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A Fragmented Sustainability Education? Reconciling Geographical Philosophies for Student Learning and Practice

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Abstract

Geography occupies a distinctive position in educational curriculum, often being tasked with the role of educating and advancing student knowledge in sustainability. However, contrasting geographical traditions, particularly positivism and humanism, has shaped the framing of sustainability in Singapore's secondary school geography syllabuses. A close examination of the syllabuses reveals that although sustainability exists as an overarching thematic anchor across the topics, its articulation varies according to topical demands. However, if the curriculum sets out a fragmented landscape of learning about sustainability, its ability to move student behaviours towards sustainable praxis may be limited. This essay argues that there is room for a thorough interrogation of sustainability as a concept within the Singapore secondary school geography curriculum that goes beyond how it is presented in the syllabuses. Furthermore, a more meaningful engagement with the dynamic and highly principled nature of the concept could translate into more thoughtful and practising learners.

Introduction

Geography is a peculiar subject of study to be sure. It attempts to present a single, unified and interconnected facade, yet is built upon a variety of philosophical traditions, some of which are fundamentally in conflict. In spite of this, many (Windsor & Kriewaldt, 2023; Miao et al., 2022) are still in agreement that geography is uniquely positioned to accomplish an important task – educating about sustainability issues. Its ability to combine insights from both the natural and social sciences enables learners of the subject to attain a clearer picture of the human-environment relationships (Casinader & Kidman, 2018) which are integral to sustainability education.

The Theory of Practice Architectures examines how the varied arrangement of a site can influence an individual's decision to enact practice (Kemmis, 2023). When extended to the landscape of geographical education, Windsor & Kriewaldt (2023) stress the importance of attending to the arrangements in any site of learning and to be cognisant of how they can steer the decisions of learners towards or away from praxis. In essence, the framing of the curriculum sets out the landscape of learning for students. An important aspect

of this arrangement is the school curriculum. Previous studies (Winter, 1996) have discussed how epistemic influences, especially the dominance of certain strands of thought, can easily shape what students learn in school geography. Therefore, using a close consideration of the ways in which the geography syllabuses are presented, this essay will explore the degree to which different geographical traditions are presented to students in Singapore and how this affects their learning about the pathways to achieving a sustainable future.

Contrasting geographical traditions & Singapore's geography education

School geography curricula have always been mindful of the development of academic geography. This is especially problematic because geographers themselves, "do not agree on what things can be said to exist; what things matter and why; and how knowledge of these things can be produced" (Huckle, 2020, p. 139). Essentially, geographers tend to diverge in their ontology, epistemology, and methodology. Changes in school curricula to counter the dominance of certain strands in geographical thinking, such as the introduction of everyday knowledges to balance a highly positivistic and empirical geography, have also been implemented to improve the student experience through "accurately [reflecting] how students learn and to be more relevant to their present and future lives" (p. 143). In Singapore, school geography arguably follows closely behind the development of academic geography. The secondary school geography curriculum (Ministry of Education, 2021) presents sustainability issues using geographical knowledge built upon various philosophical traditions, mainly positivism and humanism - with varying levels of prominence in the various topics of study.

Positivism is a geographical tradition characterised by a need to make sense of the world through the observable and measurable, where knowledge is based upon verifiable evidence. Schaefer (1953), a prominent figure in positivistic geography, argued that geography should seek out spatial differences between places, present laws on spatial phenomena, and create generalisable knowledge through rigorous study and the use of instruments. Huckle (2020) noted that such a view of geographical knowledge had a stranglehold on the state of the subject in schools at the start of the 21st century. He also argued that a geographical education rooted in positivism was able to market itself as "scientific and objective" (p. 139), therefore contributing to its popularity. Singapore's geography syllabus still values such positivistic knowledge, enshrining the acquisition of content in the form of "factual, conceptual, and procedural knowledge" (Ministry of Education, 2021, p. 21).

However, in the face of the abundance of factual knowledge under this paradigm, Lambert & Morgan (2010) pointed out that such geography teaching produced students who were unable to engage with important issues of social change. Instead, they proposed that students be taught instead about how to appropriate geographical concepts to make sense of the world on their own rather than relying solely on scientific knowledge. This, alongside the debate on powerful knowledge at the time may have caused Singapore school geography to shift. Today, teaching geographical concepts and geographical inquiry as "[ways] of thinking about the world" and "[ways] of knowing the world" respectively (Ministry of Education, 2021, p. 11) is a key goal. This was a bid to enable students to acquire specialised and powerful knowledge that would enable them to take their understandings beyond their specific context of learning in schools and apply

them to real life (Young, 2010).

Further development of Singapore's school geography followed calls to emphasise students' everyday experiences. Roberts (2013) argued that everyday knowledge has extensive potential within a syllabus since it allows students to connect what they have experienced and knowledge they have gained in life to larger concepts they learn in schools. This makes it a highly relevant and powerful form of knowledge. The Singapore geography syllabus is strongly aligned with Roberts' view, with its inclusion of an entire cluster titled *Geography in Everyday Life* in its upper secondary syllabus. This cluster is even meant to lay the foundations for understanding key concepts in other clusters such as *Tourism*, *Tectonics*, and *Climate* through an "integrated" approach (Ministry of Education, 2023, p. 22). It features common everyday experiences of Singaporean students, including the context of urban neighbourhoods, to introduce concepts of urban planning and especially, sustainability. This focus on the lived experiences is bred from the geographical tradition of humanism. Tuan (1990) shifted the attention of geographers towards more personal affections and attachments to spaces, highlighting the agency of individuals in perceiving a place with their senses, forming meaningful bonds, attitudes, and understandings of place. Therefore, it is apparent that geography education in Singapore is influenced by a mix of geographical traditions and conceptualisations of geographical knowledge, alongside what is deemed important for students to know. What remains to be said is how these contrasting traditions shape the way sustainability is framed and, subsequently, received by the student.

A possibly fragmented sustainability?

In its geography syllabus, Singapore enshrines sustainability as a key principle in both lower and upper secondary study. Sustainability is used as an overarching theme at lower secondary levels, where the syllabus is completely framed around the concept of sustainable resource use and management (Ministry of Education, 2021). The thematic focus is aimed at giving students "insights" into sustainability issues, while also prompting "[contemplation of] the possible responses which people can take to resolve these issues" (p. 6). This is consistent with the upper secondary syllabus' explicit aim of enabling students to "be imbibed with a sense of responsibility towards the environment" and to possess "a desire to contribute towards building a sustainable future" (Ministry of Education, 2023, p. 9). Using sustainability as an anchor concept allows for repeated engagement and provides "opportunities to revisit ideas, knowledge and skills in different contexts to reinforce the learning" (Ministry of Education, 2023, p. 18). Evidently, there is a hope that geography education would enable students not only to comprehend sustainability issues, but to be galvanised to practice sustainable actions

However, as described earlier, the syllabus itself is constructed from a mix of geographical traditions, which could affect the kind of sustainability being presented to students. Lambert & Morgan (2010) mention how "the world of geography can appear very fragmented" (p. 163), especially without a good philosophical understanding of geography as a discipline. Singapore's geography syllabus organises content to facilitate an inquiry-based learning approach and therefore fits the learning about concepts under sets of guiding questions. These questions are then organised within topics designed to progress from learning about aspects of geographical phenomenon, to their features

and location, and eventually, how they affect the relationship between environment and people and how they can be made sustainable (Ministry of Education, 2021). While this ensures that sustainability is explored within every topic, there is thus an inherent risk of causing the teaching of sustainability to be highly isolated within each topic.

Even when comparing across different topics, there exist some differences in what kind of sustainability is being taught to students. For instance, at upper secondary levels, sustainability morphs to accommodate the demands of the topic being taught and to ensure relevance, such as sustainability appearing as "disaster risk management" and "climate action" in the study of tectonics and climate respectively. Although these are undoubtably aspects of sustainability, there is a notable shift towards management of environmental rather than social aspects of sustainability. This difference is not explicitly addressed within each topic in the syllabus. Adding to this complexity, Kagawa (2007) warns that a teaching of fragmented bits of sustainability without explicitly addressing the interconnectedness of these different aspects produces students who display "dissonances" in terms of their perceptions of sustainability and their actual behavioural choices (p. 333).

A range of actions are taught to students in sustainable development, from technocratic and managerial decision-making which draws upon theories and conceptual understandings gleaned scientifically, to the everyday neighbourhood community decisions to promote volunteerism and environmental stewardship. Students therefore are expected to rationalise their scale of impact and the feasibility of their actions considering all the possibilities presented to them. As Kagawa (2007) found, this could lead to student perceptions of sustainability that are rather paralyzing rather than enabling, where they may agree with radical statements about environmental action such as the need to transform entire lifestyles to suit sustainability, while still dabbling only in mild actions concerned with personal consumption. This incongruency between the perceptions of sustainability the geography syllabus breeds and the perceived scale of action accessible to students could affect their conception of the possible pathways to a sustainable future.

Reconciling "sustainability"

Borrowing from Young's (2014) conception of powerful knowledge, "knowledge is 'powerful' if it predicts, if it explains, if it enables you to envisage alternatives" (p. 74). As the framing currently stands, the theme of sustainability itself is not brought into question - its definition and pathways to its achievement are presented as unmalleable. At the same time, while the syllabus does present social-economic dimensions to sustainability at times, there is a continuous theming around the need to manage human-environment relationships. However, there is another tradition within geography – a critical and analytical school of thought studies the hegemonic structural forces that undergird economic and social systems, and which impact on humanity's view of the environment and of nature. For older students, perhaps, it might be useful to expand discussions of sustainability in this direction.

The goal of a geography curriculum would therefore be to liberate rather than paralyze students in terms of enacting sustainable practice in their daily lives. Concrete means of doing this can include inviting students to examine how different groups examine and define sustainability,

including asking them to ponder why sustainability is articulated differently in each topic. Perhaps, students should be guided towards discussing sustainability as an undergirding principle for analysing strategies and trends rather than an unwieldy concept that has a strict definition. Teachers can prompt students to use their understandings of sustainability as a tool that helps them to rationalise human actions and their impacts on the environments to spotlight its relevance in their daily lives.

Conclusion

In conclusion, curriculum makers and enactors have to be cognisant of how sustainability is presented to students. Because contrasting dominant geographical traditions drive academic geography, and therefore school geography, learners may be presented with a possibly fragmented and malleable form of sustainability. If this seemingly amorphous form of sustainability is projected onto students without much room for criticality and discussion, there is a danger in limiting the degree of sustainability of their actions in the future. Therefore, mindfulness has to be paid to the "architecture" of a sustainability curriculum, that is the ways in which ideas are organised, connected, and made open to examination.

Admittedly, the curriculum is but one aspect of a learning experience that can influence how learners learn about and are empowered to think and act sustainably. As Kremmis (2023) plainly states, "practices are secured interactionally, in characteristic sayings, doings and relatings, and by the cultural-discursive, material-economic and social-political arrangements that hold them in their course" (p. 19). Evidently, this essay's discussion on the curriculum does not paint a full picture of how sustainability is characterised and presented to learners. Discourse and language used by teachers, who enact the curriculum, would be another area of interrogation that could greatly influence the notions of sustainability eventually gleaned by the learner. Thus, the goal is not to present sustainability as a static, thematic trend. Instead, we should be thinking about how to cultivate the conditions under which it can be explored as a dynamic principle that empowers learners to thoughtfully consider the types of futures they want to see and work towards.

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