

Chapter

Environmental Activism for “Common Home”: Through the Documentary “My Octopus Teacher”

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Abstract

This chapter presents an overview of knowledge processes interconnected with two main perspectives, the so-called Euro-American scientific way and the indigenous ways. Taking these two different perspectives, we will revisit the concept of environmental education. We explore how environmental education can benefit from indigenous ways of knowing. While doing so, we will draw on a documentary film-based example, “My Octopus Teacher,” to articulate activism for environmental education. Here, activism could be enhanced and interpreted from the critical thinking dispositions perspective. Activism is then considered a stimulus for environmental education and education for sustainable development issues. This documentary exemplifies by viewing how “to know,” as verb-based knowledge integral to indigenous ways of being, as particular ways of living with nature, can provide deeper meanings to activism in education for sustainability.

Keywords: environmental education, critical thinking dispositions, education for sustainable development, indigenous knowledges, activism

1. Introduction

Questions that are not necessarily answered but serve as guidance in this chapter to articulate our position of verb-based knowledges, such as (i) *What is scientific knowledge?* or (ii) *How is scientific knowledge entangled as an integral part of being with nature as a way to achieve sustainable living?*

In doing so, we intend to elaborate scientific discourses around environmental issues as can be seen in action *in situ* (with the lens of activism) [1, 2]. This chapter provides a brief background on ways of knowing in science while juxtaposing the Euro-American scientific way and indigenous ways. After that, we provide an overview of environmental education in international reports/documents on environmental education and education for sustainable development [3]. The role of environmental activism has been presented from indigenous knowledge perspective. This perspective is based on actions (verb-based) in contrast with noun-based interpretation within Eurocentric knowledge orientation.

In the discussion, we elaborate on how verb-based, indigenous knowledge or “to know” perspectives can be considered a form of activism [4] with an illustration of the documentary “My Octopus Teacher.” That is, the chapter specifically addresses the question: *how can indigenous ways of knowing exemplified through “My Octopus Teacher” serve the purpose of activism by relating to education for sustainability issues?* In addition to this, we consider the possible role of critical thinking as dispositions (in contrast to skills) and how it can contribute to sensitizing and engaging with environmental concerns with principles of activism. Here, the importance of the activism role lies in the importance of transcending the “instrumental view” of environmental and sustainability issues. This can encourage a theoretical discussion focused on the “culture-dependent collective rationale perceiving of reality” [5] that can serve a “our common home” [6] premised in environmental education.

2. Ways of knowing in science

The origins of science can be traced back to ancient philosophies; however, it is claimed that the major transformations in science happened in Europe. The main reason is that certain movements that have influenced the world, such as the Renaissance movement that occurred in the seventeenth century, influenced the knowledge system as a whole. A group of scientists/mathematicians (e.g., Galileo, Kepler, Descartes, Leibniz, Newton, and so on) created the need for natural science to be established as a knowledge system predicated on the authority of empirical evidence and rational deliberations as opposed to church and royal authority [2]. The figure of a scientist/mathematician becomes an embodiment of scientific authority based on a claim to objective/rational knowledge.

The Industrial Revolution changed the *status quo* associated with knowledge/power through technologists, especially since it has institutionalized scientific practice in terms of establishing scientific staff as professionals who are paid to use knowledge for the benefit of their institutions [2] (*idem*). In addition, the ideology of positivism had a big impact on shaping the nature and form of Eurocentric sciences up until the 1960s [7] and is still present in school sciences by portraying science as an act of measurement in terms of creating stable entities (whether material or conceptual) as a thing where the distinction between living and nonliving being is valorized and established.

Here, positivism follows the separation between the knower from the known. In contrast, traditions of indigenous knowledges are based on and developed on the idea of relationality in terms of considering the monism perspective where there is no distinction between animate and inanimate beings. According to these indigenous knowledge practices, the organic and evolving connection cannot be captured with the act of measurement, but is felt and sensitized with feelings and emotions. This way of knowing is considered as knowing with the verb “to know” as action with others (includes both animate or inanimate as one), as opposed to the “knowing” (action on others—a noun-based knowing) as knowledge way based in Eurocentric sciences [2], where the distinction between knower and known is maintained. In professional science settings, the prevailing perspective is that there is a *Eurocentric* science [2] (*idem*) framed in the historical-social context that is dated since the seventeenth century, where physical sciences establish a foundation of knowledge on the act of measurement and turning phenomena as knowable through empirical measurement and logical and rational adjudication. For example, Galileo Galilei emphasizes the mathematical foundation of physics through experimental observations with telescopes.

3. Juxtaposition between Euro-American scientific way and indigenous ways

In juxtaposing with Eurocentric science, the indigenous perspectives provide possibilities to relate human action as an integral connection with nature (as living with nature), which valorizes wisdom in action. Here, indigenous knowledge can be understood as a way of understanding, skills, and philosophies held by local societies with their long stories and integral experiential interaction within their social, cultural, and natural environments [8]. According to Aikenhead and Ogawa [2], this might offer a problematic nuance when indigenous wisdom is seen through a Eurocentric perspective, a noun-based knowledge that cannot be easily translated into verb-based Indigenous languages and integral ways of being with nature, where the purpose of knowledge is harmonic experience with nature. The main point of difference between Eurocentric knowledge structure and indigenous ways of knowing can be seen in verb-based knowledge in opposition to noun-based knowledge, while similarities can be found in the way they give importance to interpreting natural phenomena. When comparing Eurocentric science knowledge with indigenous knowledges, there is often a misunderstanding between distinction and foundation. Here, foundational dichotomies between Eurocentric knowledge and indigenous knowledges are again maintained, despite efforts on the part of Aikenhead and Ogawa [2] by proposing three new categories: (1) Indigenous ways of knowing (plural), (2) neo-indigenous ways of knowing nature, and (3) Eurocentric sciences (plural) [2] (see Van Eijck, 2007 *in* Aikenhead & Ogawa, 2007). The foundation can be perceived as a legal entity or authoritarian body. Taking this perspective, foundation as a legal entity is often used to describe knowledge, and the problem arises when in education, knowledge is often calibrated from the temporal-spatial scaling of life [9]. This foundational perspective complicates a comparison between Eurocentric knowledge and indigenous knowledges. This means that Eurocentric knowledge uses the advantage of having been defined, centuries ago, and indigenous knowledge has been characterized recently; that is, Eurocentric knowledge is a consequence of compression of time and space [2, 10] (Appadurai, 1996; Brandt, 2007 *in* Aikenhead & Ogawa, 2007). This points out a false dichotomy, since indigenous knowledge versus science, framed through colonial discourse with its subtext of winners and losers [2] (Macedo, 1999 *in* Aikenhead & Ogawa, 2007), which is in alignment with Eurocentric sciences, has a privileged position and other ways of knowing were rarely ever broached or validated on equal footings [2] (Brandt, 2007 *in* Aikenhead & Ogawa, 2007). This differential treatment of indigenous knowledges can be seen in how it is judged with criteria of validity and legitimacy as invoked through a foundational perspective.

One misunderstanding is that often the underlying meaning is that there are differences between Eurocentric knowledge and Indigenous knowledge that can be characterized by establishing distinctions. However, these characteristics often fall in the “foundational” category, without being properly addressed from the “distinction” perspective and that might be the misinterpretation referred to by critical comments of Van Eijck [2] (2007 *in* Aikenhead & Ogawa, 2007) on the differences that Aikenhead and Ogawa [2] illustrate through distinctions of Eurocentric and indigenous knowledges. One example of this type of false distinction can be seen in the ways the word “tracker” is applied to a profession where people are following wild animals. The word “tracker” might be interpreted from both Eurocentric and Indigenous perspectives. This example is presented in the documentary “My

Octopus Teacher,” where the “tracker” profession is presented as someone who is following animal traces, with all the senses (verb-based description) and described as someone who is following subtle signs of animals as they are part of “inside of the natural world.” From the Eurocentric perspective (and this is not explicit in the documentary), tracking wild animals would probably be enhanced from taxonomic arguments. The taxonomic argumentation is useful for organizing knowledge, but the point is that it is entangled in binary ways of sorting by characteristics as modeled on the so-called classificatory value grids of Eurocentric knowledge (whose prime example was Linnaean classifications of biological kinds).

So, the foundational (verb-based vs. noun-based) is here misunderstood from the “distinguish” facet. Here, the verb-based or indigenous way of knowing is equally capable of fixing the “solution” despite not using the “taxonomic arguments.” These misunderstandings in the act of “distinguishing” both types of knowledge aspects may be the reason why Ogawa [11] proposes that every culture has its science, and this means that science is culture-dependent and framed in a collective rationale for perceiving reality through each culture’s situational specific collective frame.

4. Education for sustainable development and critical thinking (as dispositions)

UNESCO’s last documents seem to carry a less instrumental view of education concerning actions related to environmental issues and education for sustainable development [3]. After 30 years of formal international efforts to promote environmental education, mainly through the UNESCO-UNEP International Environmental Education Program (1975–1995), environmental education has entered a new phase of institutionalization. Environmental education has a broad scope, embracing social, political, economic, technological, and cultural aspects [12]; as compared to earlier instrumental views, “discourse has been reduced to a set of problems to be solved and a pool of resources to be managed in more efficient ways” ([3], p. 40). First introduced in the early 1970s, the concept of Sustainable Development was to “meet(ing) people’s needs today without diminishing opportunities for future generations” ([13], p. 43). At that time, this report of the World Commission on Environment and Development received the title “Our Common Future,” but there was an absence of a relationship between people and the environment since it did not integrate the base of human development and action [3]. Probably this happened because of financial/economic motives that have been the shortcut to serving environmental purposes. It is interesting to note that critical thinking or reflective thinking was not mentioned, for example, at the United Nations Conference on Environment and Development until 1993 [3]. In other words, the need to create means to reflect on environmental and developmental realities was absent. Another interesting point is that education tends to be replaced by learning, over the years. Possibly, economic approach was dominant and overshadowed human relations with the world. But later, education for sustainable development is characterized by three fundamental pillars economic, social, and environmental protection as pillars of sustainable development [14]. Moreover, sustainable development has been replaced by education for sustainable development, which highlights educational action related to sustainability. Furthermore, it has been more recently stated that education for sustainable development is a learning opportunity that should provide learners of all different age levels the knowledge, skills, values, and agency to address interconnected global

challenges [15]. In other words, educating for sustainability requires citizens to make informed decisions, in individual and collective settings for achieving sustainable goals. Mainstreaming education for sustainable development is seen as one of the core strategies to impact critical thinking competencies among the future generation while helping in achieving SDG-4 – Quality Education [16, 17]. In this way, education for sustainable development has been prescribed as the central dimension of all educational projects where critical thinking plays a crucial role in promoting active sustainability citizens. It can be interpreted that critical thinking is the individual's ability to engage with education for sustainable development [17]. Critical thinking can be defined as “reasonable reflective thinking focused on deciding what to believe or do” [1, 18]. In this context the focus on critical thinking, dispositions are defined as something that implies a willingness [19] or a tendency to do something, given certain conditions [18], which can provide a better understanding of education for sustainable development in practice. However, identifying peoples' dispositions also offers some challenges. Ennis [18] provides a curious metaphor about dispositions: “We cannot see that glass is brittle simply by looking at it” (p. 166). This means that dispositions are not easily quantified since they can be considered nondeterministic. One assumption is that critical thinking dispositions as a tendency to do something given certain conditions can improve education for sustainable development actions. Here, the policy turn to education for sustainable development became an occasion to broaden what had been assessed to be a rather narrow fact-based or normative-based environmental education in favor of a more critical, political, and pluralistic meaning approach [20, 21]. Education for sustainability should then be defined as embedded in the local and cultural contexts, emphasizing quality of life and capacity-building for communities [22].

4.1 The role of activism

Activism can enhance moral concerns by bringing focus on values in terms of science, technology, society, and environmental education [4, 23]. In the social context, the focus on values helps to incorporate the critique of science and social institutions. For example, the collective action stimulated by activism can be seen as a tool through documentaries, which can be inspired by “verb-based knowledge” [2]. Through stories, and especially through drama, students are stimulated to address issues and events from the perspective of *others*, explore and develop understanding, establish new relationships, and consolidate existing ones [4]. In other words, social context can help to stimulate issues and events from the *other's* perspective [24]. Here, self (as *I*) presupposes necessarily the existentiality of *otherness*. The underlying idea is that the critical accounting of the *I* with others has a particular meaning through the sociocultural contexts [25]. Here, we will rely on activism in education as a key component that can activate engagement among youth through the promotion of democratic activism [4]. Although the focus here is not on learning, the case that the social context in which the student is located outside school is likely to be a major factor impacting learning [4]. The notion of the *self* to others provides an important relational aspect through the sociocultural contexts. Considering the school arena, the curriculum needs to focus on two “currents.” On one hand, students need to learn how to participate (with *otherness*), and on the other hand, they need to experience participation that can develop their critical thinking dispositions (through *self*). Perkins et al. [26] have offered a triadic theory of critical thinking dispositions as an effort to characterize them. According to these authors, disposition as a generative

way of approaching issues has three components: inclination, sensitivity, and ability. Trying to understand how “dispositions” can be pursued as actions that are (i) in relation to the self, (ii) in relation to others, and (iii) in relation to the world [27] might contribute to a further understanding about people’s engagement with environmental concerns. So, the point here is that contextualized in the environmental concern or education for sustainability, the way one can experience watching documentaries can entail dispositional attitudes related to activism principles.

5. Sociocultural collective action in environmental concerns

Education for sustainable development can be defined as a reaction or response to the urgent and dramatic challenges that the planet faces [28]. The United Nations General Assembly proclaimed the 2030 Agenda for sustainable development goal for a prosperous and inclusive future for all citizens to accomplish solid sustainability in the pursuit of 17 SDGs and 169 targets [29]. One of the arguments is that Western modern science is often seen as an icon of prestige, power, and progress, and Western culture permeates the culture of those who engage in science [2]. How can activism be developed in the intersection between “to know” and the so-called collective action in environmental concerns [4]? For example, the animistic beliefs of Amazonian people are documented through the work of the anthropologist Eduardo Kohn about the shared characteristics of themselves and the animals that live around them: “They are selves ... that have a point of view. This is what makes them animate and this animation enchants the world” ([30], p. 97). Kohn’s work is an example of how Amazonian people recognize personhood in nonhuman animals [31]. This pinpointed the need to create a sense of community and develop an awareness of ties to others that can be developed through a shift of how the animals and other nonhumans are presented. In this connection, “My Octopus Teacher” can enhance the purpose of activism while helping us to exemplify our connection with animals as an essential part of the environment.

5.1 Drawing on the documentary example: “My Octopus Teacher”

Education for sustainable development from the knowledge perspective can be challenged through critical thinking approaches, while taking indigenous ways of knowing as more disposed to challenge scientific rationality. Indigenous ways of knowing are held by local societies with experience of interaction with their cultural and natural environments [8]. Here, we want to draw on one documentary example to consider (i) possible activism-role and (ii) identifying the implicit knowledge.

This is particularly interesting how some social media are challenging the prevalent rationale. After 1 year of interacting with an octopus in a South African kelp forest, the filmmaker Craig Foster presents “My Octopus Teacher” [32]. The film shows the bond developed between Foster and the eight tentacled creature that helps to develop a deeper understanding of the sea creature and her environment and relays the impact of this experience on the humans’ lives. Foster himself starts the documentary, by stating how much he has been inspired by the indigenous ways of knowing. Here, he refers to his experience in Central Kalahari where he met people who were trackers of wild animals. He emphasized that they were “inside of the natural world” as they could follow subtle signs of the animals. During the documentary and from critical thinking dispositions, Foster’s interaction with the

octopus can be interpreted as an action that arises in relation to the self [27]. Critical thinking disposition might indicate the vital role in relation to *otherness* as a tendency to do something in relation to the world [27]. Taking that as the desirable approach to relating environmental issues is to work on relationships between people and the environment, which can be considered as the basis of human development and action [3]. The documentary provides an experience that can be comparable to the experience of “to know,” present from the indigenous experiential perspective. Observing the interaction between the octopus and Foster offers a verb-based knowledge experienced directly related to environmental concerns. The interaction between Foster and the octopus relates to each other’s ways of interaction, which can be characterized as “to know” experiences. One could also claim that scientific knowledge from “knowing” happens after a disposition, as a tendency to interact with something as a “to know” perspective. That is what critical thinking as disposition has been outlined by Ennis [1, 18, 19].

6. Discussion

Here, we wish to discuss how activism can be experienced in environmental education or education for sustainability in a verb-based knowledge. This can be even experienced as a tipping point in the way one considers education for sustainability from an exclusively Eurocentric way of knowing. Although this paper focuses on the “culture-dependent collective rationale perceiving of reality” [5] that can serve a common good premise in education for sustainability, some limitations are also emerging through a possible conflict from the “nature” of the “knowledge” perspective. The compression of time and space that has come with globalization and new transnational flows of people and information [10] has influenced the “to know” perspective [2]. That is, this luxury of time (with slow and patient dialog/interactions between Octopus and Foster), effort, and commitment that Foster demonstrates in coming closer to the world of Octopus and in turn how Octopus enhances sensitivities and frame of viewing of Foster has created a holistic view that indigenous knowledge promotes through verb-based knowledge. In the revisitation of knowledge of science, when juxtaposing the science knowledge and indigenous knowledges, there is a misunderstanding between distinction and foundation [2] (comments of Van Eijck, 2007 in Aikenhead & Ogawa, 2007). Often, indigenous knowledge is being described from the foundation perspective. However, when operationalizing the education for sustainability action and considering, for example, critical thinking to make decisions, the role of the dispositions, as a tendency to care about, is inevitably part of any of them. That invites for questioning the foundational claims of knowledge-based—whether noun- or verb-based—actions [2] (as is well argued by comments of Van Eijck 2007, in Aikenhead & Ogawa, 2007).

Firstly, it brings attention to whose purpose of education for sustainability serves. This is integrally linked with the social and cultural preferences of the population. Secondly, critical thinking as “reasonable reflective thinking focused on deciding what to believe or do” [1, 18] means that dispositions imply a willingness or a tendency to do something, given certain conditions [19]. So, despite the initial idea that there is an opposition between “scientific” and “indigenous knowledges”, in an environmental context, both have a space to coexist. Ultimately, the individual effort in collective actions embedded in every life effort matters in the sustainability world [33]. Therefore, critical thinking dispositions have a crucial role in environmental

activism. Here, considering holistic pluralities of indigenous knowledge can provide rich resources to bring total commitment to seeing us humans as an integral part of the dynamic system of nature, where humans and nature are tied together in a mutually sustaining way. Sheila Jasanoff, the 2022 Holberg prize¹ winner, mentioned Pope Francesco's efforts regarding his vision of sustainability, during the SDG 2023 conference in Bergen, Norway. Having a vital role in the religious sphere, as well as in the global world, the understanding that humanity is sharing a "common house" [6] might help to dilute the responsibility toward *otherness*. Pope Francesco points out different "common goods" [13], reminding us that natural resources are not unlimited, and while doing so, he is trying to minimize the *otherness* effect while putting all of us in the "common house."

7. Conclusion

To conclude, educators might have a particular role through activism, while inviting students and the population in general, to see all the available positions, which can easily be accessed through the documentary's examples such as "My Octopus Teacher". This knowledge-based experience presupposes a verb-based knowledge, inviting to describe and deconstruct action-based experiences that characterize the knowledge. Thus, it invites a non-instrumentalist perspective and pluralistic view of education for sustainability while providing the integration of the positions of different disciplines. The critical thinking role in education for sustainability is here enhanced from the disposition perspective, highly intertwined with verb-based knowledge. Dispositional action arises in relation to others and by consequence in relation to the world [27], and these are ways of engaging with activism in the sustainability context.

Environmental education can be enhanced as ways of activism in different ways, and documentaries can serve as a goal to develop interactions between different actors, promote diversity of opinions, and critically engage in different arguments [20]. Considering the positions of different actors is a challenge that can be manifested using critical thinking dispositions. In this way, the previous sustainability motto of "common good" [13] can be seemingly replaced by Pope Francesco's [6] proposal of sustainability as the "common home."

8. Possible future implications

As octopus is a popular ingredient used in many cultures, with many tons of this molluscan being captured per year, the fact that the food processing corporation "Nueva Pescanova" aims to build the world's first outdoor octopus farm in Gran Canaria is a real concern [34]. The presented documentary "My Octopus Teacher" serves the purpose of offering a way to relate with the water-dwelling body as a way to relate with this nonhuman animal, which after all, creates an interaction with a human. Given the circumstances that sustainability as a concern is a fact and a major force in today's world, the interaction between humans and nonhumans offers the possibility to develop a dispositional attitude as a tendency to reconsider the human consumerism related to the habit of eating octopus. Here, science education

¹ Available from: <https://holbergprize.org/en/holbergprisen/holberg-prize>.

concerning teachers can have a critical role in deconstructing “to know” through a “knowing” experience.

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