Upping the Learning and Downing the Teaching: Using Digital Story Maps to Elevate Student Engagement. A reflective piece.

Dr Sally Anne Param, Centre of English Language Studies, Sunway University

Introduction

Software is eating the world [1]

For some of us educators who have been around for a longer time, we never thought we would have to grapple with the reality of this phrase, where technology is influencing daily life in an ever-increasing extent. Familiar only with the adage of 'chalk and talk', we never imagined we would encounter the growing influence of digitalization in our everyday classroom practices. This phenomenon is especially due to the evolvement of students over the decades, where their educational needs and learning preferences have morphed into the perpetuity of using tech-based methods and devices.

I mulled over this contextual element of how to incorporate digital elements into the teaching practice, and cater to the current 'type' of students at the same time. At about this time, I was privileged to be asked to co-teach my professor friend's subject called 'Sustainable Development in Malaysia'. This was an MPU subject (explained later) which meant that students were very dismissive towards it. Thus, it was my professor friend who had the brilliant idea to perhaps use digital story maps to assess student work instead of getting them to submit an extensive written assignment, which was the norm. In discussing sustainable practices in Malaysia, students needed to include visual and geographical. My professor friend had read and heard about how effective the use of digital story maps had been in other countries, especially in courses that relied on multi-modal output. And so we embarked on using this tool for the course at hand.

Therefore, in this paper I would like to share my experiment with a tech-savvy mode of teaching, that is, the use of digital story maps (although my professor friend has since then retired, I wanted to pursue the sharing of this wonderful tool). I start off by offering a

reflection on the changing preferences of contemporary students, framed by a brief reference to cohort studies and a conceptual understanding of the word 'habitus' used frequently in the sociology of Education. The wonders of the story maps tool will then be discussed, before I I look at how we educators can move forward in pursuing digital input and student engagement in tandem. In the title to this reflective piece, I use a play of words: how we educators should sometimes 'down' the teaching focus that so easily preoccupies (and besets) us and 'up' our own learning curve. Through this up and down shift, we can be more cognizant of digital boundaries the current cohort of students work with. This reversal would then enable both educators and students to learn and experience creative pedagogy together.

Background

Students generally fall into an in-between category – "located uncomfortably between – yet simultaneously overlapping – childhood and adulthood" (Hopkins, 2010, p. 3). To refine this age group further, a cohort analysis can be helpful. The majority of students I teach at University are urban youth, who come from the age cohort called 'Generation Z'. This generation is made up of those who were born between 1997 – 2012 (Beresford Research, 2024). This is the generation that priorities personal wellness, and as critics claim, is due to the overdose of work-centric lifestyles that previous generations carried out at the expense of health and families (Beck, 2024). This is also the generation where multiple variations of technology already existed before they were born; creating an indelible part of their childhood and formative years. Social media, artificial intelligence (AI) and video gaming are normative for this generation.

To understand this generation of students, I borrow the concept of 'habitus' from the well-known anthropologist-sociologist, Pierre Bourdieu. Bourdieu (1993) talked about how the environment could influence students' educational possibilities, depending on the varying types of 'habitus' they grew up with. The Bourdieusian 'habitus' refers to how particular socio-economic communities develop an internal sense of behavioural patterns that are specific to them (Bourdieu, 1993). The students referred to in this paper are urbanites who attend a private University, thus strongly implicating their socio-economic status of privilege. And intrinsic to this socio-economic advantage are the inner dispositions this current cohort of students carry - the heavy influence of technology in their quotidian life experience. For Bourdieu, habitus is a set of "classifiable practices" which includes "the capacity to differentiate and appreciate these practices", which then constitutes the representation of the students' "social world" (Bourdieu, 1987, p. 405). In other words, this contemporary batch

of students, mostly from Generation Z, are inherently familiarized with a set of 'classifiable practices' in digitalization, through which they can 'differentiate and appreciate' modes and mediums which technology provides; enabling them to access their digitally-enhanced social world. The students I am engaged with in the 'Sustainable Development in Malaysia' subject are first year students from the School of Engineering. Like all other students in their first year as Sunway undergraduates, these students are required to take this compulsory subject (which will be described a little bit more in the next section).

The conceptual application of 'habitus' to Generation Z students decodes and validates the understanding of how 'software [is] eating the world' (Andreessen, 2011). The type of students and the type of ontology they possess necessitates educators' attempts to include digitalization into classroom practices. This paper sets out to experiment whether the use of digital software can redeem a subject that students normally find unappealing and don't want to attend (if they get a chance to avoid it). This paper hopes to show how the use of digital story maps can be part of the much-needed pedagogical creativity to spur student engagement into a more pronounced existence.

The use of 'ArcGIS StoryMaps'

ArcGIS StoryMaps is a digital tool that is able to provide a structural outline of interactive, multimodal narratives (Voyager Sopris Learning, 2023). This story-mapping technique incorporates the building of multimodal narratives based on the compilation of individual and/or collective experiences. Mental maps, oral histories, cartography, plots of stories, and geographic graphs are some of the many ways in which people express themselves, and where the representation of spatial, visual, and textual information can be synthesized as one narrative (Molden, 2020). The ArcGIS StoryMaps platform allows the "relations between young people, place and identity" (Hopkins, 2010, p. 173) to be understood at a whole new digital level.
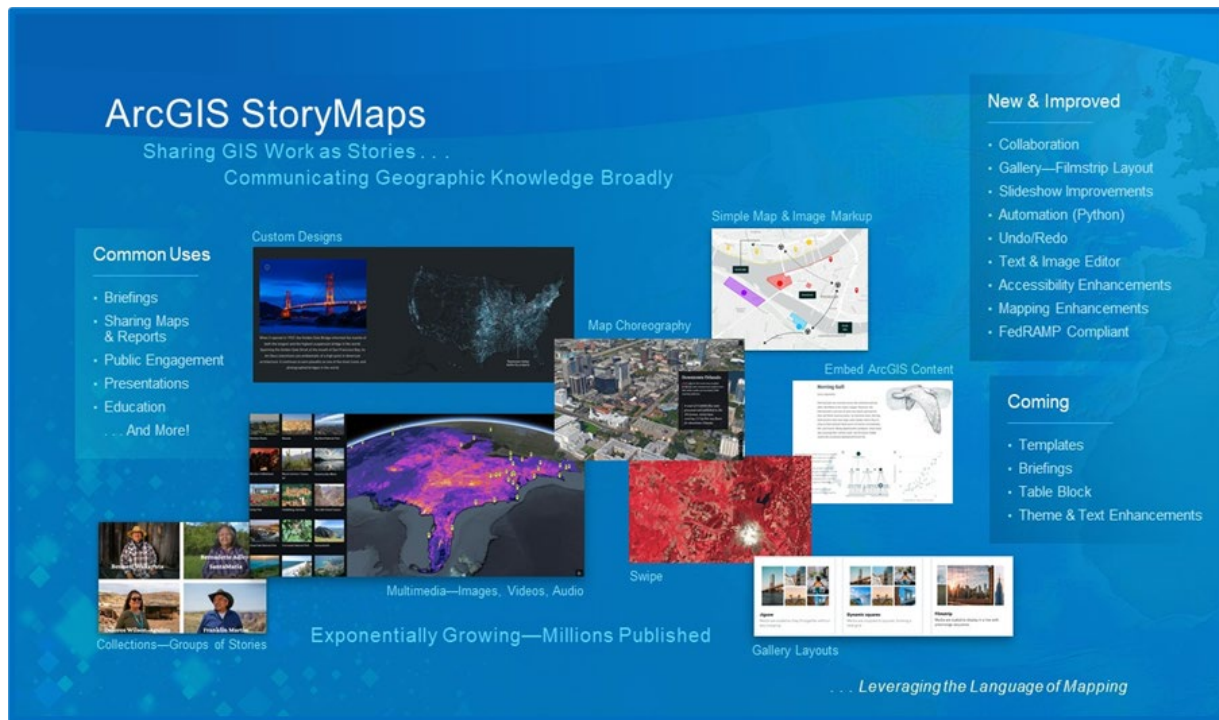
The classroom setting for the use of the ArcGIS StoryMaps tool is a compulsory subject called 'Sustainable Development in Malaysia', studied by first year undergraduate students. This subject is part of the matapelajaran umum category (a compulsory subject, referred to as 'MPU' in other parts of the paper) in the National University curriculum (Kementerian Pendidikan Tinggi, 2016). MPU subjects in general have been subjected to numerous rants from students, as these subjects are not related to the degree of specialisation the students choose. Undergraduates take MPU subjects only because they are compulsory and therefore claim that it is "absolutely a waste of time and energy for both students and lecturers" (Medium, 2021).

In the group project of this particular MPU subject called 'Sustainable Development in Malaysia', students had to first find a 'problem area' of sustainability in a specific geographical location within Malaysia. They then had to identify one of the United Nations' Sustainable Development Goals (referred to as SDGs from now on) that could help measure and indicate growth opportunities (solutions) for that problem area which they had chosen. In the project, students needed to explain their understanding of the selected problematised issue of sustainability; showcasing how the problem exists, and how it is then solved, framed within an understanding of SDGs. Students needed to work in groups of three or four, and produce their compiled work through an interactive digital report using the ArcGIS StoryMaps tool. At the end of the semester, each group's digital story map had to showcase the implementation of the SDG of their choice; evidencing both the challenges and the possible solutions.
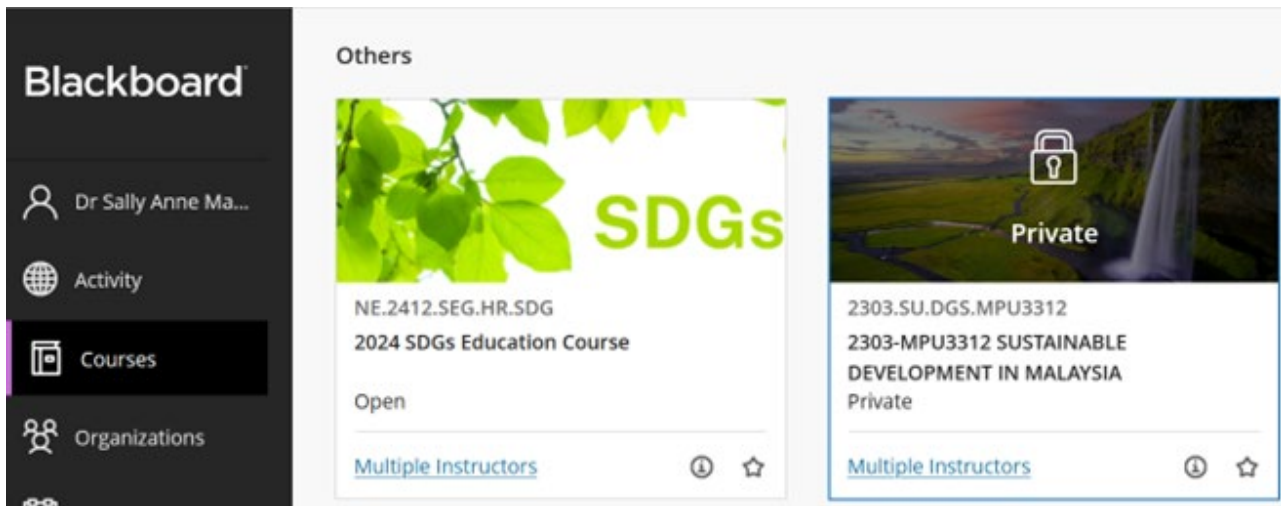
My initial response in assessing students' work through the digital map platform was one of apprehensive excitement. I was convinced that the use of digitalization and the levels of engagement of contemporary students would result in what researchers would define as a positive linear correlation. However, I did not want to just assess student work from a distance; I wanted to know how to start using an actual digital map platform. I am happy to say that the process was easy enough. With a little bit of encouragement from the TA (technical assistant), I was on my way in fiddling with the various clicks involved in creating a story map, finding it quite easy to navigate options from the range offered to users. I also found that as suspected, using digital story maps increased student involvement. Instead of writing a 2500-word essay with strict academic rigour, students in this MPU could figure out a creative mapping strategy to elaborate their take on sustainability. They could flesh out the ideation of their selected SDGs not through words and more words, but through preferences of various modes of expression. The wonders of students' digital stories of course-specific sustainability are now discussed.

Celebrated Outcomes[2]

The first commendable outcome is the ability of students to express themselves through rich and colourful multimodals. As creative readers, imagine the wonders of using colour and multimodality (infographics, photographs, videos, podcasts, art, images, charts and graphs etcetera) over the single use of a lengthy word document in order to discuss an SDG. The main 'content enhancement' function of ARcGIS StoryMaps is for users to identify their choice of geographical location clearly. Selecting an exact state, vicinity, or neighbourhood enables students to stake the ground for their area of discussion; where the use of visual evidence enhances further their problematized area.

For example, for a group who chose to study SDG 6 (Clean Water & Sanitation), their story map could first of all stake the premise of their research; a township called Kota Kemuning[3]. The visibility of their geographical map included a high-definition photograph of a water processing plant, a cartoon video of how average consumers use water consumption, infographics on water-based statistics, interviews with chairpersons of waterworks companies, solutions for water-saving, personal reflections, and even ideation from experts on how to access different water sources in preparation for water shortage. The entire gamut of this group's story map is able to tick every box in the rubrics of assessment – evidence of knowledge and understanding, cognitive skills, practical skills, communication skills, digital skills, and skills of leadership, autonomy and responsibility.[4]
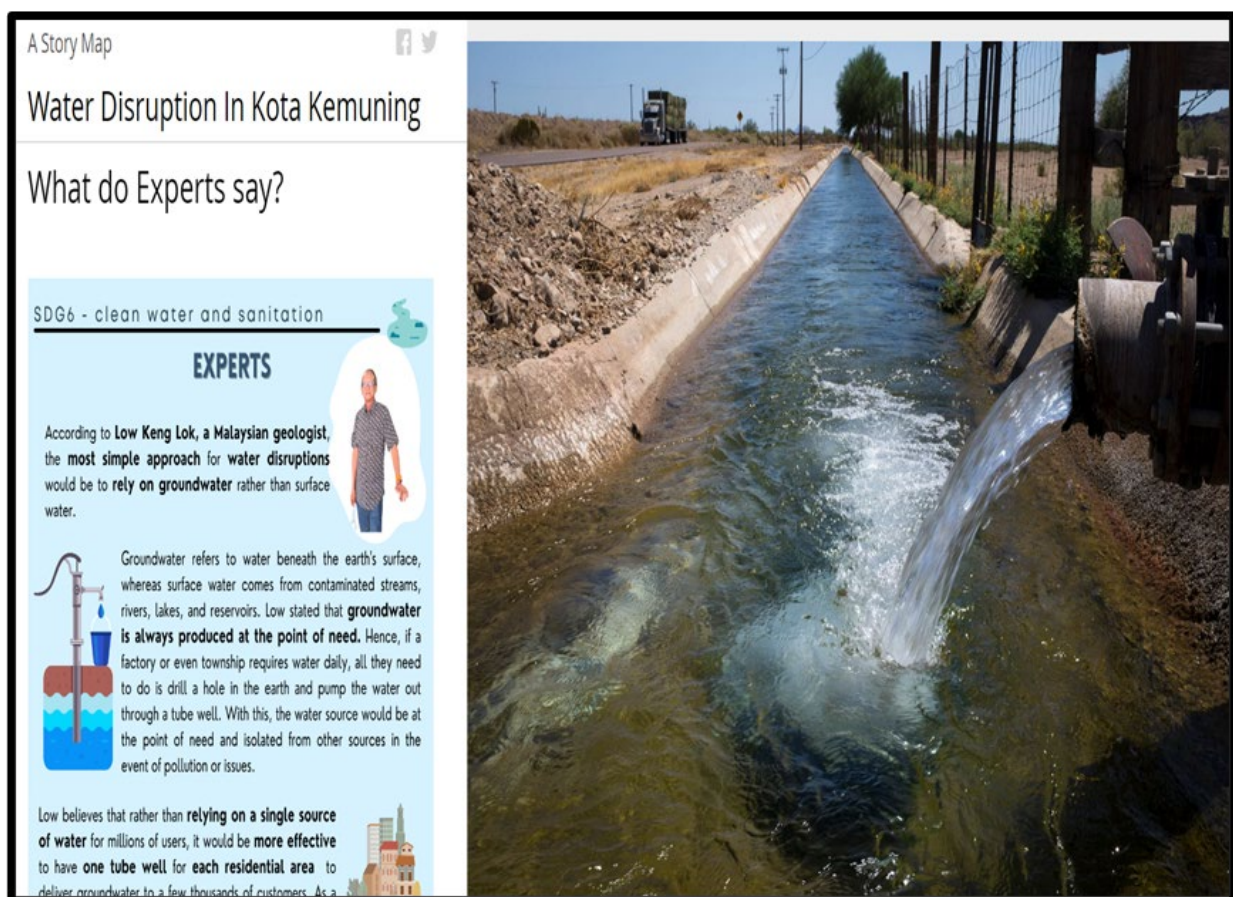
The second noteworthy outcome is that students could display their reflective thoughts and ideas. Although educators are trained to teach student reflexivity as part of the curriculum, this trend is more prominent in Western societies, where "an increasing sense of reflexivity" is evidenced (Sandford & Quarmby, 2018, p.118). This practice is not very focused on in Southeast Asian educational institutes, or more specifically, in Malaysia (Choy et al., 2017; Mohamad & Tasir, 2023). However, in this MPU subject, reflexivity is required, although allowed a digital space for its expression. What I think is a key factor in students being interested to share their reflections is because they are allowed to describe perceptions and

emotions through the aid of multimodal texts. Being able to upload graphs, videos and photographs can enhance their creativity to write. Being mostly part of Generation Z, the contemporary lives of these young students as being complex, multi-dimensional, and inter-contextual can be understood better when they are given the space to express their academic reflections through digital, multimodal means (Sandford & Quarmby, 2018). In the context of this study, using digital story maps allow these students to express their reflections more confidently.

For example, for a group who chose to study SDG 4 (Quality Education), their story map had numerous statements and suggestions on how the local education system could improve lower secondary schooling. One interesting inclusion in these reflective statements is a reference to two inter-related secondary sources; one, a page of a textbook, and two, a page of an exam paper. What the group studied and reflected on was how the referred page of the textbook (based on a particular topic) did not provide the information needed for an exam question (also of the same particular topic). Through an investigative reflection of how a micro level discrepancy could affect the results of a macro setting, students could use digital modes of expression to offer mature possibilities for the impasse in some educational reforms.

Fig. C is a sample page from an ABM textbook used in "Remove Classes". With closer observation, the texts are written in long paragraphs – a student who has a low mastery level of Malay would find very hard to understand and grasp majority of it in a year's time.

Fig. C: Pages from an ABM textbook

Here is a sample from the *Peralihan* exam paper the students sit for at the end. Compared to the textbook, it's way simpler and one need only memorize vocabulary and phrases to pass. So, do questions like these show the students are proficient enough to study subjects in BM. Does it also prove the class has helped their BM skills improve?

2. Primary school language learning.

After all these points and research made, the big question remains. **Why are the children who have "studied" the BM language for 6 years in primary education aren't able to reach the standard proficiency?**

Some of the reasons brought up was **low immersion, lower difficulty of assessments, environment-based causes** and **student engagement levels**. Additional answers include the willingness of the students to learn. Because, we can prepare the best system and teachers, **if there is no will, there is no way.**
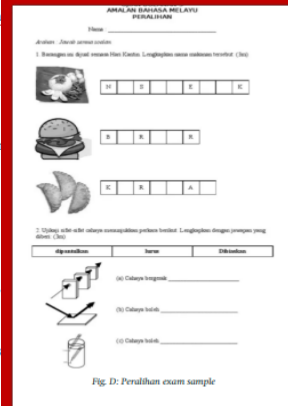
Fig. D: Peralihan exam sample

The third positive outcome is the ability of students to provide a strong narrative. This aspect was again found missing from student work, in relation to MPU subjects. Working only to pass the subject, students and educators alike have been likened to two parties who "just want to get it over with" (Medium, 2021). Whereas, in the 'Sustainable Development in Malaysia' MPU, students were found producing a strong sense of advocacy for their chosen cause.

For example, one group studied SDG 13 [Climate Action] in their project, and chose to look at the lowland rainforest in East Malaysia5 (one of the biggest in the world). Not only did this group use multimodality and reflexivity to garner support, but they also displayed a strong narrative to advocate for forest rehabilitation efforts. They outlined the various efforts by environmental groups to stop logging, mend the timber certification system, and protect conservation zones. Through students' detailed itemization on conservation processes that preserve the land, livelihood and cultures of East Malaysian indigenous people, they displayed a sense of urgency in their call for change. This emphatic narrative could only be enhanced by the ability to use multimodal texts on one platform.
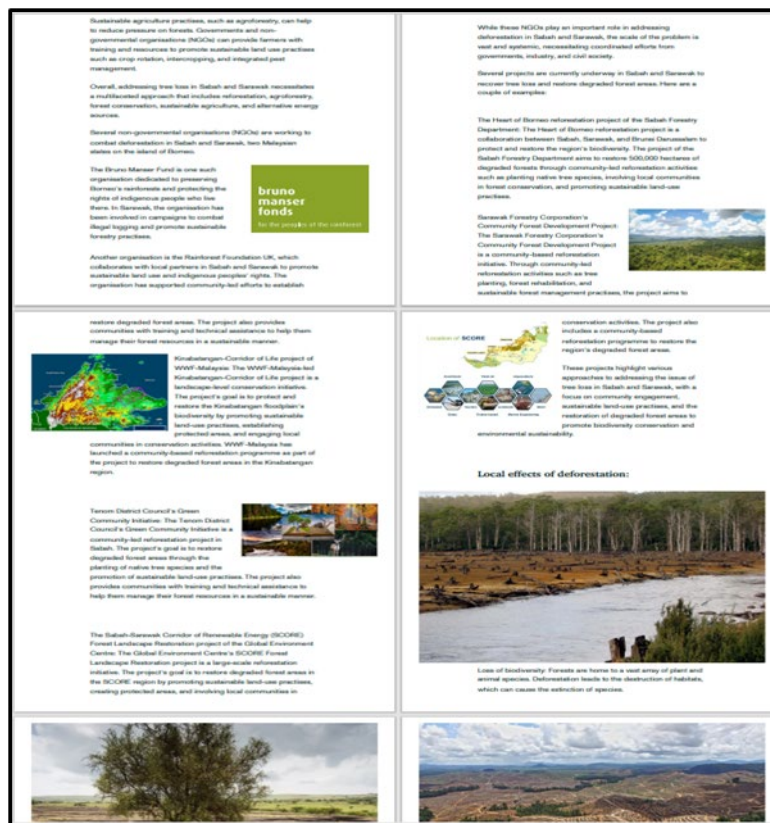
These findings show that the ArcGIS StoryMaps is an excellent digital tool that enables content to be taught, learnt and displayed in student-friendly ways. I was thrilled to see how the use of a single digital platform could convert students from a have-to approach into an i-get-to attitude. This goes to show that we educators need to recognize the complex spaces

that young people (students) engage with today, and how their digital habitus promotes a sense of multi-dimensional interconnectedness which they experience. I find this experiment a success, where a tiny agentic pivot in pedagogy empowered a student population to become robust and engaging.

Closing Discussions

This paper promotes the creative, multi-modal use of ArcGIS StoryMaps as an AI assisted tool that can make learning more attractive to the current generation. Free to access on the internet, this tool maximizes students' multimodal digital abilities. Syllabus content creators should consider implementing digital story maps as a basic requirement in MPU subjects, especially when studies like Sustainability need breadth and depth of possibilities to be deliberated on.

I revisit my initial framework which focused on 'Gen Z' students and their environmental 'habitus'. We the educators need to proverbially read the room in order to understand and adjust with contemporary student styles that hinge on multimodal options of digital participation. This is especially so when education is fast becoming globalized, with many universities around the world having to accommodate an international student population (Param, 2024). With the tag of being a global provider of higher education, these universities need to showcase their digital superiority through their course content, facilities, and technical expertise of their teaching staff (Param, 2024). Keeping up with tech-savvy times seems inevitable. That is why I am a firm believer that we educators need to focus on the 'learning' in order to improve the 'teaching' (as my title indicates).

These suggested pedagogical shifts should also lead us educators to question to what extent we are unconsciously expecting students to follow set rubrics, rules & regulations that are 'adultist' in nature; that is, data which is collected and interpreted by adults that unconsciously invalidate youth expression (Hopkins, 2010). Although not theorized in this paper, issues of power, prejudice and discrimination can be evident, albeit hidden under broader jargon like 'classroom management' and 'assignment rubrics'. Sometimes our own habitus as educators needs a revisit. Do we unconsciously feel that we are the custodians of tomes of knowledge and understanding that have been built up over the decades? Is it hard for us to undo age-old taken-for-granted assumptions in the field of teaching? We need to be consciously mindful of the current cohort of students' learning styles and processes, which may differ a great deal from previous cohorts. If we don't adjust to current changes that include digitalisation and multimodality of expression, we will fall into the 'adultist' category that hinders and thwarts the growth of this generation of learners.

In closing, may we educators be aware that AI-assisted education is on the rise, and we must think of ways to include that dimension into our teaching mix. If software is eating the world,6 then we educators need to join the current cohort of students at the dining table.

Endnotes

[1,6] A catchphrase made famous from an essay on The Wall Street Journal, dated 20 Aug, 2011, written by Marc Andreessen, 'Why Software is Eating the World'.

[2] Due to issues of privacy and copyright policies, only limited student work can be displayed in this paper.

[3] about 25km away from Kuala Lumpur (the city center).

[4] These skills are part of the required 'code of practice' for programme accreditation in Malaysian universities.

[5] East Malaysia is made up of two states, Sabah and Sarawak (located on the island of Borneo), separated from Peninsular Malaysia by the South China Sea.

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