia Freeman and Dr. Cormac McMahan, along with fellow team members, Dr. Lucia Walsh, Dr. Ciara Nolan, Ms. Alacoque McAlpine and myself, Dr. Dee Duffy. So let's get started. And we'll move on to Cormac. Cormac, can you tell us a bit of background to this project? And why are we looking at sustainability literacy now?

Cormac

Sure. sustainability has really emerged as a 'megatrend'¹ over the last few years. It's not entirely new, the whole idea that you know what our current socio economic systems are unsustainable has been around for quite a while ever since the Brundtland report². And that has been slowly evolving to the point where universities recognized that higher education has a major role to play in the transformations in society needed to become sustainable. And a number of Presidents of Universities signed the "Talloires Declaration"³ several years back.

¹ Mittelstaedt *et al.* (2014); Sánchez-Carracedo *et al.* (2021)

² Keeble (1988)

³ ULSF (2015)

And that's culminated really in the emergence of the Sustainable Development Goals in 2015, of which SDG 4.7 is focused on ensuring that we have sustainability literate graduates. So education for sustainable development has really been put higher on the agenda in HE in recent years. And as a consequence of that, one of the reasons why TU Dublin has focused on a new strategic plan aligned to the Sustainable Development Goals, is it wants to make sure that it is contributing to a more sustainable future. A part of this strategic plan for TU Dublin is focused on ensuring that all our graduates are essentially processed through education programmes that have sustainability-related learning outcomes included. An important starting point for that is to ensure that all our staff, and our students are sustainability literate.

Dee

And maybe Olivia, you could just take us through what does sustainability literacy mean to you or to us on this project?

Olivia

We've been using the Décamps⁴ definition of sustainability literacy, which is the knowledge skills and mindsets that help compel an individual to become deeply committed to building a sustainable future. We see sustainability literacy as comparable to media literacy, which is a very well developed area at this stage, it's a continuum. And students need first to be able to access knowledge around sustainability. And then to be able to build on that to think critically and think more deeply about that information. And then maybe to move up the continuum a bit further to be creative and action oriented in terms of their engagement with sustainability. So we've used the Sulitest⁵ tool as a stimulus to start the conversation about sustainability, and then to build additional assignments around the Sulitest to provide opportunities for students to deepen their learning in this area.

Dee

Sounds fantastic. Can you tell us what the Sulitest Test tool is?

Olivia

⁴ Décamps et al. (2017)

⁵ <https://www.Sulitest.org/en/index.html>

The Sulitest is a multiple choice quiz. It's hosted on an online platform, which is supported by the UN. The quiz is designed to measure and improve people's awareness of the SDG framework, and the interconnectedness of the Sustainable Development Goals. So, to date we and our colleagues in the College of Business and beyond have embedded the Sulitest into 16 modules, we've had over 1000 students take the test. And then the majority of these students have completed detailed reflections following engagement with the test. And many of them have also completed action oriented assignments too. So the Sulitest prompts thinking in relation to real world issues and concerns, and in the context of sustainability, our associated assignments provide an opportunity to situate that learning in real world contexts. And I suppose that's where the authentic assessment piece comes in.

Dee

Just looking at the timeline at this project, we kicked off in September 2020. And I'm sure if we all cast our minds back to September 2020, when we were all grappling with "Will we be in on campus?" And what's teaching going to look like with remote learning? And how on earth one might wonder were we thinking the best thing to do is start a massive project on sustainability literacy? Cormac, well, how did this happen?

Cormac

I think it grew organically. The sustainability co-ordinator in TU Dublin was very interested in the Sulitest. a number of staff and students in Engineering, and also staff who were doing CPD were really experimenting with the Sulitest, just as a way of raising awareness about sustainability. Then the conversation grew. Olivia and her team in the College of Business looked at the idea of introducing it to Business students, and really the project grew from there.

Dee

Olivia, what were you thinking?

Olivia

It all started in February 2020. So before the world completely changed, and I had chatted to Cormac and agreed to pilot the project with Business and Management students. And I have very clear memories of briefing the students on the Sulitest because it was the last day that I was physically in the College before the restrictions were announced. There was a bit of a

nervousness in the air at the time. But the students got set up, and then they did the test. They submitted their reflections⁶ online a couple of weeks later. So at that time, I read approximately 150 reflections and could immediately see the value of the exercise and the impact that it had on them in terms of expanding knowledge. But it also had an emotional impact, and that really came through in the reflections. I had some more conversations with Cormac and decided to try and expand it in the College. The first person I reached out to was Alacoque, I don't think she was maybe expecting me to contact her and ask her if she wanted to do a bit more work in June of 2020. But I knew that Alacoque had a really strong profile in sustainability, so I gave her a call.

Dee

Alacoque was that a much welcomed phone call?

Alacoque

I found Olivia's timing ... interesting. When she called to ask me to join her and some other colleagues in rolling out Sulitest, it was after what had been the most difficult four months in our jobs. Despite my exhaustion, I was excited about Sulitest and its potential for starting the discussion around sustainability in my Supply Chain modules.

Dee

Lucia? Did you get a call? or how did you come on to the project?

Lucia

Well, myself and yourself Dee started an informal group of colleagues, where we shared knowledge and tips on Ed Tech tools and how to best engage students online. Then we found ourselves preparing for the inevitable from September. As we got to know each other, and chatted, we found out that sustainability was something that we all had in common. Then the project team grew from there.

Dee

⁶ Boud et al. (1985)

It's really technology that helped us - having access to MS Teams - and being able to communicate remotely helped support us to actually be able to launch this project, and work to the level that we did. So there definitely seems to be an increased focus on sustainability. I think we could all agree maybe University-wise and Cormac, can you tell us a little bit more about this, of where this increased focus is coming from?

Cormac

I think there has historically always been a strength within TU Dublin with regard to sustainability; we have some excellent programmes - an MSc in Sustainable Development, and a number of Engineering programmes are focused on sustainability as well as some of our Science and Food programmes are focused on sustainability. However, I think one of the biggest catalysts to really focus in on the Sustainable Development Goals came with the formulation of the new Strategic Intent to 2030. It's all aligned around the Sustainable Development Goals, and it's really offered everyone in the university - all stakeholders - a focal point to think about their own activities through the lens of the Sustainable Development Goals. One of the interesting things about the Strategic Intent is that there is a requirement in it for all programmes to have learning outcomes and learning activities related to the Sustainable Development Goals. That in itself is a significant point of difference. So rather than silo sustainability into something separate from everything else, I think the issue⁷ now is all our programmes have to be if you like, re-engineered, rethought about over the next few years, so that they can demonstrate much greater alignment with the SDGs.

Dee

I totally agree with you. Even if we think about ourselves sitting around the table and all our various disciplines and sustainability, it was really interesting for me that it intersects all, even as we're in different kinds of fields of research. Sustainability is relevant. Myself in fashion, Lucia yourself in Social Entrepreneurship, Ciara, you're interested in workplace wellness in the HR background. And yet, when we came together, we realized sustainability absolutely is relevant and necessary, and is brought together nicely with the SDG goals. I know for myself in fashion, I explore fashion through a sociological lens. As I go through my own work, it inevitably leads you when you look at the Sociology of Fashion, it, of course

⁷ Albinsson *et al.* (2020); Winfield & Ndlovu (2019)

leads you to how fashion and supply chains affect our fashion consumption practices and affect society and the environment. Alacoque I know your research, your background is in supply chain management; we have overlaps there and common interests in the damaging effects of the fashion supply chains.

Alacoque

Indeed, I'm interested in the fashion industry, and how to bring about positive change in fashion supply chains. I've been teaching Supply Chain Management at TU Dublin for 20 years now. I've seen how the interest around sustainable supply chain management has changed. Previously, students queried why I covered green supply chain management or corporate social responsibility. Whereas today, students cite the focus on sustainability as one of the reasons for choosing the Supply Chain Management module.

Dee

That's brilliant. That must be joyous to hear. And what about Ciara?

Ciara

Well, I think in contrast to my esteemed colleagues here, I came to this as something of a novice. Until about 18 months ago, I would have had a very narrow conceptualization and understanding of sustainability and what that encompassed. So from my background in HR, I would have had a strong interest in quality of working life, well-being, work life balance, and flexible working. I think the pandemic has really brought those issues into focus where a lot of people now are reevaluating, their careers, a lot of people are thinking about resigning - we have this 'great resignation' phenomenon. So from, my perspective, by being part of the group, the knowledge-sharing group, and exchange, getting to know people, I realized actually I do have a space in the sustainability area, and particularly around decent work, equality, diversity and inclusion. It was fantastic to find other similarly minded colleagues. I could bring a different perspective to things.

Dee

Lucia, you're interested in social entrepreneurship?

Lucia

Yes, I am. And social entrepreneurs by their very nature, look for innovative and sustainable solutions to social and environmental issues. So, for example, there are many social enterprises addressing the issues around food, waste, fashion, but also there are many of those working with issues connected to mental health and disadvantaged communities. Then my other hat will be marketing. When teaching in marketing, I have always emphasized the ethical side of marketing. I always encourage students to think about how marketing tools can be used to create positive impact, but also how to avoid greenwashing.

Dee

Very important indeed. We're framing the work we're doing under the umbrella of authentic assessment⁸. Ciara, can you describe what authentic assessment means to this group and why we think it's important?

Ciara

The context in which authentic assessment is important stems from this perennial problem of the gap between what employers⁹ are looking for and what graduates offer. This is something that higher education has been grappling with for many years. The response from educators is to focus on more authentic learning activities, authentic assessment¹⁰. Through that students develop the skills and practices they're going to need in the real world¹¹. The idea would be that students develop skills and competencies directly related to the world of work. It's how they can apply that. Authenticity is very much a core part of good assessment practice. Students respond to it well, they value it highly, because if it's well designed, it can help them contextualize their learning and to really understand the complexity, the ambiguity of the real working world and connect that to what they're learning from a theoretical perspective. One of our signature pedagogies within the College of Business is the case study technique. We would use a lot of live case analyses¹² and problem-based learning approaches. We see our students working with a lot of both local and global organizations. I think we have to also acknowledge, as has been mentioned already, that digital technology

⁸ Mueller (2005)

⁹ Drayson (2015); Hesselbarth & Schaltegger (2014)

¹⁰ Vos (2015); Sotiriadou, Logan, Daly & Guest (2019), see Albinsson, Burman, Shows, & Stoddard (2020) for research that connects authentic assessment in marketing and sustainability

¹¹ Farrell (2020)

¹² Freeman, Hand & Kennedy (2021)

has given us a huge impetus to develop our authentic assessment opportunities. For example, through the use of business strategy simulations, which we also use in the College, digital technology really was a key enabler for our work. We used our own learning management system Brightspace, and the UN Sulitest platform, as has been discussed. We also directed our students to the All Aboard¹³ higher education platform, and try to encourage them to develop their digital skills such as video-making. Students who also used the social media platform LinkedIn to share their output with a much broader audience.

Dee

So lots of authentic assessments there. We've mentioned that we've ran this sustainability literacy exercise and project across 16 cohorts in various guises. Lucia, could you describe what that looked like?

Lucia

The 16 cohorts included undergraduate students from first year to final year students, both graduate students and our MBAs as well. We had a really wide reach across all different students group, which was good. What we did, all of us, what we had in common was that the assessment involved three parts. The first one was to complete the sustainability literacy test - the Sulitest, the second one was reflection; the third part was authentic assessment that was specific to each of the modules or discipline.

Dee

Give us a picture of what that could look like in the classroom and for our students.

Lucia

When the students took the sustainability literacy test, they did it on their own. They were benchmarked on their knowledge, skills and mindsets in relation to the SDGs, locally. They were also given a range of follow up resources. What's really important to know is that this part wasn't graded at all, because it was important for the students to see their own score, but not to worry too much about the impact on their grade overall. The second part – reflection – we were using a common framework called DIEP¹⁴ in which the students describe, interpret, evaluate, and plan in their reflective piece. As we were reading through

¹³ <https://www.allaboardhe.ie/>

¹⁴ Boud, Keogh & Walker (1985); Closs & Antonello (2011)

the reflections, we saw that there were a lot of emotions, both positive and negative, and they were ranging from feelings of anger, disbelief and shock. But also, we could see the feelings of hope, privilege and the need for action. It was quite emotional at times to read these reflections because the students really dug deep into their emotions and feelings. Then the third part was to create a digital artifact. For example, these included digital posters or short videos, and the students needed to connect an SDG issue of their choice to a specific subject area, and to also make recommendations for managers or for relevant practitioners. The most common themes in this part included food waste, marine, plastic pollution, fast-fashion, but also forced labor, and gender equality.

Dee

These are the topics that the students chose to explore further?

Lucia

They did. For example, one student focused on gender equality; she described the issue in her video, she outlined it, then she related it to a specific industry, which was the construction industry. Then she made actionable recommendations for those working in the construction industry on how they can improve gender equality. Another student who happened to own a small startup fashion brand, reflected on these issues, and then connected it to his own practice and future plans in his business. The students also shared the videos on LinkedIn, to create additional engagement with practitioners. This was a great success because the students learned additional skills. Some of them were really surprised with how much engagement they really got. With students getting over 2000 views, it was fantastic.

Dee

That's amazing. I think that was a really important part of the project that the students chose where they wanted to take the project, what avenues they wanted to explore. Alacoque what did this project look like for you in Supply Chain Management?

Alacoque

Lucia and I worked quite closely on the assessment, and with the same group of third years for the Supply Chain module; after they completed the Sulitest and the reflective writing, they had to do a writing piece where they debated where the responsibility for sustainability lies in the supply chain, and like Lucia's students, they created a short video using a tool of their choice connecting a sustainability issue with a business practice and offering responsible business recommendations¹⁵. A further element of the supply chain management assessment design incorporated student activism¹⁶; I consider myself an activist, a bit of a lazy activist but one all the same! I feel that student activism can contribute to achieving the SDGs¹⁷ and civic engagement is important in the development of a critical understanding of political and social issues¹⁸. The students were asked to use their voice to bring attention to a particular problem, to engage a TD, to ask them to use their position to fight for policies in relation to an SDG or to engage a brand to ask them what they were doing to improve their supply chain sustainability. I find my students went above and beyond what was required. One of my students addressed issues around SDG 12, responsible production and consumption in his own family business, which is a chain of fish and chip shops. He set up an Instagram page to educate people and consumers on sustainable food. He carried out a survey of customers to ascertain how he could make the family business more sustainable. Consumer ideas included vegan burgers, biodegradable packaging, and bike deliveries.

Dee

We know that we were all enthused about it. We were delighted when we got the students so involved as per examples that Alacoque and Lucia have shared. Cormac, what would you say then has been the impact on teaching and learning?

Cormac

¹⁵ Maloni *et al.* (2021); Aragon-Correra *et al.* (2017); Mousa (2021); Muff *et al.* (2017); Sandri *et al.* (2018); Snelson-Powell *et al.* (2016); Block, Van Poeck & Ostman (2019) *Sustainable Development* report by the QAA and Advance HE (2021); Dallaire *et al.* (2018)

¹⁶ Winston (2013)

¹⁷ Korhonen-Kurki, K., Koivuranta, R., Kuitto, V., Pietikäinen, J., Schönach, P., & Soini, K. (2020). Towards Realising SDGs in the University of Helsinki. In G. Nhamo & V. Mjimba (Eds.). *Sustainable Development Goals and Institutions of Higher Education* (pp.15-29). Switzerland: Springer Nature.

¹⁸ Lin, A. (2015). Citizenship education in American schools and its role in developing civic engagement: a review of the research. *Educational Review*, 67(1), 35-63.

Even if we just look at the stats, they've been incredible. We've gone from in the space of two years, from being new to the sustainability literacy test to having over 2000 students now having taken the test, and around 50 staff have joined an active community of practice around promoting sustainability literacy. That's been recognized both by Sulitest itself and also it's been reported as a case study in the UN Sustainable Development Solutions Network, which will be showcased at its annual international conference on sustainable development at the end of this month.

Dee

We're delighted with the traction that it's getting. It's fantastic. Olivia, can you recognise any other impacts?

Olivia

I think it's useful also to look at impact through a qualitative lens. We're in a good position to do that because we have a lot of student reflections¹⁹ that we've been able to examine and analyse. That's given us a great insight into what students are learning from this whole process. Enhanced sustainability - what is it? What does it look like, it might mean someone who understands the need for change towards a sustainable way of doing things, both individually and collectively. They'll have increased knowledge and skills to decide and act in a way that favors sustainable development. They should also be able to recognize and reward other people's decisions and actions that favour sustainable development. These are the sorts of things we're curious about when we're reading these reflections; what's coming through in them. One of the things that's come out of it is that the student reflections are telling us that the Sulitest serves to reveal the 'unknown unknowns' to these students, and to prompt them to think about sustainability in much broader terms, definitely, but also deeper terms than they may have previously done. We've talked about impact at great length as a group. I think we all agree with previous researchers, that impact is 'complex and messy'²⁰ but much of the success of this project has been around the indirect as well and the unintended but very positive outcomes of this work.

¹⁹ Note: Within Management education, reflection has been associated with a form of learning more attune to thoughtful managerial practice - see Currie & Knights (2003); Gosling & Mintzberg (2003); Gray (2007); Roglio & Light (2009) and as playing a central role in developing threshold sustainability competencies in future business leaders (Robinson & Mothan-Hill, 2021).

²⁰ <https://hub.teachingandlearning.ie/resource/evidence-based-insights-about-impact-in-teaching-and-learning/>

Dee

I love the phrase the 'unknown unknowns'. I think would it be fair to say when we talk about authentic assessment, we often hear the term 'ripple out' or the 'butterfly effect' in the literature²¹ - would you say that resonates for this project?

Ciara

I think the ripple is there in terms of the kinds of assessments that we've utilized, and they've really served to underpin the development of a broad range of critical skills as has been alluded to already - emotional intelligence, the greatest sense of interpersonal effectiveness, that ability to collaborate with others from different perspectives, for the students to build their own profile and online in particular, and to be able to avail of opportunities to network, as well as things like developing digital skills, and for them to have developed a greater sense of self-efficacy with respect to being able to have a positive impact²² at a micro level from an individual perspective, but also on organizations on the communities that they're part of. So whether it's something around developing live case analysis, or business pitches or through the use of the Sulitest, and doing reflective exercises, that's something that we really need to emphasize isn't achieved in isolation. Having support from colleagues has been critical, as has support from managers. That's been vital. I think for many of us, one of the most positive and unanticipated outcomes of undertaking this work was the extent to which it enabled us to foster new working relationships with colleagues. Some of us had never met in person. The way that we were able to share resources and learn from each other was a fantastic output from it as well.

Dee

It definitely was a big bonus for myself. The butterfly effect Alacoque, any resonance there for you?

Alacoque

Yes, the Butterfly Effect resonates too, because the project really gained traction, and has now evolved into a university-wide Community of Practice around sustainability. Colleagues in accounting, and finance, product design and chemistry are now engaging in similar

²¹ McCowan, 2018, Parsons et al., 2012, Jonkers et al., 2018 (all cited in <https://hub.teachingandlearning.ie/resource/evidence-based-insights-about-impact-in-teaching-and-learning/>)

²² Bernacki & Jaeger (2008)

assessments and incorporating reflective practices into their pedagogies. We've developed a website on which we can share resources, publicize our events. We're also in the process of building cross-disciplinary, open education resources on the SDGs, which will be hosted on our site.

Dee

There's lots going on. I'll share the details of the website at the end. Cormac I might bring you in here. Any final thoughts on this?

Cormac

We're hugely optimistic and positive about the direction in which TU Dublin is going; since the inception of this project, we've had the appointment of a new vice president for sustainability, who is hugely passionate about sustainability. In terms of this project alone, even this upcoming semester, one of our colleagues in the campuses is rolling the Sulitest out to all first year students. We really hope that the project has been a catalyst to get to a point where sustainability literacy is really embedded organically in all our courses and programmes in the coming years.

Dee

Absolutely getting support from the top down, that's the only way change will happen, as well. So it's probably been and will continue to have a great impact. Thanks, Cormac and Lucia, if you want to add any final thoughts?

Lucia

I think we can say with confidence based on our experience that authentic assessment pedagogies really work. We know that student learning is enhanced and impactful and long lasting as a result of engagement in these kind of meaningful learning experiences²³, as well as development of a better understanding of the future work expectations. We also noted positive unintended learnings like peer learnings, where students were looking at each other's videos, which normally doesn't happen with assessment; usually traditionally, it is just lectures, reading essays or correcting scripts. And now, the students could see each other's work and comment and engage. The students also increase their own confidence and

²³ Aragon-Correra *et al.* (2017, p.471); Storey *et al.* (2019)

their own abilities and communication with their peers, but also professional networks. We actually carried out a quick survey with our first year students a month after this assignment. We asked them whether any of their behaviours changed as a result of this assessment. 78% say yes, which was a great feeling. We know that climate action is an urgent issue. We as educators contribute to this by changing students' mindset, one at a time. We're very proud of this and to be part of this big change.

Dee

Thanks to all of you for joining me today, it's really been enjoyable to just share our own reflections of our authentic assessment experience and bring it all to life by chatting about it and sharing the anecdotes and stories. Thank you to our listeners. If you would like to find out more about sustainability literacy, as Alacoque mentioned, we have developed our own website. So this project is continuing on and growing. If you want to visit SDGliteracy.ie you can find out more about the project, read our publications and let us know if you want to get involved. Thank you very much for joining us today.

Acknowledgements

The project discussed in this article was funded by the IMPACT initiative in TU Dublin. IMPACT is funded by the National Forum for the Enhancement of Teaching and Learning in Higher Education under the Strategic Alignment of Teaching and Learning Enhancement (SATLE) stream. The authors acknowledge and thank funders for their support.

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