

Digital technology and outdoor learning: A framework for decision-making



It is a perfect day on the ocean for a paddle and a learner arrives on a session with a new drone. "Check this out!" they exclaim to the practitioner with excitement, "it will be great to record the action." The assistant practitioner glances over whilst unloading their boat. "Surely we are NOT using that?" they say, with a look of surprise. "This is Outdoor Education!" The learner now looks a little angry. "Why CAN'T I use it? It will help us review our performance and make a movie for social media." The assistant instructor is now marching over, equally angry. "I am NOT having this on the session, distracting the paddlers and making that annoying noise, no way!" Both are now staring intensely at the practitioner who is trying to think of a systematic way of making this decision, but their minds go blank.



With the increased availability of digital technology, practitioners of Outdoor Learning are often confronted with the decision of whether to include or exclude digital devices in their sessions. Smartphones, cameras, GPS units and drones are just a few examples of what is being included and excluded and the range and affordability of these digital tools is set to increase in the future.

Including technology

When practitioners include technology in outdoor learning, they may hope to enhance the experience for the learners and create new learning opportunities. For example, a practitioner may use an iPad on an environmental session for learners to identify and photograph what they find. However, this tool may become a distraction for the learners, with unintended negative consequences. For example, the learners may be so absorbed by the screen that they end up looking at the iPad more than the environment around them.

Excluding technology

When digital technology is excluded from Outdoor Learning, it may create a greater immersion in the task and a stronger connection to the outdoor world. For example, in the absence of a smartphone, learners may be more 'present' and aware of where they are, who they are with and what they are doing. However, the removal of a learner's personal technology may create problems and negative issues that may outweigh the educational advantages. For example, many learners now rely on their smartphone for personal, medical, educational and logistical reasons and this disconnection may not always lead to the positive outdoor learning experience that the practitioner had planned.

Excluding or including digital technology in Outdoor Learning is a difficult and important decision for practitioners to make. In the example at the beginning of this article, both the assistant and the student are correct in their arguments and it is really down to the practitioner to make the final decision. There is, however, little guidance on making this decision and many practitioners may feel significant pressure from the learners or the organisation to include or exclude digital devices in their sessions or programmes.



In this article, the focus is upon digital technology and the term technology is used to describe any digital electronic device that can record, store and present information.

A framework for decision-making

To begin to address the issue of whether to include or exclude technology in outdoor learning, the Digital Technology in Outdoor Experiential Learning (DTOEL) Framework is being developed. The framework may help practitioners to make or reflect upon a decision to include or exclude digital technology in Outdoor Learning. The framework has been developed from a review of over 100 studies and articles on technology in Outdoor Learning and the DTOEL model has recently been published in the Journal of Adventure Education and Outdoor Learning (1). The framework is made up of four key questions and stages labelled A to D and a summary is shown in Figure 1.

A: What is the main application of the digital device I am considering?

This stage in the DTOEL framework involves the practitioner identifying the specific application of the device that is being considered. The digital device may: record the experience like a camera or a drone; provide information on location like a GPS device; display or record information

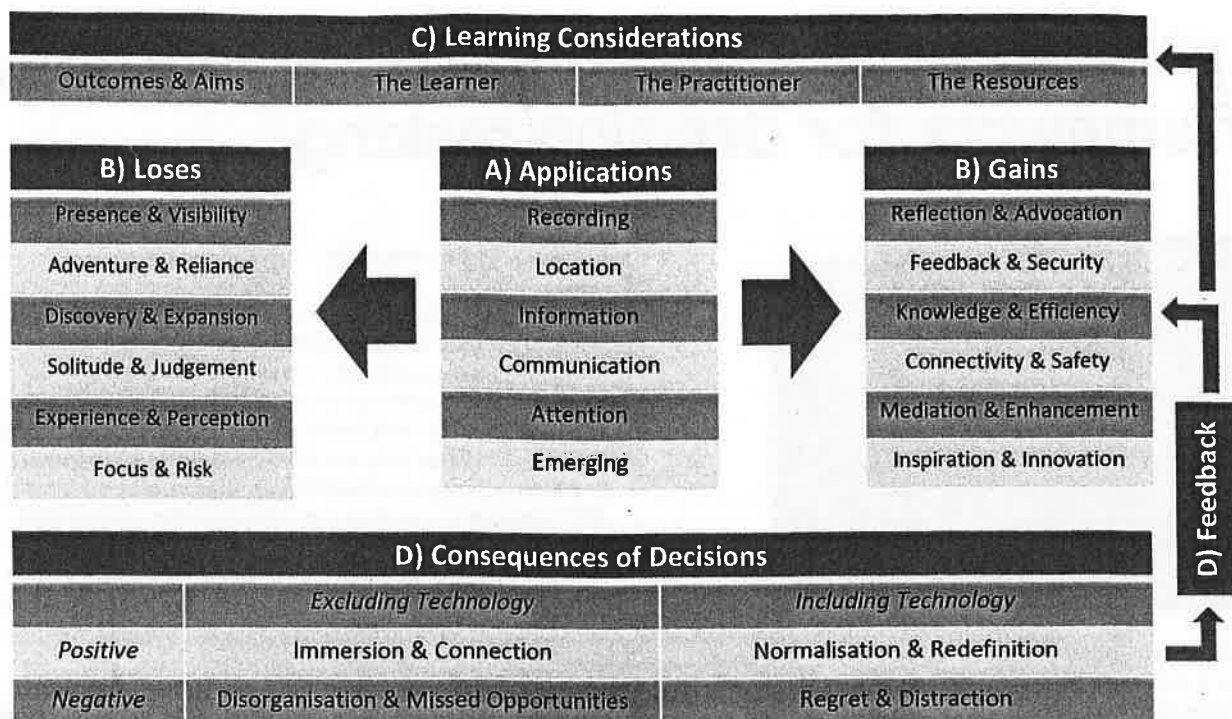


Figure 1. A Summary of the DTOEL Framework. (Hills & Thomas 2019)



glasses: or, it is an emerging technology in Outdoor Learning like a virtual reality headset.

B: What may be gained or lost by including or excluding the application?

Once the primary application has been identified, the research suggests (1) that what may be gained and what may be lost should be explored. For example, in recording devices, digital media may enhance the reflective process and advocate for the outdoor program. However, such recording may threaten the experience of 'being there' for the learners and looking through a lens may affect the capacity of a practitioner to monitor the safety of their group. Furthermore, location devices may enhance learning to map read and provide a reliable position in an emergency. However, such constant information may threaten the 'feeling of the unknown' or 'adventure' for the learners and some practitioners have come into difficulty in the event of GPS failure if their map and compass skills are lacking.

The review of the literature suggests that it is the identification of both the gains and the losses of each application associated with either including or excluding digital technology that strengthen session planning. There is a strong argument for practitioners to consider both

in the field like a tablet; communicate and connect with others during the experience like a sat phone; direct attention to specific parts of the outdoor environment like a pair of smart

sides of this part of the DTOEL framework in their teaching.

C: What are the key learning considerations?

Having considered the device's primary application and what may be gained or lost, four key aspects of learning can now be explored. These include the learning outcomes or aims, the learner, the practitioner and the resources available.

The learning outcomes or aims of the session are of primary importance and are ultimately what the inclusion or exclusion of the device may be judged against. At this stage, studies have shown (1) that the practitioner should consider asking:

Does the inclusion or exclusion of this digital application actually contribute to the learning objectives?

If the answer is no, then perhaps an open and honest discussion needs to be had with the learners and other practitioners about exactly how the inclusion or exclusion of the device's application is actually linked to the learning outcomes. However, the aims or the learning outcomes may not have been formalised, agreed by all practitioners and communicated to the learners. This may have a major detrimental effect on the success of the decision to include or exclude technology. Indeed, it may be that within charged debates about technology in outdoor learning, practitioners and learners simply have a different idea about why they are in the outdoors and what they are trying to achieve.

