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Conceptual Model of Cross-Boundary Learning in Adventure Tourism

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Abstract

This theoretical study aims to provide a learning model for adventure tour guides to become effective learning facilitators for adventure tourists, who have increasingly sought self-transformation through soft-adventure activities. This objective is drowned by the increasing interest in learning from different cultures among adventure tourists and also the attention to self-transformation through pedagogy, adventure tourism, outdoor adventure education (OAE), and pedagogy are becoming increasingly capable of sharing their theories under the concept of cross-boundary learning. This paper therefore organizes this sharing by considering the applicability of OAE theories to soft adventure tourist based on literature review. It then centers on the community of practice created from interaction between guides and tourists and between tourists as a way of learning, which can lead adventure tourists towards self-transformation, and discusses how guides can create opportunities for such cooperative learning community during their service. As a result, taking a cue from the SECI model, which underlies cross-boundary learning, a conceptual model was presented to implement the facilitator role of the guide in cross-boundary learning effectively. In this conceptual model, the guide's role extends beyond knowledge transfer. Rather, the results of the study imply that guides are required to be co-creators of knowledge to accompany adventure tourists in their cross-boundary learning. The findings also suggest that guides need to become cross-boundary learners who may also learn from their customers.

Keywords: community of practice, conditional outdoor leadership theory, outdoor adventure education, SECI model, unlearning

1. Introduction

Since the World Tourism Organization (2014) conformed to the definition provided by the Adventure Travel Trade Association (ATTA), the world's largest adventure travel trade association, adventure tourism has been widely defined as a trip that includes at least two of the following three elements: cultural immersion, natural environment, and physical activity. With respect to the inclusion of culture in this definition, as revealed by Viren et al. (2017) and a study conducted by the International Finance Corporation and ATTA (2019), adventure

tourists in North America and Australia began to discover new selves through their encounters with different cultures, and more subjective adventures have become increasingly popular.

Traditional adventure tourism, as delineated in definitions such as that of Weaver (2001), typical encompasses activities characterized by the components of risk, substantial physical exertion, and the requirement for specialized skills to ensure successful participation (e.g., climbing, skydiving). This category of adventure tourism is presently classified as 'hard adventure.' However, experiences devoid of these elements or outdoor attributes have also found their place within adventure tourism as 'soft adventure.' For instance, tours composed of cultural encounters and activities such as culinary classes and traditional food tastings are also included within the category of adventure tourism (ATTA, 2018). Sand and Gross (2019) generally define soft adventure as activities that do not necessitate specialized training, can be easily learned and performed, while appealing to a broad audience. Furthermore, a departure from motivation centered on risk and thrill towards '(self) transformation,' 'expanded worldview,' and 'learning' among adventure tourists has also been clarified by Viren et al. (2017).

As a result, studies in the realm of tourism psychology, which focus on the motivations of adventure tourists, have recently begun to look beyond the thrill factor. For example, studies such as that conducted by Schneider and Vogt (2012) have delved into the differences between hard and soft adventure travelers, with a particular emphasis on personality traits. Their research reveals that while the former exhibit a higher need for arousal, the latter demonstrate greater interest in cultural experiences and competitiveness, underscoring that adventure tourists seek more than just the thrill component. Furthermore, studies such as that of Du et al. (2016) have highlighted that adventure travelers, particularly hikers, exhibit a heightened motivation for learning compared to ordinary tourists. These inclinations toward 'culture' and 'learning' are strongly suggested by the emotional profiles of adventure tourists investigated in the aforementioned study by Viren et al. (2017). In terms of motivational research trends, as indicated by Rantala et al. (2016, p. 11) in their examination of the history of adventure tourism research, 'also the most recent studies highlight the idea of (inner) journey as a central perspective.'

As tourists with a more intrinsic desire to learn and an interest in other cultures emerge, the role of adventure tourism guides (hereafter referred to as "guides") as learning supporters is expected to become more important in the future. They will be able to help these tourists experience 'transformation,' 'expanded worldview,' and 'learning.' Prior research on the role of guides, led by Priest and Gass (2005), addressed this possibility of guides acting as learning supporters. Priest and Gass (2005) considered guides to be facilitators of the adventure experience and stated that the adventure experience included an educational process. Underlying this assertion is the concept of the outdoor leader who is responsible for the learning, safety, and positive well-being of the group members (Priest & Chase, 1989). To this end, Priest and Chase (1989) summarized leadership styles in outdoor leisure in their conditional outdoor leadership theory (COLT).

The COLT posits that leadership styles should vary according to the importance of the task, group relationship, and the level of conditional favorability. Leadership styles range from autocratic to democratic and abdicratic, which refers to a state of high interest in relationships over tasks. Characteristically, conditional favorability is determined by the relationship between the task and the group relationship, influenced not only by environmental danger and individual competence but also by group unity (Priest & Dixon, 1991). In essence, this means that the guide must not only play the role of facilitator but must also pay attention to the

relationship between themselves and their clients, as well as among their clients, in order to provide appropriate services.

The relational role of the learning aide has previously been explored in the field of adventure education. Adventure education, as described by Baldwin et al. (2004, p. 168), 'is conceptualized as one form of experiential education characterized by: (a) the planned use of adventuresome activities, (b) a real-life activity or learning context, (c) goal-directed challenges that must be solved individually and in groups, (d) an outdoor or wilderness setting, (e) cooperative small group living and activity participation, (f) trained leaders/facilitators, and (g) specific, preplanned educational or developmental goals.' It should be noted that the characteristics described in (c) and (e) correlate with 'relationship' mentioned in COLT.

Accordingly, with the current trend of adventure tourists seeking learning experiences, it is particularly pertinent to draw insights from the field of adventure education, which focuses on such 'relationships'. Reflecting on how to enhance guides' roles as superior facilitators of learning, particularly in light of the evolving preferences of adventure tourists, is timely. In this paper, the discussion will focus on the applicability of theories in outdoor education, environmental education, and adventure education that consider intrapersonal growth such as inner journey and interpersonal growth for relationship-building to adventure tourism.

2. Applicability of adventure education theories to adventure tourism

2.1 Outdoor field for adventure activities

The COLT is a model applicable to outdoor leisure in general and does not differentiate between tourists (adults) and children as customers. However, when considering the applicability of theories studied in adventure education to adventure tourism, it is important to acknowledge the distinction between the perspectives of the tourism and education domains, particularly regarding adventure activities. One of the characteristics of adventure education, as mentioned in (d) of Baldwin et al.'s definition (2004, p. 172), is its outdoor component. Outdoor adventure education (OAE) as a discipline is explored within the realm of pedagogy.

One of the direct antecedents of OAE is Outward Bound, which dates back to the 1960s (Outward Bound, 2008). Evoking the challenge of sailing, Outward Bound originated primarily in North America and eventually led to the development of Project Adventure, an initiative focused on the training of leaders. Project Adventure, characterized by the adventure wave that will be discussed later in this study, was conceived and continues to serve as a comprehensive set of guidelines for leaders in various capacities. Ewert and Sibthorp (2014) summarized OAE's characteristics, which can be categorized into four main points. First, OAE involves not only the experiential aspect of adventure activities but also explanations of their significance. Second, OAE includes interactions in outdoor environments and incorporates recognizable risks. Third, program outcomes are intentionally uncertain or unpredictable in a positive sense. Mortlock (1984) coordinates adventure experiences as a means of growth, vitality, and well-being in relation to the natural environment. Fourth, adventure activities are defined as "self-initiated activities utilizing interactions with the natural environment that contain elements of real or apparent danger, in which the outcome, while uncertain, can be influenced by the participant and circumstances" (Ewert, 1989, p. 6). Specifically, elements of the natural environment that are beyond human control, such as weather conditions, contribute to this positive sense of uncertainty and adventure. It is due to these factors and their effects that OAE places significant emphasis on outdoor settings.

In contrast, adventure tourism, where soft adventure has emerged, can be accomplished without the outdoor element or nature, as the definition suggests. At the outset, the definition of

adventure, as stated by Large and Schilar (2018), is that the adventure element is subjective in both space and time and only makes sense in the context of an individual's life story. The outdoor or nature elements only make it easier for guides and instructors to create unusual spaces and natural risks (thrill factors). As Beedie (2005) suggested, borrowing from Andrew Light's (1995) findings, conversely, urban areas without hazards but also without risk management may evoke a flow state based more on thrills and risk factors than well-organized adventures in natural areas. However, especially in northern Europe, it has been observed that modern consumers are enjoying the discovery of wild and nature-rich landscapes at a slower pace through softer, more immersive activities known as 'slow adventure' (Farkic et al., 2023). Therefore, although adventure tourism is possible without the natural elements, it is not intentionally avoided by adventure tourists.

Certainly, OAE participants primarily consist of children who may lack pre-existing levels of physical fitness, skills, or knowledge. This context necessitates a strong focus on risk management, both indoors and outdoors. As noted by Boyes and O'Hara (2003), an effective instructor or leader in OAE should find the ideal balance of challenges by considering the interaction between risk and competence. However, as articulated by Davis-Berman and Berman (2002), experiencing such challenges is essential for children's growth. Consequently, as long as challenges are present, leaders are justified in ensuring the physical and psychological safety of the children. While their emphasis on the outdoors may differ, the perspective of advocating challenges that are meaningful to the participants, without relying solely on associated risks and thrills, has become a concept shared between OAE and the emergence of soft adventure.

2.2 Program for adventure activities

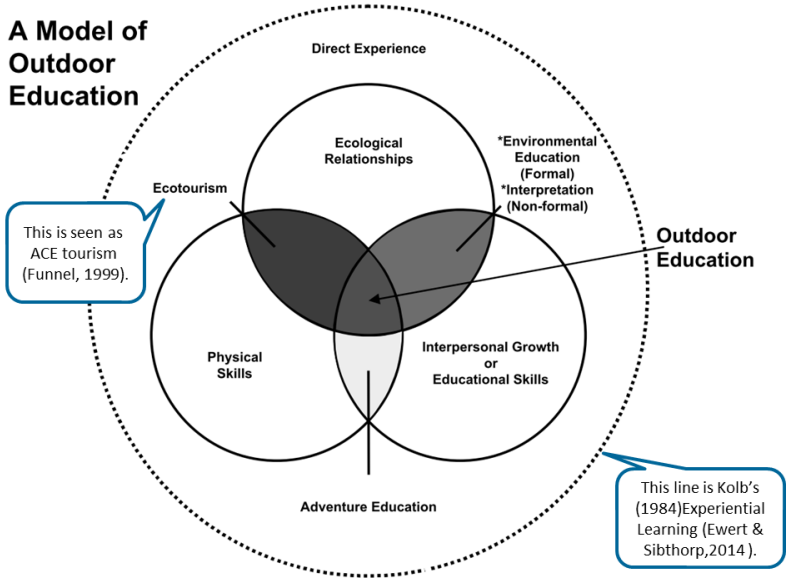
Due to adventure tourism encompassing soft adventure, certain phenomena in adventure tourism have become akin to OAE. One such example is the program structure. In the context of adventure tourism, where the psychological states sought are risk and thrill, Csikszentmihalyi's (1974) concept of flow experiences is prominent (Giddy & Webb, 2016). The combination of flow and thrill, also referred to as 'rush,' has been recognized as the source of attraction, particularly in the realm of hard adventure (Buckley, 2012). The concept of flow is also valued in the domain of OAE, where it is referred to as 'peak adventure' (Ingman, 2017). Both concepts emphasize guiding participants to move beyond their comfort zones, achieve a balance between competence and risk, and thereby facilitate growth and learning—a principle that has become established as the learning zone within the learning zone model (Senninger, 2000).

The concept of rush, according to Stanovich's (2004) dual-process theory, primarily corresponds to experiences processed through System 1 (intuition). Dual-process theory is a psychological theory that postulates that information is processed using two distinct processes: System 1, which operates unconsciously and quickly, and System 2, which operates consciously and thoughtfully. Many hard adventure activities, such as skydiving and bungee jumping, are often undertaken solely through System 1 as they trigger the rush experience. In adventure tourism, System 2 (reasoning) is not necessarily a vital component. Conversely, in OAE, which aims to foster children's learning and growth, the adventure wave framework is commonly employed. This framework involves briefing at the reasoning level, engaging in challenging activities, and subsequently debriefing to comprehend the significance of the experience (Schoel et al., 1988). In essence, this follows a flow from System 2 to System 1 and back to System 2. Historically, these kinds of distinctions existed. However, with the emergence of soft adventure and the presence of adventure tourists who seek learning within their experiences, adventure tourism has incorporated System 2 processing. Therefore, the

adventure wave framework has become a valuable reference as a guiding methodology bridging the practices of both OAE and adventure tourism.

In his book introducing ecotourism, Fennell (1999) suggested that, depending on the priorities of eco-tourists, 'culture' could be included in the definition of 'ecotourism.' Additionally, based on the degree of risk-taking and participation, elements of 'adventure' could also be incorporated. Consequently, he coined the term 'ACE (adventure, culture, ecotourism) tourism' to encapsulate this concept. Similarly, ecotourism is recognized as a constituent of OAE, and their relationship is illustrated in the model of outdoor education (Figure 1) established by Gilbertson (1990). As adventure tourism has increasingly integrated cultural elements, reconsidering adventure tourism as ACE tourism could facilitate conceptual alignment with OAE, which encompasses System 2 processing, as evident in Gilbertson's (1990) model.

Figure 1: Gilbertson's model of outdoor education



Source: Some additions by the author to Gilbertson (1990)

2.3 Physical skills for adventure activities

In Figure 1, the element of 'Physical Skill' is explicitly highlighted. During the era when hard adventure dominated, it was indeed one of the primary elements of adventure tourism, as highlighted in Weaver's earlier definition. Adventure tours, as described by Buckley (2006), are guided commercial tours that focus on outdoor activities as the main attraction. These activities are characterized by natural landscapes and generally require specialized equipment to entertain customers. In other words, they encompass many of the aspects of play defined by Caillois (1958, 1961), including agôn (competition), alea (chance), mimicry (simulation), and ilinx (vertigo). Customers seeking thrills extend their 'body' through gear and equipment, imitate the skills of instructors, and find enjoyment in these activities.

Indeed, the evaluation and recording of the changes occurring in the 'body' have previously been attributed to emotions, as proposed by Schachter and Singer's (1962) two-factor theory of emotion, which further developed into Prinz's (2004) embodied appraisal theory. Appraisal theory regards emotion as a perceived physical response and suggests that the perception of heart-pounding thrills and the sweaty palms with which they are associated give rise to distinct emotions that set adventure tourism apart from other forms of tourism. However, with the

emergence of soft adventure, adventure tourism has somewhat deviated from this concept, as it can no longer be solely represented by physical adventure experiences.

Within OAE, Richards (1977, p. 69) regarded physical activities as an effective medium for "the person to recognize and understand his own weaknesses, strengths, and resources and thus find within himself the wherewithal to master the difficult and the unfamiliar." In other words, although physical fitness is not the main goal, OAE, which emphasizes the 'body' as a medium for growth, can still be discussed in terms of its differences from other educational fields from the perspective of embodied appraisal theory. It should be noted that Figure 1 cannot be applied to adventure tourism because of these differences between adventure tourism and OAE.

2.4 Learning model for adventure activities

Differences also exist in the design of learning between OAE and the learning sought by adventure tourists. OAE has evolved from the early model of experiential learning (Kolb et al., 1971), and in Figure 1, the outer circle also represents that experiential learning (Ewert & Sibthorp, 2014). In OAE, as mentioned in characteristic (g) at the Introduction of this paper, learning is preprogrammed. In contrast, the 'expanded worldview' sought by adventure tourists, as indicated by Viren et al. (2017), refers to a broadened perspective and new experiences. This concept is closer to Hedberg's (1981) notion of 'unlearning,' which involves deliberately stepping away from existing experiences and undergoing transformative learning by resetting accumulated experiences (O'Reilly, 2018). Unlearning entails deliberately deviating from existing experiences to acquire new routines for learning, thus departing from Kolb's (1984) experiential learning model.

However, OAE has also attempted to explain adult learning using a theory other than experiential learning. This is Mezirow's transformative learning theory. Transformative learning is "an approach to teaching based on promoting change, where educators challenge learners to critically question and assess the integrity of their deeply held assumptions about how they relate to the world around them" (Mezirow & Taylor, 2010, p. xi). This explains the OAE to adult students who are internally motivated and self-directed, also displaying greater readiness and willingness to learn (Gilbertson et al., 2023, pp. 66–67). Ewert & Sibthorp (2014), referring to the study of D'Amato and Krasny (2011) who examine the effect of a university's outdoor adventure education on transformation and behavior change, among others, states that transformative learning occurs within OAE programs.

Mezirow (1991) introduces 11 steps as a specific process of this transformative learning. The first step toward that self-transformation is the 'disorienting dilemma' caused by internal or external crisis, feeling that something is missing in one's life, experience of disequilibrium, or a trigger event that needs a response to an immediate crisis (Mezirow, 2012). This has also been used as a theory to explain self-transformation through tourism, as this disorienting dilemma parallels the culture shock that tourists face when encountering new and unexpected cultures (Tomljenovic & Ateljevic, 2015).

Thus, both OAE for andragogy and tourism referred to transformative learning theory as a model for learning. As adventure tourists turn their interest towards cultural immersion, transformative learning should increasingly be a focus of attention. However, as Alhadeff-Jones (2012) points out, even if a disorienting dilemma triggers self-transformation, it is impossible to control when self-transformation occurs. As he suggests, if we view the guide as an educator, the only thing educators can do is support self-transformation. How exactly can educators (guides) support learning toward self-transformation?

2.5 Learning model for transformation

Hence, in the current era of high uncertainty, an educational model similar to unlearning is being discussed in the field of pedagogy, with the goal of developing human resources capable of adapting to cope with this uncertainty. This is known as cross-boundary learning. According to Gulikers and Oonk (2019), cross-boundary learning involves crossing different disciplines, perspectives, cultures, and social groups, and is considered the most powerful arena for learning, knowledge co-creation, and innovation. Gulikers and Oonk (2019) categorized the "boundary-crossing learning mechanisms" into four stages: Identification, Coordination, Reflection, and Transformation. The knowledge co-creation they describe here refers to the SECI model (also known as the dynamic theory of knowledge creation) adopted by Jean et al. (2018), which was referenced when creating the mechanisms in question. The SECI model, originally proposed by Nonaka and Takeuchi (1995), outlines a process for creating new knowledge. The model consists of four stages: socialization, externalization, combination, and internalization. This cycle facilitates the transformation of tacit knowledge into explicit knowledge and the creation of new knowledge through the combination of formalized knowledge. The knowledge then undergoes internalization, becoming tacit knowledge once again. This model represents a theoretical framework for knowledge management, illustrating how knowledge is created, shared, and internalized within an organization. Gulikers and Oonk (2019, p. 5) describe how transformation "results in new knowledge creation, innovation and, ideally, changes to existing practices or to new, hybrid, more sustainable practices." Gulikers and Oonk also discuss introducing cross-boundary learning into pedagogy to cope with an uncertain future.

Correspondingly, adventure education, as highlighted by Ewert (1989), is designed with the intention of asserting four effects on children: psychological, social, educational, and physical effects. Among these, the psychological effects have been linked to the cultivation of self-efficacy, which is a noncognitive ability. Studies, such as the one by Richmond et al. (2017), have indicated the positive impact of adventure education on self-efficacy development.

The concept of noncognitive abilities aligns well with the planned happenstance theory, proposed by Krumboltz (1996), which underscores the ability to find happiness and opportunities amidst 'uncertainty' and chance encounters. Krumboltz identified five skills (curiosity, persistence, risk-taking, optimism, flexibility) possessed by individuals who have built new careers from chance encounters. These skills correspond to noncognitive abilities, suggesting that positioning cross-boundary learning in education, particularly within the realm of noncognitive abilities, is a reasonable approach. In particular, Sheard and Golby (2006), who examined the effects of an OAE foundation degree curriculum on positive psychological development using the positive psychology perspective of Seligman and Csikszentmihaiyi (2000), who are behavioral theorists akin to Krumboltz, found that certain traits like hardiness, mental toughness, self-esteem, self-efficacy, dispositional optimism, and positive affectivity did not significantly increase. In other words, if Ewert's goal cannot be achieved with OAE, which relies on an experiential learning model, it seems natural to seek a future solution in the cross-boundary learning model.

3. Discussion: Cross-boundary learning model for guides

A comparison of the concepts of OAE and adventure tourism up to this point is summarized in Table 1. In particular, it can be stated that soft adventure tourism has little in common with the directly gained knowledge from OAE regarding how to become a learning supporter. Rather, it can be inferred that what they have in common is their focus on cross-boundary learning as 'self-transformable' learning.

Table 1: Comparison of OAE and adventure tourism elements

		Outdoor, Nature environment	Physical activity	Rush	Project Adventure	Learning model
OAE		Necessary	Necessary	Necessary	Necessary	Experiential /Transformative
Adventure Tourism	Hard activities	Necessary	Necessary	Necessary	Not necessary	Not necessary
	Soft activities	Not necessary	Not necessary	Not necessary	Necessary	Unlearning /Transformative

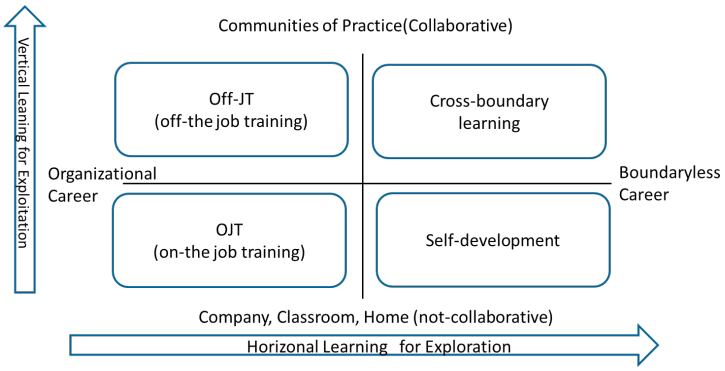
Source: Created by author

Cross-boundary learning is a concept that has been discussed in disciplines such as organizational learning theory within the field of management. From the perspective of dealing with uncertainty, March (1991) has argued that merely deepening existing knowledge through its utilization, which he terms 'exploitation of knowledge,' without sufficiently engaging in 'exploration of new knowledge,' leads to short-term rationality but long- to medium-term innovation depletion. March refers to this phenomenon as the 'competency trap.' This exploitation and exploration of knowledge, which can be described using the terms 'vertical learning' and 'horizontal learning,' respectively, align with the standpoint of Engeström (1987; Engeström et al., 1995), who advocates the significance of horizontal learning in the highly uncertain modern context.

In the realm of organizational learning theory, vertical learning pertains to building organizational careers through learning within the confines of the organization. In contrast, horizontal learning involves individuals who transcend organizational boundaries and seek to shape their own careers and skill sets. Arthur (1994) designates that such individuals have a 'boundaryless career.' Lave (1988) posits that learning does not typically occur in classroom-like settings detached from the context of daily life but rather unfolds within 'communities of practice.' When many such communities exist, the act of horizontally crossing from one's home community to other communities, and belonging to multiple communities of practice, is termed 'multi-membership' (Wenger, 1998). In essence, a boundaryless career engages in horizontal learning within other communities, which can be illustrated as a state of collaborative learning within different communities of practice that is distinct from both on-the-job training (OJT) and off-the-job training (Off-JT). This state can be conceptualized as cross-boundary learning, as depicted in Figure 2.

Referring to the work of Soulard et al. (2019), Sheldon (2020) pointed out that for the host side to bring about self-transformation in tourists, it is important to integrate the unique local culture and aspirations of the host community into the tourist's experience by fostering 'communities of practice'. She also emphasized that the staff on the host side are the ones who can co-create the tourist's experience of self-transformation by building bridges with different cultures that lead to personal growth (Sheldon, 2020). It is suggested that the 'inner journey' can be designed by shifting the perspective from transformative learning (involving an educator-adult student relationship) to cross-boundary learning (involving a collaborative learner relationship).

Figure 2: Positioning map of cross-boundary learning



Source: Created by author with reference to Oki,Y.(2022)

From the characteristics of adventure education and the COLT model, it is evident that OAE represents a form of communities of practice learning in a relational context. Simultaneously, since it relies on the experiential learning model, it can be interpreted as being positioned within Off-JT, representing vertical learning, as illustrated in Figure 2. Gulikers and Oonk (2019) can also be understood as having incorporated horizontal learning into this conception and presented a model for guiding children's self-transformation through cross-boundary learning. Assuming that the competencies for enjoying soft adventure, which do not require special knowledge or physical and practical skills, lie in noncognitive abilities, the introduction of cross-boundary learning into pedagogy is an act of reproduction for those who will 'become' such adventurers in the future, namely, those who are willing to undertake their own self-transformation.

In light of the above, OAE, based on experiential learning and fostering growth through vertical learning (exploitation of knowledge), and adventure tourism, grounded in horizontal learning (exploration of knowledge) and unlearning, are both enabled to transcend disciplinary boundaries through the concept of cross-boundary learning. This perspective allows them to incorporate their customers (tourists and children) on the same axis. Drawing inspiration from Gulikers and Oonk's (2019) boundary-crossing learning mechanism and the underlying SECI model, the collaborative learning that leads to self-transformation and the expansion of worldviews for both tourists and the people at the destination (including guides) can be illustrated. This illustration can be represented as depicted in Table 2.

Firstly, the stage of Identification commences with the recognition of differences. This often arises from encountering unfamiliar cultures. Gilbertson et al. (2023) stated that adult learners bring knowledge and experience to the learning situation. Since what is perceived as unfamiliar depends on the knowledge and experience of the customer, this stage involves exploring the setting of themes that motivate them to cross cultural borders while getting to know each other. Secondly, during the Coordination stage, through dialogue and interpretation, differences are formalized and made explicit, facilitating mutual exchange. In the third stage, the Reflection stage, insights gained during the Coordination stage are combined with one's existing knowledge and experiences to generate novel insights. This stage sees the dissolution of psychological barriers initially associated with encountering a foreign culture. Finally, the Transformation stage involves internalizing these experiences as part of one's personal journey. Though this state involves tacit knowledge and cannot be easily verbalized, it signifies a departure from one's former self, resulting in the acquisition of a new mindset, which can be termed 'unlearning.' In contrast, the internalization of a foreign culture involves reciprocal interactions and could be characterized as acculturation. The key here is to focus on the self-transformation of the guide, rather than on the uncontrollable self-transformation of the

customer. This is a different perspective from transformative learning in that it pays attention to internalization to become a better co-learner for the next client.

Table 2: Concept model of cross-boundary learning in adventure tourism

Aims of the learning mechanism	(1) What questions to ask yourself to stimulate the learning mechanism	(2) Questions that ask customers to evaluate the interpretation (questions are presented in Semantic Differential Method (7 scales) *Overall, the presentation and guided activities I attended today…*
Identification (Socialization) Identify the tacit knowledge of each customer and establish just the right theme that they will want to cross over. This can be called creating a place where they will want to participate.	● How to they relate to each other ? ● What is their expertise, stake, and perspective?	C. made me curious / did not make me curious T. intrigued me / did not intrigue me
Coordination (Externalization) Ask questions that make customer want to actively verbalize (externalize) tacit knowledge between guides and them as well as among customers	● How can I involve the different stakeholders? ● What object can I use or develop to facilitate mutual communication?	G. were relevant to me / were not relevant to me M. made me want to talk about what I heard / did not make me want to talk about what I heard
Refection (Combination) Reflet that new gazes and perspectives have been created from the exchange and combination of explicit knowledge between customers, and between customers and you.	● What can I learn from the perspective of the other stakeholders involved? ● What can we learn from each other?	● **seemed to be trying to learn something from me / did not seem to be trying to learn something from me** ● **had time to share knowledge with me and other travelers / did not have time to share knowledge with me and other travelers**
Transformation (Internalization) Attempting to implement practices that link new knowledge gained from customers to the satisfaction of the next customer, rather than what kind of self-transformation they brought to the customer	● What is my vison on the new practice? ● How can I stimulate for this new practice?	E. impacted my view of my own life / did not impact my view of my own life J. did not impact my view of today's society / impacted my view of today's society

Source: (1) The questions are cited from Gulikers and Oonk's (2019, p. 6) (2) The alphabetized questions are cited from Weiler and Ham (2010, p. 203)

As depicted in Figure 2, cross-boundary learning occurs within the realm of communities of practice. This involves groups that share interests related to a theme and who, through sustained mutual engagement, deepen their knowledge and skills in that field (Wenger, 1998). In essence, guides need to adopt a disposition of engaging in cross-boundary learning themselves. Without this stance, guides' or educators' services may be one-sided, leading to a failure to create new knowledge. It could be argued that the necessity for guides to embrace a boundaryless career orientation is becoming increasingly crucial.

As a checklist for this stance, Table 2 includes several questions that can be applied to the interpretation of specific adventure guides. The questions are selected from a list of customer-

oriented questions that Weiler and Ham (2010) suggested to ensure that the guide's face-to-face explanations lead to customer satisfaction. The reason for referring to them in this table as applied to the SECI model is their focus on the guide's role as an interpreter. Guide interpretation is an educational activity which aims to reveal meanings and relationships (Tilden, 2007), and a mission-based approach to communication aimed at provoking in audiences the discovery of personal meaning and the forging of personal connections with things, places, people, and concepts (Ham, 2013). It is not only educational, but also facilitates new combinations within individuals, and therefore, it is reasonable to apply the approach to the cross-boundary learning model.

As highlighted by Gratton and Andrew (2016), in a society characterized by increasing lifespans and rapid advancements in information and technology, individuals must continually adapt to perpetual change (referred to as 'transformational assets' by the authors). This need for ongoing transformation is equally applicable to the work and lives of guides and educators, as they must invest in transformational assets to ensure their knowledge remains current.

By focusing not only on the vertical learning aspect (experiential learning) but also on the horizontal learning aspect (unlearning) inherent in cross-boundary learning, it becomes more practical to consider that cross-boundary learning for adult guides as synonymous with that of adventure tourists. In other words, when guides provide the context for learning and expanding worldviews through different cultures, this context should also be interpreted as an opportunity for guides to engage with the cultural elements of adventure tourism. Thus, for guides, cross-boundary learning occurs precisely when they are offering their services, creating an opportunity within the communities of practice. This interpretation enables the SECI model of cross-boundary learning to be applied not only to the pedagogical context but also to the realm of adventure tourism. The SECI model facilitates the co-creation of new knowledge. When considering who collaborates with whom in knowledge co-creation, not only the inner worlds of customers are included but also interactions between the customers themselves, between customers and guides, and also between customers, as depicted in Table 2.

Guides serve as providers of services, and it is understood that an informational asymmetry (knowledge and skills) exists between the guides and their customers. However, in the era of the information society and uncertainty, particularly in activities such as soft adventure where special knowledge and physical skills are not necessarily required, this informational asymmetry is likely to disappear. Therefore, to account for this, Combination focuses on the guides learning from customers. This aims to foster better interpretation by co-creating new knowledge among customers, between customers, and between customers and guides. This inclusion of the Combination aspect not only provides a guideline for improved interpretation but also shapes the consciousness of adventure tourism as communities of practice, thereby aligning it with the context of cross-boundary learning. Table 2 reflects this shift from knowledge transfer to knowledge co-creation as a new "combination" question (in bold). This approach aligns with the COLT model that bridges tourism and educational studies while remaining consistent with the role of leaders in this context. It serves as a concept model that can be used by guides to strengthen group relationships as collaborative learners by leveraging interpretation to enhance group dynamics.

4. Conclusion

In this paper, the author has discussed how the emergence of new adventure tourists and the focus on self-transformation through pedagogy have highlighted the interconnectedness of adventure tourism, OAE, and pedagogy under the concept of 'cross-boundary learning.' Indeed, there are many differences that cannot be captured by the coaxial axis, such as the fact

that OAE focuses on natural areas and physicality, while adventure tourism is less concerned with these factors, and the fact that the target audience includes adults who have already developed non-cognitive abilities for adventure tourism and children who are still developing non-cognitive abilities for OAE. However, the positive sense of uncertainty sought by OAE within natural environments has evolved into an unpredictability that needs to be addressed, even within classroom settings. In the pedagogical field, the ability to adapt to unpredictable situations is now considered essential. In the face of an unpredictable future, the focus has shifted from experiential learning based solely on accumulated past experiences to cross-boundary learning that fosters non-cognitive abilities for self-transformation beyond socio-cultural and socio-ecological boundaries. Now that adults with enhanced non-cognitive abilities are using their given abilities to seek self-transformation through adventure tourism, cross-boundary learning in pedagogy can be described as a process of reproducing adventure tourists.

However, a question arises in this context. When considering cross-boundary learning in the context of organizational learning theory, it can be perceived as communities of practice that encompass both vertical and horizontal learning. Furthermore, the underlying SECI model of cross-boundary learning is a model of knowledge co-creation. It is not merely one-sided learning, but rather 'learning together.' If this is the case, then a question emerges: For providers of cross-boundary learning services, such as instructors in OAE, teachers in pedagogy, and guides in adventure tourism, is the opportunity for cross-boundary learning not also present during the delivery of their respective services? Therefore, in this paper, the conceptual model enhances the concept of 'Combination' in the SECI model, which makes the guides also co-learners and co-creators. This approach can also be interpreted as contributing to the group relationship elements of the COLT model. Moreover, by positioning the self-transformation that can result from cross-boundary learning as learning to improve one's interpretation skills for the next client, the model is positioned as a knowledge management concept for guides. This is another uniqueness of this model, which differs from transformative learning for clients' self-transformation. This conceptual model encourages guides to facilitate the transformation of adventure tourists through their services, while promoting interactive cross-boundary learning to improve guide knowledge and foster higher quality adventure tourism for the future.

It is important to note, however, that a prerequisite for this model to be applicable is that the guide must inherently possess the characteristics of a cross-boundary learner, akin to an adventure tourist. During this validation process, it would be preferable to measure the scope of non-cognitive abilities rather than directly querying the participants' learning motivation. Psychological scales have already been established for non-cognitive abilities that allow measurement without being influenced by external factors, such as the timing of questionnaire responses. In relation to the non-cognitive abilities discussed in this paper, relevant traits include curiosity, self-esteem, emotional intelligence, and empathy. Curiosity can be measured using 'The Five-Dimension Curiosity Scale' (Kashdan et al., 2020), optimism using the 'Revised Life Orientation Test' (Scheier et al., 1994), emotional intelligence using the 'Trait Emotional Intelligence Questionnaire' (Petrides & Furnham, 2003), and empathy using 'The Interpersonal Reactivity Index' (Davis, 1983), all of which offer well-developed scales for measurement. Additionally, critical reaction can be assessed using the 'Cognitive Reflection Test' (Toplak et al., 2014).

If it is found that guides and adventure tourists are similar in their degree of non-cognitive abilities, it would support the supposition in Table 2 that guides have the same dispositions as adventure tourists to become cross-boundary learners. This suggests that the sites where guides meet adventure tourists can be used as opportunities for cross-boundary learning and

unlearning to renew their knowledge and skills. In addition, research is underway on knowledge brokers, who can introduce practices into other communities of practice, as advocated by Wenger (2000). Ishiyama (2018), through a study of boundaryless career-oriented professionals, revealed the existence of new knowledge brokers who can help learners mediate their identity and achieve integration with heterogeneity, rather than simply transferring practices. The applicability of this new knowledge broker role to adventure guides will also be the subject of future research. I hope that by embracing the concept of cross-boundary learning, guides will contribute to the development of adventure tourism by becoming organizers of 're-creation,' rather than mere recreation, as stated by Gratton and Andrew (2016).

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