Leading and teaching whitewater kayaking

– Efficient outdoor leadership viewed from the Theory of Human Living Systems.

Jonas Forsmark

Supervisor: Per Andersson
Examiner: Åsa Nilsson Dahlström
Leading and teaching whitewater kayaking: Efficient outdoor leadership viewed from a theory of human living systems.

Outdoor education in Sweden is developing as a profession. With this follows the expectations and demands on leaders’ knowledge in theory and practice. Theoretical frameworks are shifting due to influences from diverse perspectives. Systems theory is one of these that is beginning to spread in various fields. This thesis is exploring outdoor leadership in the context of a whitewater kayaking camp, with the aim to describe and analyze the instructor led kayak sessions during the camp using the Theory of Human Living Systems (THLS). Using an ethnographical approach, the empirical data was gathered using participatory observations and interviews. The identified themes describe the development of functions and structures for work, leadership, teaching and outcomes. Efficient outdoor instructor behaviors can be defined by the degree that they are influencing the systems’ ability to discriminate and integrate differences in relation to the context. These behaviors are in turn described as a series of hypothesis in the format of forcefields based on the identified themes. It was also found relevant to use THLS to describe and analyze what happened during the whitewater kayaking camp.

Efficient Outdoor leadership, Kayaking, Kayak instructor, Theory of human living systems, Ethnography, Forcefield, Discriminating and integrating differences
Summary of content

Abstract ........................................................................................................................................ iv

Introduction .................................................................................................................................... 1

Structure of thesis ............................................................................................................................. 2

The field of study .............................................................................................................................. 2

Outdoor education ............................................................................................................................ 2

Outdoor leadership ........................................................................................................................... 3

Kayaking .......................................................................................................................................... 4

Purpose and research questions ......................................................................................................... 4

The contribution of this study ............................................................................................................ 5

Review of previous research ............................................................................................................ 7

Theory of Human Living Systems ................................................................................................... 12

Operational methods and techniques................................................................................................ 17

Summary ......................................................................................................................................... 18

Methodology .................................................................................................................................... 19

Choice of method .............................................................................................................................. 19

Choice of case .................................................................................................................................. 20

Gathering data .................................................................................................................................. 20

Observations ..................................................................................................................................... 20

Interviews .......................................................................................................................................... 22

Ethical considerations ...................................................................................................................... 22

Thematical analysis .......................................................................................................................... 23

Discussion of methodology .............................................................................................................. 25

Choice of perspective and methods .................................................................................................. 25

Choice of case/respondents ............................................................................................................... 25

Data gathering .................................................................................................................................. 25

Process of analysis ............................................................................................................................ 27

Result and theoretical analysis: Describing what happens at a whitewater kayaking camp .......... 28

Arriving ............................................................................................................................................ 28

Developing structure and functions for work ................................................................................... 29

Clarifying structure ............................................................................................................................ 29

From structure to function ................................................................................................................ 31

 Clarifying goals ................................................................................................................................ 32

Leading activities .............................................................................................................................. 34

Leading together .............................................................................................................................. 34

Staying together ............................................................................................................................... 36
Choosing place .................................................................................................................. 38
Assessing risks ................................................................................................................ 40
Managing unhappy participants .................................................................................. 41
Teaching .......................................................................................................................... 45
  Instructing ..................................................................................................................... 45
Feedback .......................................................................................................................... 51
Repetition ......................................................................................................................... 55
Progression ....................................................................................................................... 56
Making learning fun ......................................................................................................... 59
Outcomes .......................................................................................................................... 60
  Learning paddling .......................................................................................................... 61
Having Fun ........................................................................................................................ 62
Personal development ...................................................................................................... 64
Summary of themes .......................................................................................................... 65
Concluding description of efficient outdoor leadership based on the results .......... 66
Discussion .......................................................................................................................... 71
  What happens during an outdoor education event? ...................................................... 71
  How can an outdoor education event be understood using THLS? ......................... 72
  How can efficient outdoor leadership be described, based on the results? .............. 76
Suggested further research ............................................................................................. 77
Conclusions ....................................................................................................................... 78
Literature ........................................................................................................................... 79
Attachments ....................................................................................................................... 83
  Letter for parents and participants asking for consent .................................................. 83
  Interview-guide for group interview .......................................................................... 85
  Interview-guide for interview with a leader ................................................................. 85
Abstract
Outdoor education in Sweden is developing as a profession. With this follows the expectations and demands on leaders’ knowledge in theory and practice. Theoretical frameworks are shifting due to influences from diverse perspectives. Systems theory is one of these that is beginning to spread in various fields. This thesis is exploring outdoor leadership in the context of a whitewater kayaking camp, with the aim to describe and analyze the instructor led kayak sessions during the camp using the Theory of Human Living Systems (THLS). Using an ethnographical approach, the empirical data was gathered using participatory observations and interviews. The identified themes describe the development of functions and structures for work, leadership, teaching and outcomes. Efficient outdoor instructor behaviors can be defined by the degree that they are influencing the systems’ ability to discriminate and integrate differences in relation to the context. These behaviors are in turn described as a series of hypothesis in the format of forcefields based on the identified themes. It was also found relevant to use THLS to describe and analyze what happened during the whitewater kayaking camp.

Acknowledgements
To all those near and far
Pushing, waving and paddling along
Putting their energy into this work

A special thank you to Per Andersson, Rowena Davis and Gunnel Östlund for valuable support and advice.
Introduction
Outdoor education in Sweden is a field in change. One example of this is the professional development following the increase of nature tourism, another is Outdoor education having entered the curriculum of schools (Sandell et al., 2011). Both universities and vocational colleges have become established as deliverers of courses for professionals in outdoor education (Sandberg, 2015). The Swedish outdoor association, “Friluftsfrämjandet” is marketing themselves with the vision of “The world’s best outdoor experiences for everyone, guided by Sweden’s most sought after leaders“¹. This development drives the search both for relevant theory and efficient practice related to the field of outdoor education. Bringing in theories from different areas such as psychology, education, landscape relationships, group dynamics and leadership, develops an easel of opportunities for the outdoor leaders wanting to understand and develop their work. Looking only at the area of leadership there are many theories in use. Models for effective leadership, transformational leadership, conditional outdoor leadership and extraordinary outdoor leadership are some amongst many examples of theories that are guiding the professionals (Smith, 2011). Parallel to the understanding of leadership comes the need to understand other human processes such as learning and development of groups and individuals. Theory has an important role to play as the field is often characterized by a focus on practical issues, “just doing it”, as well as a lack of critical theoretical approach (Clayton & Smith, 2014; Hickman & Stoke, 2016). Backing up work with theory makes a difference, like having a map when orienting oneself in the nature.

Connecting to this there are two interests underpinning this study. One is about leadership in the outdoors, the other is about the Theory of Living Human Systems (THLS), developed by Yvonne Agazarian (1998). What brings them together in this thesis is my curiosity about efficient outdoor leadership and about connecting practice and theory to understand and develop leadership in myself and others. Having worked in the outdoors for several years has made me appreciate the complexity of the field, there are many processes and factors to consider in terms of the range of activities, aspects of learning, the dynamics of people, groups and environments. This motivates me to learn more about what the outdoor leaders do and how do they do it. In addition to this I am keen to find out more about how to describe and discriminate efficient outdoor leadership. Due to my background in behavioural studies and group development I have read and practised THLS and I have become interested to see in what way it could be used

¹ http://www.friluftsframjandet.se/detta-gor-vi/om-oss/vision-och-varderingar/(2017-03-04)
in outdoor education. The reason behind my interest in THLS is that it integrates theories from many fields, such as learning, communication, group- and personal development, leadership and change. It is also a theory to which methods have been developed, based on the theory itself.

The context of the study is also one that is close to me as a kayaker and presently being involved with the Swedish canoe federation in a professional role. Exploring what kayaking instructors do is most relevant and motivating from this perspective.

Structure of thesis
Following this introduction there will be a presentation of previous research related to leadership in outdoor education and the use of systems theory to understand leadership. Thereafter comes a presentation of an overview of the Theory of Living Human Systems, as developed by Agazarian (2000). In the next section the methodology and research process of the thesis are described. The results is then put forward. Considering the theoretical interest of the study, answering the research-questions involves both empirical results about “what is going on” as well as the theoretical concepts used to interpret the ongoing events. As a next step, there is the discussion of the research question in relationship to the result. There is also a discussion of the research method in this part.

In the text, empirical data will be presented referring to the day and time of day it was recorded and with what method was used, e.g. “Observation Wednesday am”. Photos, tables and figures will be numbered in order of appearance.

The field of study
Before entering the research questions of this study, I shall give a further presentation of the field in a broader sense, putting the work in the wider context of outdoor education and outdoor leadership.

Outdoor education
Outdoor education is described as an educational pathway existing as a critique of and complement to the traditional classroom tuition. It is motivated by today’s weakened relationship with nature in everyday life, as a way of strengthening that relationship. There are also motifs connecting to the inherent contribution of natural environments for health and general development of people. Outdoor education is building on sensory experiences and action as keys to learning. The learners are involved in authentic and concrete situations where
they touch and feel in the real world, engaging themselves in challenges at an appropriate level. With a strong connection to pragmatism and experiential education (Dewey, 1997; Kolb, 1984), there is also an emphasis on reflection in and on action, abstract thinking following intentional actions. Through action and reflection outdoor education is described as a road of exploration of the unexpected often occurring in the landscape. Outdoor education aids learning about the natural environment as well as the cultural environment. In addition to this the learning space is significant to outdoor education, being moved from classrooms to cultural and natural environments (Dahlgren & Szczepanski, 2002).

A relatively new field of pedagogics and research, outdoor education as a concept is still being explored and broadened. In the field, similar concepts are used to make discriminations of different goals and contexts. Two examples are “Outdoor environmental education” highlighting an environmental orientation of outdoor education (Van Matre, 1999; Orr, 2004; Robertson, 2014), while “Outdoor adventure education” focuses on learning through challenges (Mortlock, 1984; Priest & Gass, 1997; Berry & Hodgson, 2011) The field displays an array of activities, contexts and goals, showing different directions taken by authors and educators, such as learning about the environment and nature and developing the relationship to place and landscape (Robertson, 2014; Thomashow, 1996), learning school subjects outside the classroom (Lundegård, Wickman & Wohlin, 2004), Personal and professional development, (Hopkins & Putnam, 1993; Tuson, 1994) Outdoor therapy (Schoel, Prouty & Radcliffe, 1989) and outdoor recreation (Ogilvie, 1993; Graham, 1997).

Similar enough to be defined as outdoor education, they are different in that they may for example have different learning objectives, organizational contexts, groups of people involved, places and relationships to nature.

In this thesis, the term Outdoor education will be used in its broadest sense, which is open to any of the mentioned directions. The empirical part of the thesis is building on outdoor education in the context of outdoor sports and recreation.

Outdoor leadership

Putting it simply, outdoor leadership is about leading in the outdoors. From there, the what’s and how’s of outdoor leadership is diverging, due to different contexts and roles, also relating back to the listing of the previous section. Common to all, outdoor leaders are in different ways influencing the interaction between participants and the environment in relation to certain goals.
Differences can be adhered due to the contexts where they are active as well as their tasks and objectives, rendering different names such as for example: Outdoor instructors, Guides, Nature interpreters and Outdoor Teachers. Efforts are made to distinguish the unique work of outdoor educators as well as their expected qualities and skills (Ogilvie, 1993; Graham, 1997; Priest & Gass, 1997; Smith, 2011; Martin et al., 2006).

In this thesis, the term Outdoor leadership will be explored in the context of kayaking instructors in a recreational outdoor sports context. The concepts “Leader” and “Instructor” will be used interchangeably.

Kayaking
A kayak is a kind of canoe, 2-5 meters long, with covered deck so that water cannot get in. The paddle that is used has a blade in each end of the shaft. Paddling white water means that the kayaker maneuvers the kayak in rivers with moving water, rapids and waves. The risks involved in kayaking is related to the level of skill in relation to the environment where the paddling takes place. There are risks of getting wet, as the current may surprise the paddler and tip the boat over. This is dealt with as a part of learning to paddle.

Purpose and research questions
This study aims to explore efficient leadership behaviours in outdoor education. Efficiency is about achieving desired result with minimum of effort and waste in relation to purpose. Behaviours can be effective in the sense that they result in goal achievement. Using the term efficiency adds the notion and desire of the behaviours to be precise in relation to time, space, energy and goal.

Photo 1, Kayakers getting ready to launch their whitewater kayaks, Observation Wednesday am.

---

The operational step I am taking from the aim of exploring efficient outdoor leadership to the content and design of this thesis is the following. Firstly, trying out the THLS for analysing what happens during outdoor education, since the theory supports the understanding of people’s development. Secondly, building on that analysis to develop an understanding of efficient leadership in this context.

Purpose: To elaborate on using THLS (Theory of Human Living Systems) to understand efficient outdoor leadership.

These are the research questions following the purpose:
- What happens during an outdoor training event?
- How can an outdoor education event be understood using THLS?
- How can efficient outdoor leadership be described, based on the above results?

The contribution of this study
The contribution of this study is the elaboration on a new theoretical approach in the field of outdoor education, the Theory of Human Living Systems (THLS). Outdoor education is clearly and rightly influenced by theories of experiential education, following ideas of John Dewey (1997, first published 1938) and conceptualised in the Kolb model for experiential learning (Kolb, 1984). This model provides an approach to learning and for setting up a variation of learning interventions and is dominantly referred to in literature on outdoor education and frequently used by outdoor leaders (Berry & Hodgson, 2011). For theories on leadership in the outdoors there are other models at work. Lists stemming from best practice, models from the world of business as well as variations on situational leadership are most often referred to. These have been challenged by other approaches, such as transformational leadership and a programming-perspective (Sibthorp et al., 2011).

Systems theory is emerging and has been placed as a key to understanding and managing complex situations within leadership, sustainability and group dynamics (Senge, 1995; Gunderson & Holling, 2002; Wheelan 2005).

Considering the interplay of perspectives involved in outdoor leadership and outdoor education, comprising all themes just mentioned, I am interested in seeing how THLS could contribute to the understanding and work of outdoor leaders. THLS provides one coherent theory for learning, communication and leadership. It is coherent in that it builds on the same basic constructs. Also, it is a new framework in the context of outdoor leadership, making it
interesting to try out. THLS is building a theory-driven practice, Systems Centered© Training³ (SCT©), different to many other training systems in that it has a theory underlying the methods and tools. At the same time, THLS is different to many other theories in that there are methods and tools connected to it. Working with inter-related theory and method is interesting in relation to the outdoors where a lot of emphasis is put on experience and less on theory. One similarity that makes it a promising combination is the common root in experiential learning.

³ SCT© and Systems-Centered© are registered trademarks of Dr. Yvonne M. Agazarian and the Systems-Centered Training and Research Institute, Inc., a non-profit organization.
Review of previous research

In the previous research, these areas have been investigated, based on their relevance to the study.

1. Research describing what is going on within an outdoor education programme. To allow a comparison with my empirical study and thematical analysis of research question 1.
2. Outdoor leadership in relationship to specific theories. These studies give examples of how the researchers have utilised leadership-theories understand or describe outdoor leadership. These are interesting in relation to research question 2 and 3.
3. Using theory to explore outdoor education. These are studies where different theories are used to frame what is going on in outdoor education and are relevant in relation to research question 2.
4. Systems theory in relation to leadership. These studies are relevant in relation to research questions 2 and 3. The Theory of Human Living Systems (THLS) as developed by Yvonne Agazarian is one strand of previous studies. Another is the wider use of the term systems theory, or systems thinking.

Describing what goes on in outdoor education

Descriptions of what goes on in outdoor education is the starting point for the study. The review below led to findings of a variety of descriptions of qualities and outcomes of outdoor education. Goldenberg and Soule (2015) did a four-year follow-up study of means-end outcomes from outdoor adventure programs. They found that participation in expeditions and group activities in adventure education courses promoted personal development and self-efficacy through challenges, interacting with others and having new experiences. They suggested further research to learn more about how specific components lead to desired outcomes.

Morse (2014) explored what meaningful experiences came from participating on a wilderness river journey. He found two key experiences that were neutral to age and gender: a feeling of humility and being alive to the present. A further analysis described the essential qualities of the experiences surrounding the feeling of humility. He discovered that river journeys can provide meaningful experiences due to a lack of distractions, time for experiences to run the course and a ‘riverscape’ providing unique opportunities to facilitate a quality of interrelating with the surrounding environment.
Another approach to what goes on in outdoor education is taken by Walls (2012) in his archeological study, exploring skills development of Inuit’s, when learning to hunt from kayaks. He uses the term enskilment to describe knowledge that is embodying awareness and responses in relation to the surrounding. Enskilment is a developmental process, where mastery is a state that is constructed by the learner in relation to the surrounding and cannot be transmitted from the teacher to the learner. The learning situation must be experiential and situated in scenarios where the technique is used. When describing keys to the learning process, Walls is referring to the role of sports for learning advanced technical skills through deliberate practice. Elements of this that is put forward is situated learning, the use of feedback, breaking down skills in parts, games and competitions. Much of the learning takes place on safe land, off the risky water. Through these activities enskilment is developed in terms of embodied responsiveness, kinesthetic knowledge and team dynamic.

In none of the above studies the role of the leaders where discriminated. In a brief paper on whitewater kayaking instruction, Poff and Stuessy (2000) presents ideas and techniques that can facilitate effective whitewater kayaking instruction, in this way relating to the leader. They write how instructors often overlook important aspects of instruction, such as the underlying purposes and guiding principles of kayaking instruction. Students' progression in learning and success in kayaking may depend on the teacher's knowledge of and ability to communicate these aspects. They stress the importance of formal introductions, ice breakers, humility, managing anxiety and building progression. They also mention stretching exercises, learning about the equipment, proper posture as well as learning paddling strokes, rescues and issues of risk and judgment.

**Using theory to explore outdoor leadership**

Learning about outdoor leadership is at the core of the study. In research by Sibthorp (2011) about learning in the outdoors, it was found that the leaders were attributed the largest part (48%) of the learning effect in an adventure education program, due to how they delivered the course, stood out as role models, inspired, supported and resonated with the participants. This implies that learning about outdoor leadership is useful when wanting to understand what goes on in outdoor education. When looking at what theories are reoccurring in recent research on leadership in relation to outdoor education, theories of Self-efficacy, Transformational leadership and Emotional intelligence are commonly used (Huey et al., 2014; Kass & Grandzol, 2012).
In a quantitative study about outdoor leader’s emotional intelligence and transformational leadership, Hayasi and Ewert (2006) found that outdoor leaders displayed more transformational leadership than the general population in how they motivated their student and considered individual issues. They also differed in that they intervened less in group issues. They also found that outdoor leaders who had taught many different kinds of activities had a higher level of emotional intelligence. More experienced leaders also inspired students to set higher goals and gave extra support to reach the goals. They found strong correlation between social factors in leadership and the components of transformational leadership. Propst and Koesler (1998) assessed the short and long term effects on self-efficacy from participating in an outdoor leadership course. They also proposed a path-model of self-efficacy and continued participation in outdoor leadership training. The result showed a significant difference in self-efficacy because of the course, also one year after the course. They discovered gender-differences in how the process worked and affected the participants. Feedback proved to be important, especially positive feedback for women and immediate feedback for men.

Richardson et al. (2014) claimed there is a shortage of research on behaviour in relation to instructor effectiveness in outdoor education. They themselves used both quantitative and qualitative data to explore the process and result of systematic feedback to develop instructor effectiveness, finding that feedback was of great importance. In their work, they used a scale called Instructor Effectiveness Questionnaire. Developed by Phipps in 2005, it measures leadership behaviours in 9 categories, such as practice/action, managing arousal, motivation, structure, communication, group process and feedback. Smith (2011) states that there is considerable research on effective outdoor leadership (albeit not explicitly the behaviours of the same). As part of the generation of theory looking at effectiveness as a benchmark for leadership, the author is mentioning Transformational leadership, Emotional intelligence and Authentic leadership, among other. Smith pursues what she writes to be the next step, exploring beyond effective to find the keys to extraordinary outdoor leadership. The four characteristics found were described as awareness of and value of relationships to self, others and nature, the skill of intuition and the behaviours of spirituality (meaning caring and living for a greater purpose).

In conclusion, several studies have been made where outdoor leadership is explored from diverse theoretical frameworks, giving clues to what factors lead to effective, or extraordinary, leadership. There seem however to be a shortage of descriptions at a behavioral level.
Using theory to explore outdoor education
Theories found to have been employed to understand what goes on in outdoor education includes Foucault and Transformative learning. The theory of experiential learning has been excluded as it is a model that is already thoroughly engrained in the field (Dahlgren & Szczepanski, 2002).

Bowdridge and Blenkinsop (2011) used the work of Michel Foucault to examine if, and how, discipline and control are involved in outdoor experiential education. Using examples from education practice, the authors’ show how outdoor education lends itself to creating and maintaining “docile bodies” by hierarchical observation, normalizing judgments and examination. They appreciate that discipline and control often are necessary and desirable and at the same time argue the importance of avoiding incorporating them into programs without understanding the negative relations of power.

Another qualitative study applied Transformative learning theory to understanding learning and personal growth in outdoor environmental education. Exploring the experiences of 23 outdoor adventure education participants they found that the participants experienced personal transformations, attributing it to the time spent in pristine nature, separation from normal life, the formation of community and the challenge and intensity of the course (D’Amato & Krasny, 2011).

The low number of studies found reflects the notion that the field of outdoor education is lacking theoretically related reflections (Hickman & Stokes, 2016).

Systems theory in relation to leadership
The third research question aims to explore efficient outdoor leadership from the Theory of Human Living Systems. In a previous study by Agazarian and Philibossian (1998) the THLS was applied in the context of organizational change within business. In the conclusion, they put forward the importance for leaders to pay attention as much to the surrounding context, as to the internal environment of the specific team or department. They state the major challenge of leadership is to enable leaders to take responsibility for the effect of their communication both within their system as well as in the surrounding environment. In another study, a case study, Systems Centered Training, SCT, was used to analyze a youth project run by a multi-agency partnership. In the study, they found that the development of the partnership-system in the project was important in relation to the effectiveness and sustainability of the project. Having a shared view of the context for work, common goals and clear roles were also keys for the
development of the project. In their conclusions, the authors found SCT and its theory to be useful for analyzing and reflecting on multi-agency partnerships (Farrier et al, 2010).

Looking at leadership from a general systems perspective, Laszlo (2012) described how systems thinking has emerged as a perspective to innovate and manage difficult situations. The author then describes a model of systems thinking, systems feeling and systems being called a transformative learning process of expanding from awareness to embodiment. Evolutionary leadership is the concept she builds on and uses for systems being, the final developmental step in the transformative learning process. The author describes the competencies of evolutionary leadership as consisting of a mind-set, skill-set and heart-set. Examples of the skills related to the sets are practicing systems thinking, perceiving the patterns of change, have and facilitate conversations that build trust and commitment, create the conditions for effective collaboration and engaging in difficult and missing conversations.

Systems theory has not yet been found applied to research in the context of outdoor education, making this study a relevant contribution.
Theory of Human Living Systems

This chapter describes the Theory of Human Living Systems, THLS. This theory is developed by Yvonne Agazarian and builds on the work of many others, such as Kurt Lewin, Korzybski, Festinger, Shannon and Weaver, von Bertalanfy and Bennis and Shepard (Agazarian & Gantt, 2000).

THLS describes a framework for understanding and changing human systems. A living human system may be a person, a part of a group, a group, or an organisation, a nation or the world. The theory supports generalisations and building of hypotheses on all system levels. The framework is built on a set of definitions describing the basic constructs of the theory. Seeing things from a systems perspective is at the heart of the theory. What is in focus is the system of the individual, the subgroup and the group as a whole – at the same time. This approach is different in comparison to those where the teacher or coach is in focus (teacher-centered), and also different to approaches where the learner is in focus (individual-centered).

The core of the theory is the definition of human living systems as “a hierarchy of isomorphic systems that are energy organizing, goal-directed and self-correcting.” (Agazarian, 2004, p. 18). Each part of the concepts will be described below.

Hierarchy

A hierarchy is understood as parts of a system, where each part exists inside the context of the higher level and is the context for the system on the level below (Agazarian, 2004).

As an example of this relating to the empirical findings of the thesis, the group as a whole was the entire course where the study took place. Each smaller group of paddlers can be described as a subgroup, in which each participant was a member.

Figure 1. A group as a system
In this way, the system is described in sets of three subsystems. Which three are chosen depends on the interest at any particular time. So, if one likes, each of the smaller groups is a group as a whole, in which there are (informal) subgroups, in which there are individual members. The theory and its Systems-Centered practice suggest that the most effective point to influence change is at the subgroup level since it has boundaries with the system above and below.

**Isomorphy**

The concept of isomorphy proposes that there are similarities between systems in the same hierarchy. In Greek *Isos* stands for “equal” and *Morphe* for “shape”, making “equal shape”. What is being discovered at one level of system, say subgroup, also gives clues to what to be expected in the group as a whole and in the individual group member. Systems are like a set of Russian dolls. As a consequence of this, the theory states that changes in one system level influences all levels of the hierarchy (Agazarian & Gantt, 2000).

**Function**

Systems function by discriminating and integrating differences. To the extent that differences are discriminated and integrated, the theory states that the system will survive, develop and transform. To the extent the system is surviving, there is energy to spare for development. A system that is threatened is focusing on survival and staying stable and has little energy for development. Through the process of development, by discriminating and integrating differences, the system transforms from simpler to more complex (Agazarian, 2004).

Skills are thereby developed by discriminating and integrating differences. This process is to separate one thing from another (due to differences), as well as recognizing similarities in what seems different and then incorporating the information into the system, thus changing it.

**Structure**

Every system is defined by its boundaries, real and psychological, in time and space. In the context of outdoor education, each session, each group and the course as a whole makes up different contexts that are defined by boundaries. There is a start for the different groups as they gather, they stick together in a specific area for the activities and there is an end at each session marking the boundaries in time and space. There are also boundaries in terms of the roles, such as the instructors, the participants, the parents and me as a researcher. SCT defines roles by the functional behaviors that connects them to the goals of the context (Agazarian & Gantt, 2005).
The roles are linked to time and space and they change in different contexts, like when moving from session to free-time outside session (Agazarian, 2004).

Psychological boundaries are managing the contexts of past, present and future as well as the boundary of fantasy and reality (Ibid.). The members may, at any given time, be remembering their past experiences of paddling, be present in the paddling here and now, as well as dreaming (or dreading) or planning for paddling to come. Another distinction concerning boundaries is made between explaining and exploring an experience, where the first leads to the past (different to the reality of here and now) and the second leading to problem-solving in the here and now.

Boundaries making up the structure are like containers for the energy available in the system. As the leader and group manages to stay together physically and psychologically in the here and now, they can interact and put their focus on learning the skills they are working on at the moment. As soon as one participant drifts down the river and away from the group, the work stops to get the group together before continuing. The boundaries are more or less permeable, opening and closing to information and so influences the energy available for work (Ibid.). How well the information crosses the boundaries and how it is organized inside the system determines the development of the system. To the extent the boundaries are appropriately open between participants and leaders, they develop as paddlers. Too open boundaries will flood the system with information, too closed will keep new information out.

The permeability of the boundaries is depending on how well the new information fits the current information inside system. Boundaries close to differences that are too different and open to similarities. What information crosses the boundaries also depends on the “noise” accompanying the communication. More noise – less information transfer, less noise – more information transfer. SCT defines noise as ambiguity, contradictions and redundancy. Transfer is about information entering the system. This does not mean same as it being integrated. If the information being transferred is too different, the receiving system may contain the difference in a split until it can be integrated. When the information is similar enough to the existing structure it will be integrated (Agazarian & Gantt, 2000). The structure as well as the function of the system is being influenced by communication and the amount of noise in the communication.

**Energy**

Energy equals information and determines the systems’ ability to work toward the goals.
In the context of an outdoor course, all communication amongst the people at the course can be defined as energy. All communication has a purpose of attaining a goal. Every system develops a particular and isomorphic organization of communication in relation to the goals. By analyzing and working with communication as energy, vectoring towards or against particular goals, it is possible to understand and change the communication to influence the system to support the purpose of work in the group. Building on Lewin, SCT posits that weakening the noise in communication makes the energy – information more easily integrated and used to support the goals of the context, for example learning to kayak in the context of a kayaking course. (Agazarian & Gantt, 2000; Agazarian, 2004).

Goals

In the work of any system there are these two kinds of goals, the implicit primary goals of survival, development and transformation of the system itself and the secondary, explicit goals to solve the problems in the environment. Actions taken and communications made are directed towards either of these goals. If at any time these goals are conflicting, the primary implicit goals of the systems survival and development will take precedence over the secondary explicit goals of solving problems in the environment (Agazarian, 2004).

Self-correction

Systems self-correct to stay in balance, maintaining the norms and communication patterns that have been established previously. Self-correcting has both a stabilizing and developmental function. Self-correction to what is already established by avoiding change, containing differences that are not yet to be integrated. Self-correction to develop by integrating differences and thereby changing (Ibid.).

Roles

Roles are subsystems made up by boundaries. Examples of roles are the leaders, the participants, the parents and me as a researcher. The roles exist in contexts in time and space. For example, the leaders and members move out of session and in to other roles when playing with friends. Each role has goals and is defined by the functional behaviors that links to these goals (Agazarian, 2004; Agazarian & Gantt, 2005).

Context

A context is the environment of the system. The course is a context for the study, and also a context for learning to kayak, as an environment for the group as a whole. The context for the
course is the Swedish Canoe Federation. These contexts can all be pictured as parts of a hierarchy of systems. To be “in context” is for the member to step into the role relevant to the context. Depending on choice of context, one may see different things in the same situation. Seeing more than one context is called “contextualizing” (Ibid.).

Figure 2. Contextualizing different systems

Phases of development

Based on Bennis and Shephard’s 1956 model of group phases, Agazarian developed a description of group development, also identifying that there are driving and restraining forces in each phase (Agazarian, 2006). The changes of development move the system from dependency to independence and interdependence.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Restraining forces to change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1: Authority</strong></td>
<td></td>
</tr>
<tr>
<td>Flight subphase</td>
<td>Stereotype social communication</td>
</tr>
<tr>
<td></td>
<td>Anxiety and worrying, avoiding reality testing</td>
</tr>
<tr>
<td></td>
<td>Tensions avoiding emotional experience</td>
</tr>
<tr>
<td>Transitional subphase</td>
<td>Depressions and hostile acting-out (scapegoating self or others) as defenses against the impulse to retaliate (hit back)</td>
</tr>
<tr>
<td>Fight subphase</td>
<td>Role-lock defenses scapegoating self and others</td>
</tr>
<tr>
<td>Transitional subphase</td>
<td>Defenses against change by externalizing conflicts and scapegoating those in authority</td>
</tr>
<tr>
<td></td>
<td>Resistance to reality</td>
</tr>
<tr>
<td><strong>2: Intimacy</strong></td>
<td></td>
</tr>
<tr>
<td>Enchantment and Hope</td>
<td>Defense against separation and individuation by enchantment, idealization, merging and blind trust in others</td>
</tr>
<tr>
<td>Subphase</td>
<td></td>
</tr>
<tr>
<td>Disenchantment and Despair</td>
<td>Defense against individuation and similarities by disenchantment, alienation and blind mistrust in self and others</td>
</tr>
<tr>
<td><strong>3: Interdependent love, work and play</strong></td>
<td></td>
</tr>
<tr>
<td>Ongoing phases of work in the experienced group</td>
<td>Defenses against knowledge and common sense. Self-centeredness at expense of self and the environment.</td>
</tr>
</tbody>
</table>

Table 1. Phases of system development and restraining forces (Agazarian, 2006).
Operational methods and techniques

Building on the theoretical concepts of THLS, Agazarian (2004) describes several operational methods that correlate to the definitions of the theory. These methods are put in practice when purposefully developing a Systems-centered group. In the context of this study no attempts have been made from any part to do this. Instead the purpose is to explore events of the camp using THLS to see what can be observed and learnt in relation to these methods.

Functional subgrouping

Functional subgrouping is a method for communication that facilitates the discrimination and integration of differences toward the goals of survival, development and transformation. In Functional subgrouping, one side of a difference is explored at a time and new differences are introduced carefully. When differences are explored (instead of being defended or attacked) they may be integrated. When practiced, the subgroups keep building on the previous speaker, staying similar enough to stay together while adding small differences or nuances. When introducing a difference, it is done carefully, waiting until there is enough curiosity to be listened to. The opposite of functional subgroups are stereotype subgroups. Here the differences are formed around obvious subgroups such as right way - wrong way, girls - boys, immigrants - Swedes and fast - slow. These stereotypes lead to denial of the similarities between the subgroups as well as the differences within the subgroups and thereby splits the group as a whole. The stereotypes contain the differences not yet ready to be integrated in the system as a whole (Agazarian & Gantt, 2005; Agazarian 2004).

Boundarying

Boundarying are methods that reduces noise in communication. This is used to influence the permeability of boundaries between systems. As mentioned earlier SCT defines three kinds of noise in communication: ambiguity, contradictions and redundancy. The theory states that filtering these out of communication opens the boundaries for information transfer and so increases the possibilities of integrating differences (Ibid.). Another example of boundarying is the technique of weakening the defenses in the phases of development (as it opens the boundaries for information). Agazarian developed a hierarchy of defense modification, matching practical protocols for undoing restraining forces in each phase of development. Each phase is framed as a context in which the group sequentially learns to modify and weaken

---

4 SCT® and Systems-Centered® are registered trademarks of Dr. Yvonne M. Agazarian and the Systems-Centered Training and Research Institute, Inc., a non-profit organization.
specific defenses. In this way reducing the restraining forces releases the driving forces towards the goals of system development and transformation (Agazarian & Gantt, 2000).

**Vectoring**

Vectoring is paying attention to what behaviors are supporting or diverging from the goal, striving to reduce the restraining forces and increasing the driving forces. It is always easier and more efficient to reduce the restraining forces. One technique of vectoring is called “fork in the road”, in which there are two options presented of which both directs the energy towards further exploration (Agazarian, 2004).

**Contextualizing**

To contextualize is to see more than one context. It is a method where members observe themselves and in relation to the context and recognizes differences and similarities between systems as systems (Ibid.).

**Summary**

Any human living system, such as a group or a person, can be described as a whole that is containing sub-systems, or as a subsystem existing in the context of another whole. Boundaries organize the energy of the system and can be more or less permeable for information exchange. The parts of a defined systems-hierarchy are isomorphic, meaning they are similar in structure and function and that a change in one part will affect the other parts. Every such system is organizing its energy within and across its boundaries (i.e. vectoring communication) towards the primary goals of survival, development and transformation as well as the secondary goals of managing the environment. To the extent the system discriminates and integrates differences (discovering what is different in what seems similar and what is similar in what seems different), it matures through the phases of development and becomes more complex. Becoming more complex means increasing its´ resources to manage the environment (Agazarian, 1997; Agazarian & Gantt, 2000; Agazarian, 2004; Agazarian, 2006).

---

5 This idea is coming from Kurt Lewin, to whom Agazarian is referring in her text (Agazarian & Gantt, 2000).
Methodology
This chapter describe the research method and choices made in terms of gathering and analyzing data as well as managing ethical questions.

Choice of method
With consideration to the aim of exploring what is going on during an outdoor activity and what the leaders are doing in real situations, the methodological perspective chosen in this study is ethnography. Ethnography is a broad practice of research covering a range of methods and often ethnographers draw on several sources of data. Common to ethnographic studies are (Hammersley, 2007):

- Field studies of peoples´ actions in the context of everyday life
- A range of sources being used, formerly participant observations, informal conversations and various documentation.
- Relatively unstructured data gathering leading to categories during the phase of analysis
- Usually focusing on few cases, like a single group of people.
- The result of analysis is most often descriptions, explanations and theories.

These criteria are matching the study I have done. Furthermore, ethnographical studies most often follow an inductive process, were conclusions are made from empirical data. I am doing the same in this study, exploring the gathered material and finding patterns in terms of themes (Kullberg, 1996). The argument for this, is avoiding the theory from shaping the data that is to be explored. It is after the patterns and themes have evolved I am working the next step of elaborating with THLS in relation to the result of the inductive process.

Reflexivity is a concept used to describe that the researchers are a part of the world they study. This means that the researcher is shaped by and is also a shaper of the surrounding. This is a part of the process of developing knowledge when in participant observation. This awareness is essential and can be dealt with in different ways, by minimizing it, monitor it and exploit it by finding out about how people respond to the researcher (Hammersley, 2007). I did some of all three. Recognizing the impact of being there, by asking questions, taking part and interacting with the participants. The participants asked me questions, both related to the research “How is it going for you?” as well as related to kayaking “Shall I get the paddle?”. During the interview with the leader, it was clear that my questions altered his perceptions, as he reflected on how the questions made him think differently on what had happened during the day. These are examples of how my presence as a researcher had an influence on the participants. I was also
keeping distant to minimize influences in terms of what was going on, blending in so I was not in the focus of attention, nor causing awkwardness to the group. My previous knowledge as a kayaker made a difference in terms of reflexivity. Having been shaped in similar contexts allowed me to blend in and participate like an observer, having the skills and knowing the codes of behavior. At the same time, I was blinded by what I already knew and expected, hypothetically missing out on questions and behaviors that researchers with other backgrounds would find interesting and noteworthy.

**Choice of case**

The choice of case was based on what was practical to arrange and on my interest in whitewater kayaking. I wanted to observe a course for three days´ to have data of leadership covering more than three sessions. There are only a few events where courses run for three days or more, and this was one of them. Due to my work in the Swedish Canoe federation I had information about this camp. It was a camp aimed for young people who wanted to learn whitewater kayaking. This also meant there where gatekeepers within the organization, supporting my work by giving me access and communicating with the leaders and participants beforehand. Despite of my interest in efficient leadership, there was no attempt to find the best and most merited leaders. The reasoning behind this being that all coaches will display both more and less efficient behaviors, what becomes interesting is making the discrimination between the behaviors, not the people. The observation of the Whitewater kayaking camp for children took place in the autumn of 2015. The camp lasted for five days and was organized by the Swedish canoe federation as a camp for anyone between 9-18 years old.

**Gathering data**

At the start of the course I was making myself known, the same way as the participants as we were doing brief presentations of ourselves. This, as well as small-talking to the parents and leaders, was as part of constructing myself as a researcher in the context. I was also at this stage recording my own reactions to what was going on, as a part of bringing the reflexivity into monitoring and analytic control (Hammersley, 2007). Several means of recording data were used: Fieldnotes on paper, with waterproof paper for when sitting in the kayak. Video and audio recordings of observations and recordings of interviews.

**Observations**

The contexts I was observing were gatherings, beginning of sessions, instructions and events during sessions, ends of sessions. I left out the time outside sessions when children and leaders
left their roles as instructors and participants, as my focus was the formal leadership on the water. The observations were related to the question “What is happening here” and I was especially interested in the interactions between leaders and participants.

I decided to follow one of the groups during the sessions (rather than change between groups), to get continuity in following the process and to develop the relationship with that group. When one leader was alone with a group I followed that group, as it would be much with three adults paddling around three children, and that the single leader could need help, which then skewed my observation into a more participatory style. During the observations, I paddled as close I needed to be to hear what was being said and to the side to stay out of their way.

Photo 2, Outfit when collecting data

My outfit was the same as the group for being on water. I had the Waterproof note-pad tucked in the buoyancy aid for taking fieldnotes and attached the phone in a waterproof pouch. During the observations, I took fieldnotes by hand to record interactions and events taking place. I also payed attention to artefacts that played part in the context. The equipment that is being used says something about the knowledge connected to the activities, acquired by the people. (Hammersley, 2007). I also noted how spaces and places had meaning and how the room was being used. The video was useful when I wanted to capture instructions and bring a fuller picture of the context / environment. It also became an important tool to audio-record observations and my own reflections, which proved faster and easier than writing. I transcribed the fieldnotes by first reading it into an application (“Dictus”) on the telephone. The application turned the voice into text. I then corrected the transcript from mistakes made by the application. I found this a quick way to manage the transcriptions. The information on the videos were also transcribed, writing down what was being said and referring briefly to what happened.
Interviews
I also did two formal interviews during the camp. The aim of these were to get information about the experiences of the leaders and participants, to complement the observations. Both interviews were made on the second evening. The interview with one leader was done in the leaders´ dormitory, where we were not interrupted by children or other leaders. I used a semi-structured interview with an interview-guide and follow up questions based on what came up in the conversation. The leader interviewed was the one I had followed for most of the time. I used the recorder on the telephone as well as notes for recording the conversation.

The interview with participants was held with all of them as a focus group and took place in the kitchen. Conducting focus groups have a strength in that it brings in a breadth of ideas and perspectives as the group is talking together. On the downside, the group can become influenced by one or two influential members, limiting differences from coming in. To manage this I was clarifying the goals of bringing in a variety of ideas and tried to create a safe and open climate. Using the focus groups may also make participation a worthwhile learning experience for every member, something that can make them want to participate in the study (Bryman, 2012). When transcribing the interviews, I was using external loudspeakers to hear better what was said.

Ethical considerations
Scientific studies are an important mean to develop knowledge. At the same time, there are ethical considerations to be made so that harm is avoided as human welfare has precedence to scientific research. These two criteria are managed to stay in balance. These are the ethical considerations taken in the study, based on the advice of the Swedish research council (Vetenskapsrådet, 2002). Information about the study was sent beforehand to the participants by the organizer of the whitewater camp. Here they were given the opportunity to say no to participation in the study and that they at any time could. They were also informed about their role and that they at any time can decide to withdraw from participation, following the norm of informed consent. Every participant decided for himself if they wanted to take part in the study. As the participants were young, their parents were asked to consent. Before the beginning of the course I received written consent and all participants and parents agreed to take part in the study. The participants and parents were also offered an electronic copy of the thesis. At the beginning of the camp I introduced myself to the participants and parents, describing the observations and interviews I was going to undertake and that they were welcome to ask any questions about what I was doing.
The participants in the study are protected by confidentiality, so that they cannot be identified by anyone reading the study. The names have been changed and the photos and videos will be deleted once the study is completed. The information gathered from respondents is only allowed to be used in accordance with what has been agreed to in the information given. Interviews with the focus group and with the kayak leader were done in a non-threatening manner, for example by setting appreciative norms and not pushing participants to speak up, avoiding any harm that could occur in this situation. Furthermore, during the research on the water, care was taken not to influence the leaders or participants to take any risks they would not take if the research was not being undertaken.

Thematical analysis
The analysis aimed to generate concepts describing what was going on, by discovering features and patterns in the materiel. Themes arised out of focusing on patterns of action, what people said, did and why they did so. Routine actions and rituals, failed performances and unexpected outcomes all contributed to clarify what was going on (Hammersley, 2007).

I made use of two forms of triangulation. Data-source triangulation by using several sources of data for looking at one phenomena, such as participants and the leaders. Using method triangulation, I analyzed data produced from several methods, such as interviews and observations. This way the data could be validated from different directions, strengthening results. Below follows a brief description of steps taken during the analysis.

Step 1
Reading and writing initial reflections on the data. I was writing what came to my mind when reading the transcriptions of notes, interviews, films and photos. I was watching the videos again and at the same time looking at the transcription, writing my reflections on the side. I discovered that I started writing similar reflections as earlier, making me think I had come to a saturation and it was time for the next step. At this stage all transcribed data was transferred into one large document (Bryman, 2012).

Step 2
Looking for patterns in the data and reflections. Hopping between details and big picture to discover patterns and themes. This was an intuitive process, getting a feel for the data in total. I wrote down patterns, themes and missing bits. This was a process to clarify what was meaningful and essential to support understanding of what is going on – in relation to the interest of the study – outdoor leadership. There were 11 preliminary themes.
Step 3

Coding the preliminary themes into different colors and marking the data according to suitable theme. Reorganizing data so that a) data from different sources are put in the session where it was collected. Notes, films, interviews referring to a special occasion was put in correct session. And b) data with same color (theme) was put together within each session (Kullberg, 1996).

Step 4

Comparing sessions. Going through session by session, writing down what is going on that is different in the session and what was similar for all sessions. When doing this I was transferring the data into a grid with fields (one for each session) and one field for commonalities where I put all things occurring in every session (Bryman, 2012). This allowed me to summarize all data in two pages, giving a good overview, visualizing the core data and bringing out what was reoccurring as well as exceptional within the data. I kept using the color-coding and changed any data where I had second thoughts.

Step 5

Working through the grid I then sought to find headlines within the data, to organize the content and review the themes. Bringing out headlines and sorting the material where it belonged underneath the headlines gave a new, further developed thematic description where in the end there where only four colors left: Setting up (then changed into “Developing structure and functions for work”), Instructing (then changed into “Leading activities”), Teaching and Results (then changed to “Teaching” and “Outcomes”). Each theme with headlines for subthemes underneath.

Step 6

As a final step, leading to a presentation of the result, I transferred the data from the grid into a document where each session on the course become the bearer of one of the main themes and the subthemes as headlines connected to each of them. For a readable presentation, the result was written as a text with a logical flow connecting the themes and the data. During this process, the last rearrangements of data were made, so that the meaning of what was going on was captured under the right theme.

Also as a part of this, the result from the empirical study was linked to THLS and answering the research questions.
Discussion of methodology
This discussion is reflecting on methodological choices made and some of the consequences.

Choice of perspective and methods
With a strong interest in exploring the use of THLS to understand outdoor leadership, an alternative would have been to conduct a deductive study, using THLS as a framework and then testing the hypothesis empirically. My lack of experience of that type of study was restraining me from doing so. I am still curious about how that could be done and what the study would then lead to. It is possibly to leave this for a next study, building on the findings of the results of this study.

Choice of case/respondents
With any choice of group in an ethnographical study, the result will reflect that group and context. With regards to the research question, my reflections are that the first question “what is happening”, could present different outcomes, due to differences in another context and the members and dynamics in that context. For example, if there would only be one leader, there would not be a subtheme on “Leading together”. It would be interesting to make such a comparison. I am confident that the THLS would lend itself for analyzing the result of another case, given that what would be discovered would reflect that case. My belief about the third question, about efficient leadership, is that there would be more similarities than differences, due to the theoretical and general qualities of the hypothesis presented. Saying that, I am also curious to find out about the differences and similarities that would come out, recognizing that this was only one limited exploration.

Data gathering
Most of the data gathering happened whilst on the water. There were difficulties that I had not foreseen. Observations and recording data was tricky when it was wet. At one stage, it was raining hard, making the touchscreen on the phone not to work and the pen smearing. As a rule, the group was moving, the water was moving and my own kayak was moving. I needed my hands to record data as well as for maneuvering the kayak. I solved this in a couple of different ways, finding for example it was easier to make auditory recordings into the telephone than to write. I also took pauses from observations, sitting at the side in an eddy to record and take notes, then paddling back to the group. The data hardest to record was the verbal interactions, for most of the time I only got parts of the interaction and rarely the full sequence, this was unfortunate as communication makes most sense when it is followed through. When doing the observations, I would also have liked to be more thorough in following up on results of
interactions, what are the consequences and effects of the communication, for example after feedback and instructions have been given. To get hold of this insight it would have been useful to have done analyzing work of the material in the evenings, to be able to spot what I might want to ask or observe more of during the following day.

There were examples of reflexivity during the observations and interviews. In my notes I write:

“I have this afternoon had a relative distance from the group, not been very close when they received instructions and not filmed and taken a lot of pictures. I do not want them to feel so observed, without first getting used to me being there as an observer. I have been asked a number of questions during the morning and exchanged a few words with a guy who was worried before he would tip the kayak. I could not help but to support him.” (Fieldnotes Monday am)

There were several examples, mostly characterized by a sense of mutual care between me as a researcher and the participants:

One child paddles up to me asking “Are your things going alright?” “Yes, thank you, I said. How about you?” “Good, it is just hard work to paddle.” (Fieldnotes Tuesday am)

Reflecting on the work, I could have done more of informal conversations. I was overly cautious, not wanting to influence the result by inducing cue seeking behaviors. During the interview with the leader, the impact of my questions clearly had an impact (Hammersley, 2007).

“Now that you are telling me this it sounds like you would have liked to do it in a different way”.

“Perhaps. Especially when thinking about it now afterwards. It becomes completely different when looking back afterwards. There could be more reflections, what if these questions had been asked beforehand?” (Leader interview, Tuesday evening)

This was an example of reflexivity and how I as a researcher was influencing the interviewee. As during the next day this leader was having an assistant role, I did not see if in any way his behavior was changed due to the interview.

As for the group interview, I discovered that I would have needed a second interview to have more of a group conversation. There was no interaction between the members, only questions
and answers between me and each of them as individuals. They had not been working together as a whole during the day and so stayed reserved during the interview. It is possible I could have laid the work up differently by firstly developing more trust and a sense of fun in the interview-situation. Another problem was the recording, as someone in the group was tapping the table where the phone was laying during the interview, parts of the interview was not at all possible to hear.

Process of analysis
In the analysis, it was very helpful doing the color-coding to discriminate the themes (Kullberg, 1996). Another helpful process was using a grid to discriminate similarities and differences between the sessions. I developed this idea from Bryman (2012) in conjunction with THLS, drawing a map of the contexts and sorting similarities and differences.

In working with the analysis, I learnt about dealing with my own preconceived opinions and explanations of good and bad instructions and leadership. The key was to instead assess what seemed to work from looking at the data gathered, exploring the empirical evidence.

As the analysis was an inductive thematical analysis, I aimed to put aside what I had already learned about THLS, so that it would be less of an influence at that stage of work. I dealt with it by noticing the associations that came, writing them down on the side and then continuing the thematical analysis.
Result and theoretical analysis: Describing what happens at a whitewater kayaking camp

The result covers a thematic analysis of the empirical data, as well as an analysis of the same in relation to the Theory of Human Living Systems, THLS.

Answering the research questions is done by presenting a descriptive story, from beginning to the end of the course where the data was collected.

1) “What happens during an outdoor training event?”
This will be described by the presentation of the themes that evolved during the inductive analysis.

2) “How can an outdoor training event be understood using THLS?”
This will be elaborated through analysing each part of the thematic description in relation to THLS.

3) “How can efficient outdoor leadership be described, based on the above results?”
This will be answered as a collection of hypothesis at the end, based on the result and theoretical analysis, presented in a format of a forcefield.

Arriving

The site and the leaders

When arriving at the venue, a kayak clubhouse where the course was to take place, I looked around to find the group of leaders. The four of them were sitting in the kitchen talking through the program and deciding who would do what during the start of the course. They were in their twenties, experienced white water kayakers, Harry, Noah, Martin and Ted. The atmosphere around the kitchen table was relaxed and the pace was calm even though the course was to begin in a few hours. The venue was close to the whitewater and there was a large dormitory with beds for everyone. There were two changing rooms and a kitchen where the meals was to be cooked during the course. Outside the building there was a large veranda with tables, overlooking the whitewater.

The group of participants

After lunch on this first day the participants started arriving to the venue together with their parents. As they began to drop in they asked around to find out where to meet for the start and where to sleep. At two a clock the group was gathered outside the clubhouse for introductory presentations. The group was now consisting of 18 people. Two brothers aged 11 and 13 (Felix
and Adnan) with their father, two Norwegian children aged 11 and 13 (Roger and Morten) with their mothers, a girl aged 10 (Lisa) with her father, a brother (Robert) and sister (Anna) aged 11 and 14 with parents, one boy aged 13 (Nicolas) with his father as well as three teenagers whose parents had now left the site. Yet to come were two boys aged 10 and 12 (Eric and Tom) and their mother. When the first session was to begin, some parents left to go home, while some stayed around to watch and help, some others went for trips, walking and cycling in the area. During the week, the parents that stayed also took turns helping the children with cooking and washing the dishes (Fieldnotes Monday pm).

Developing structure and functions for work
The work of getting ready is about getting clear about structures in terms of who is in the group, what are the times, the rules and the goals. Getting ready also involved the practical preparations for getting into the kayaks and getting the kayaks into the water.

Clarifying structure
The children and parents had been hanging around for a little while, tentative small-talking in little groups while waiting for the leaders to get to the meeting area on the veranda outside the house. Five minutes past two all leaders were there and Noah spoke up asking the group to come closer as the noise from the river made it hard to hear what was being said. The group moved slightly closer, standing nearer their relatives and friends from before. He said welcome and asked everyone to say their name, where they come from and something about their previous paddling experience. As an observer, I noticed a certain nervousness as everyone in quiet voices made their brief, reluctant self-presentations, also finding myself trying desperately to figure out what to say about myself, having forgot what I had planned to say. After Adnan had made his presentation saying he had paddled quite a lot, his father corrected him, saying he was not so experienced. There was a brief disagreement from Adnan. Then Noah told the group about the rules: to look after their things and to be quiet and in bed by ten pm at the latest. Later during the day more rules were introduced, about swimming in the rapids. Those where to always stay together, at least two people to look after each other, and that there had to be an adult watching from land (Fieldnotes Monday pm).

Continuing to introduce the course, Noah said there would be two sessions of paddling every day, one between nine and eleven and another between two and four. The group also learnt to know that they were to take turns helping with cooking at breakfast, lunch and dinner. They
were going to find out what meals everyone would be cooking later in the evening, and the groups for cooking were to be announced on the whiteboard in the kitchen.

At the end of the first gathering on the veranda, Noah asked the group “who has equipment of their own and who needs to borrow?” The ones that needed to borrow put their hand up and were told to follow one of the leaders. Then all the children went to get changed for paddling.

Understanding this from the perspective of THLS, in this first session the camp began to develop as a system. Moving the group closer together was a way to reduce noise from the outside environment and bringing more of the energy from the members into the group, at the same time forming a physical boundary for the inside and outside the group as a whole. Doing the self-presentations was clarifying who was in the camp and in what role. The leader also clarified times and rules. All of this had to do with developing structure by clarifying the boundaries in time, place and roles, which is also reducing ambiguity (Agazarian, 2004).

As boundaries were formed the system could organize and contain the energy and start to develop. On the veranda boundaries where set, contextualizing the group as a whole. The group was also divided into smaller subgroups. First based on the functional criteria of access to equipment, later to form groups with a similar number of children for the first session on the water.

Looking at the system from the phases of development, the group can be assumed to have been in Flight, where all new systems start. Clarifying the roles is reducing the uncertainties prevailing in the first phase of development, as was the work done by the leaders to reduce ambiguities in time and place. During these clarifications, there were no questions or questioning, the group appeared to listen and acknowledge the information. Data supporting this was that the rules where adhered to, instructions where followed and the group started working immediately after the introduction. Also, the reluctance of standing close in the group,
the nervousness, brief introductions and standing closer to family-members are signs of the dependency and flight that is characterizing the flight phase of group development. One exception to Flight was the interaction between the son and father, containing potential fighting energy in a subsystem within the group as a whole (Agazarian, 2006).

From structure to function

As a next step, leaving the work on structure on the veranda, the group turns to the practical preparations of getting equipment and moving oneself to the place for launching. To be able to paddle everyone needed a wetsuit, a helmet, a lifejacket, a spraydeck to stop water from coming in to the cockpit, a kayak and a paddle.

The pace was calm and the atmosphere relaxed as people went back and forth with their equipment. At ten to three, the two brothers Eric and Tom arrived with their mother. They got immediate help from one leader with getting their equipment and making themselves ready to paddle directly. The leaders themselves also wandered about while getting their own equipment on. Everyone seemed to be minding their own business, the leaders sometimes attending a child, helping them with the equipment, for example pulling a tight wetsuit on an arm (Fieldnotes Monday pm).

One and a half hour after the beginning of the introduction, all children and instructors were sitting in their kayaks. In this period, everyone had been sorting themselves out at their own pace. The more experienced had already started paddling around, doing tricks on the flat water. One boy, Roger, was getting help from one instructor to learn the roll (advanced self-rescue technique, turning upside down and then recovering using the paddle), while the beginners were still by the jetty on their way to do their first ever launch into the water. Others yet were sitting around watching. Felix, seeming to become restless asks a question to the nearest instructor, instructor answering:

“uhum, you can play around here while waiting for him (pointing at last boy on the jetty) to get in”. Meanwhile someone does the roll (advanced self-rescue technique), another takes a few paddling-strokes forward (Video Monday pm).

A few minutes later everyone was gathering in their smaller groups of paddlers that was going to work together on the water during the first session.

From the perspective of THLS it can be said that there were two different subgroups, beginners and experienced that were different in that the experienced already had their own equipment, knew what to do and sooner got ready. The experienced subgroup were using their skills on the
water once launched, while the beginners where waiting for the last ones to get ready. Within
the subgroups in this space, between the context of initial gathering in the group as a whole and
the gathering in smaller working groups on the water, one and one worked alone or got help
from instructors, as individuals. The participants where moving from person system towards
member and into subgroups as they gathered on the water. This process can be described as
crossing the boundary into the role as paddlers and becoming members of a group of kayakers
(Agazarian, 2004).

What was happening was also that the participants were learning the skills necessary to take up
that role. Learning what equipment to use, how to get dressed and how to launch. They learned
this by watching the more experienced paddlers and by getting help from the instructors. They
were discriminating the different steps of getting ready, the different pieces of equipment as
well as the techniques to use for getting dressed and launch. Integrating these skills developed
their independence as paddlers. In terms of THLS the participants were functioning, and
developing, by discriminating and integrating differences (Agazarian, 2004).

In this work, the leaders were vectoring their energy on getting themselves and the participants
that needed help ready, which was also the goal of the context. The boy Felix is on the boundary
of first session when asking for what to do, vectoring his energy i
nto work and reducing
ambiguity on the boundary. The leader then answers by contextualizing the situation, orienting
to what was going on in the reality here and now and vectors Felix behavior towards the task
of the session, by suggesting to play around while waiting (Agazarian, 2004).

**Clarifying goals**

On the way down to the beach where the children had just started launching, Noah told me "we
shall divide the group, there will be more paddling happening tomorrow". With this he was
referring to a goal earlier expressed by the instructors at the meeting in the kitchen, saying this
first session was aiming at finding out the skills-levels of the paddlers.
This was confirmed at the end of the session when I was paddling back to the jetty together
with Martin. On the way there he told me: "It's been a bit unstructured today, we wanted to see
what their abilities are today, and then we can divide them into smaller groups for tomorrow."

At this stage the instructors were also looking at goals for the individual paddlers. One
expression of this was the early work with teaching one boy to do the roll, before the session
started for the rest. Managing the roll meant he would be able to go with the advanced group. As it turns out the roll is not strong enough, so he stays in the beginner group.

I am later told about the goals for each session and for the camp as a whole, for the beginner groups. As stated above, the first session aimed at seeing their abilities to be able to make suitable groups. In the second session, the group was to learn the basic skills and become stable enough to paddle the whole rapid. This work continued session 3, then with emphasis on repetition to get even more stable. The last session was to be about going on a trip to get a feel for the fun and having a break from hard work. Other overriding goals were to learn the basics and enjoy paddling, in Ted’s words:

“To have fun, get bitten by paddling and want to do more”
(Interview Tuesday pm)

According to the THLS, all human systems are directed by their primary goals of survival, development and transformation, and also the secondary goals of managing the formal task of the system. The goals initially expressed by the leaders are concerned with making the groups. Observing what was done, there was a goal of clarifying structures, which making groups is a part of. These goals in terms of THLS are about the primary goal of survival. The focus on building the system by clarifying boundaries, roles and norms are driving towards this goal. It is creating conditions for later developmental work as well as for the secondary goals of learning to kayak. By building the system first, it can then deliver the secondary goals of learning to paddle (Agazarian, 2004).

One goal in the structuring process is to make groups with similar abilities, rather than different. This supports the boundaries being appropriately open to information and learning within the groups. Working with that one individual (Roger) on learning to roll can thus be seen as an example of this. Being able to do the roll can be described as a skill that is driving for taking up membership in the advanced group and crossing the boundary of the particular physical area where they will be working. What at the time I perceived to be individual work for one member, is from a systems-perspective a way to maintain open boundaries within the system and relates strongly to the stated goal of that session.

When Martin and Noah said that the session was unstructured, what was going on was getting information for developing a structure. As Noah put it “we want to see their abilities”. It can be said that the leaders are collecting factual data about the participants’ abilities, rather than
building on the initial presentations that were vague and based on personal opinions, as the interaction between Adnan and his father was an example of. Testing reality is a driving force in the Flight-phase (Agazarian, 2004).

The secondary goals, directed towards kayaking, are about learning the basic skills and getting stable. While moving into the first session, there is a goal of learning what equipment to use, how to get dressed and how to launch the kayak. The third day, using the learnt skills during a fun trip can be understood as a transformational goal of getting bitten by paddling.

**Leading activities**
The group and leaders are now ready to get on with the activities and start to paddle. The part of leadership related to teaching strategies have been extracted as a separate theme, focusing on learning.

The leaders have shared the leadership amongst them and are striving to keep the group together. In their work, the leaders choose places in the area to facilitate the work to be done. Assessing risks and managing fear is a part of every session, as is managing difficulties experienced by the children.

**Leading together**
The leaders are leading the course by dividing responsibilities amongst them. Coming down to the water, two of them were engaged with the children while the other two had left to get provisions for the week. One of the leaders was teaching the roll to one child, the other was looking after the rest of the group on water. No leader was around to help the newcomers to get into the water. Seeing this, I got an impulse to go in and help the children. Three children with no previous experience were left on the jetty while the others started to paddle around or doing tricks (Fieldnotes and Video Monday pm).

At this gap between the introduction on the deck and starting of session in the water, the children are much left at their own device, in the divide between leadership. The group is at different levels, spread out in abilities, in what they are doing and where they are.

Analyzing this from THLS, there is ambiguity in leadership in the context of getting ready for paddling, after meeting with the group as a whole on the veranda and before gathering in the subgroups on the water. In flight-phase the leader is important to manage anxiety and support members in crossing boundaries from one context to another.
Sometime into the session one leader left his group (another leader was remaining) to support a fellow leader in the other group. Both groups were paddling relatively close in the same area, the beginner group slightly further downstream where the water is calmer.

The group started practicing going in and out of eddies (an area of calm water next to the current), one student fell over and out of the kayak. A leader from the other group quickly paddled across and got hold of the swimmers’ kayak and emptied it of water (Fieldnotes Tuesday am).

This shows not only the leaders’ scope of observation, but also an example of supporting the other leader by putting his effort in the other group.

From the perspective of THLS, the boundaries between the subgroups are permeable for leaders to cooperate across the group-boundaries toward the goal of keeping the group safe and surviving. They also display an awareness of the wider context, paying attention to the group as a whole, while managing their own subgroup.

More examples of how the leaders are leading together occurs during a trip with the whole group as one. This time, the criteria for leadership is about resources in terms of equipment and knowledge.

During the warm-up one instructor says to the other instructors “I have no cow-tail, do you?” “Yes”, both say. “Ok, I will take the swimmer then, in case someone falls in.” (Video Wednesday am)

Here they divided responsibilities amongst them based on their equipment and also in relation to a pre-planned particular situation, in this case a rescue-scenario where without cow-tail (a short tow-line) he cannot tow a kayak effectively.

Moving into the trip the leaders were discussing how to go down the river. The instructors gathered a few meters aside from the children.

“Shall we divide into smaller groups or pairs or how shall we do it?”
“We can go together and then split up when we reach the first rapid, by the flat rock.” (Video Wednesday am).

The answer to the question about organizing is coming from the leader with good local knowledge, who knows the river very well. With this he is able to plan where to divide the
group, taking the physical environmental in consideration when making the decision of how to lead.

In the words of THLS, the leaders are boundarying when communicating with each other to reduce ambiguity about leadership roles. They are negotiating leadership by asking factual questions and sharing relevant information. The negotiating of leadership roles above, is based on the functional criteria of resources, such as equipment, knowledge and skills, rather than stereotypic opinions (Agazarian, 2004).

At times the group was also involved in decision-making and sharing the leadership by influencing what is going to happen next.

“Who goes first?” asks Robin. The children have a discussion, talking about what order to go in. Robert, who is the most experienced goes first.

(Fieldnotes Wednesday am).

The group was given the task to decide who goes first and managed to come to an agreement. This is an example of the leaders working towards the goal of independence, allowing the group to use its own knowledge and having the authority of deciding (Agazarian, 2004).

Staying together
The subtheme of staying together as a group is different from clarifying groups in that the former is about clarifying who is in the group and who is not. In working with groups the leaders are solving tasks in the established groups and working to maintain the structure. This happens continually as for most of the time the leader was working with a group and not on a one to one-basis.

One part of working with the group had to do with keeping the paddlers where the leader wanted them. The river is a dynamic environment, demanding of the group to stay together but not too close.

The leader paddled first and told the group to paddle after, one after another. After a first turn in a circuit, he stopped the group and told them to leave more distance between them (Fieldnotes Monday pm).

Here the group got corrective feedback to stay further apart as the distance was not appropriate. As an observer, I can only make a hypothesis about his thoughts (hard to spot everyone for feedback and safety, they get distracted and might collide with each other and with several in the current there was likelihood several of them could fall in at the same time). What is
interesting here is that he is paying attention and intervening to correct the group in relation to how they were organized on the water.

Another example of the norm of staying together was when the leader made the decision to change direction as the challenge he had planned felt too big and would split the group.

My idea was for us to paddle up on the side to go and have a look and talk to them and point out how the rapid could be paddled. This was the plan, but I changed it when she [a participant] fell in and took a step back. And I did not want to split the group and it did not feel right to take her from there and run the rapid from the top. (Leader interview Tuesday pm).

Here he changed the plans of what place to paddle due to what happened in the group, with the goal of keeping the group together being more important than paddling that rapid at that time.

Describing this from THLS, the leader is managing the boundaries in the group by clarifying appropriate distance between members. The boundaries for the subgroup are also managed by working in a physical context where everyone is safe and has the skills to handle the environment. The leader is judging the group’s ability from observing actual behaviors and is so basing his decisions on reality, rather than fantasies. These are all examples of keeping the boundaries closed enough to contain the group.

Below is an example of self-correction on behalf of the leader, learning to think before talking. This happens as the group responds to the leader saying his thoughts out loud, before thinking it through, giving instructions when he did not mean to. He then had to chase them up. The leader restabilized his system (in the role as a leader), resolving the conflict between the expected response and the actual response of the children, by deciding to communicate differently.

Ted discovered that the group took off as he was thinking aloud. In this case, he discovered the responsiveness of the group, learning to communicate differently to manage them better.

I had to think about what to say. If I happened to say: “I am wondering about us doing this”, thinking out loud, they said “Sure”, and went ahead. We were talking about paddling higher up on the side and then they left, so I had to go and chase after them (Leader interview Tuesday pm).
Here the group was following what he was saying more than he expected. As a consequence, the group got separated and took off in an unwanted direction. He is reflecting about this and recognizes that he must think before talking.

As the group was working together, they also took initiative to help each other and thereby also helping the leader to keep the group together.

As one child fell in, another child called to me: “I will get his paddle” as the swimmer had dropped it. I nodded to him and he picked it up. The children paddled up next to the beach to where the boy was also swimming and everybody gathered (Fieldnotes Tuesday am).

The group worked to stay together and to look after each other. They were also skilled enough to go where they wanted in the area. They had understood the norm of staying together and gathering between the exercises. These things supported the work to be done at the camp.

From THLS, there is an effort inside the group directing their energy to “stay together as a group”, maintaining the boundaries and thereby the safety (psychological and physical) of the group. This relates to the primary goal of survival. The group of paddlers have started to organize themselves, having for example established appropriate physical distances, so they can hear, see and support each other, creating conditions for development within that group as a system. As evidence for the norm of staying together, there are several examples of self-correction, where the group restabilizes and manages the conflict of the group having split up, maintaining the norm of staying together. Norms have an important role of directing the members’ behaviors and it is in the role of the leaders to set the norms. Considering the effect and purpose of the norm of staying together and helping each other, they are driving in the context of river kayaking.

Choosing place
Every activity takes place somewhere and the leader makes decisions about what place to work at throughout each session. The location at the river has some different areas. The beach and the jetty, followed by an area of flatwater. Further out comes the place where the rapid is coming down into the slower moving river, creating a current with waves with decreasing speed the further away it goes. On each side of that current there are areas called eddies, where the water is standing still or circulating upstream. Finally, there is the rapid coming from above, a stretch of more demanding whitewater. At driving distance, there is another longer stretch of whitewater, where the group goes on the third day. Ted shares his thoughts about this place:
“This is really a perfect place, there is a place to launch, you can do ferry glides and go in and out of eddies. It is easy access with the house next to the water. You can swim safely down the rapid. I don’t think you can get it much better than this.” (Leader interview Tuesday pm)

The beach is being used for exercises where the leader is standing in the water up to their waist to instruct the paddlers. This happens when they are practicing wet exit and the roll. When the child has managed to roll in the shallow water, the leader brings him out to the area of deep flatwater.

In THLS a place constitutes a context in conjunction with time. The instructor is identifying opportunities for activities and work in the different contexts. Each context in time and place has goals (Agazarian, 2004).

**Relating places to goals**

There is a purpose in choosing a place due to what can be experienced there. Ted was describing the plan for activity for next day:

“Most of all what we did not get to do today, to paddle down a longer stretch. And that is great, there are also opportunities to paddle in and out of eddies, but most of all to paddle more continuous rapids with waves and things. And bigger waves but still friendly, no stoppers and things. By paddling bigger waves that are also friendly, the paddlers get used to it and they think it is fun, that it is not so dangerous. It is good as then they might also become more bitten.” (Leader interview Tuesday pm)

This shows how the place is believed to provide opportunities for goals of the camp, learning the skills, getting used to and feeling safe in the environment so they can enjoy it. The place is described as a place for having fun. This is also confirmed by Lisa:

It was really fun going down the last bit in the rapid. (...) Where the bridge went over to the island, we launched there. (Referring to when they ran the rapid for the first time, my comment). (Group interview Tuesday pm).

By paddling this rapid, that was safe and easy enough, she had a good time.

From the perspective of THLS, there are goals related to each context in time and space. By defining the context and the goals of the context the instructor gets information about what can and cannot be done. In this case, the context described is a rapid with certain features and a
group of beginners starting to feel confident in moving water. The goal is to have a fun paddling experience by paddling a long stretch of running water. There is a developmental goal with bringing the group to a particular place. The work to be done in each context relates to this goal. The context and the goals are guiding for what behaviors are driving and restraining in that context (Agazarian, 2004).

Assessing risks
Whitewater kayaking may easily be perceived as an extreme sport with many risks. Observing the camp however, there are few examples of real dangers threatening the safety of the participants. The leaders are assessing risks continuously and quietly.

I paddled over to the other group who just started to make their way further upstream. I asked the leader Noah what supported his decision for this. He said “They are stable, they have practiced wet exit, and also how to swim in the rapid” (Fieldnotes Tuesday am).

In this way, the leader gives an example of how he assessed the children’s skills and experiences in relation to the possible risks of running the rapid. The two assessments (of risks and skills) came together. During observations and interviews there were three different kind of risks that where assessed: physical, emotional and social.

Before starting to practice the roll, the instructor was standing in water next to boy testing depth with the paddle, so as not to hit head in the bottom when turning upside down (Video Monday pm).

In this situation, the instructor tested the depth of the water to find fact about the actual physical risk before turning upside down. During the interview, Ted tells about when Lisa fell in and first did not get the spraydeck off, reflecting on a psychological risk.

“Not that I was worried that she would not get out, but because she might get frightened and take a step back.” …“There is always that risk in the beginning when people have a stressful experience, that they get scared and do not want to continue” (Leader interview Tuesday pm).

In his assessment, he sees no real risk of drowning, only of stepping back in her development from psychological harm. As a matter of fact, after the incident Lisa did not use the spraydeck
for the following days during the observations, implying that harm was made and she took a step back, just as he mentioned as a possible risk.

There were also risk assessments made in relation to social harm. On Tuesday afternoon, the plan was changed from running the river higher up. Instead the leader decided to stay with an easier option. The reason was he did not want to bring two out of three children, it was more important to stay together as a group:

“I believe it is important for the confidence in the leader to stay together and not leave anyone behind, you build trust in the leader by staying together, it would have felt wrong to leave with two out of three and leave the third behind.”

(Leader Interview Tuesday)

Here the risk of losing confidence in the leader, led to the decision to abandon a plan previously made. Continually assessing and managing risks was a part of what the leaders did at the camp. Risk assessments relate to THLS in that threats and damage make the system focus on survival and to strive for stability. The boundaries then close, leaving less energy for development and is so a restraining force to the goal of development but a driving force to the goal of survival. Rather than to push the ability of the system, it is less risky and more effective to weaken restraining forces by avoiding risks that may close the boundaries for learning. It is a constant analysis of driving and restraining factors in relation to the goal, where the restraining forces discriminated are weakened. Risk assessment and management can also be described as an example of constant self-correction to maintain energy for work (Agazarian, 2004).

Managing unhappy participants
At times during the course, the participants had difficulties in managing the situation to their satisfaction. They had problems with equipment, got annoyed or got scared, which in turn led to interventions from the leaders.

Solving problems with equipment
At several occasions, there are problems with equipment experienced by the children that the leaders help out to deal with.

"It is looking good," said Martin to Felix. “The footrest has loosened” said Felix. “Oops”, said Martin and paddles up to next to Felix. He takes off the spraydeck, looks
into the cockpit and extends his arm to fix the footrest inside the cockpit. (Fieldnotes Monday pm)

In this way, the leader finds out that there is a problem by communicating to the participant, who then tells him about the footrest. By fixing it the participant can continue to paddle.

From the THLS it can be said that the boundaries are open to communication about the problem. The leader addresses the problem so that the member can work again. This is also an example of self-correction by the system (Agazarian & Gantt, 2000).

Managing fear
At a couple of occasions the participants got scared. Managing this fear was something that involved the instructors as well as the participants.

The group paddles up next to the beach to do the last part of the session, which is to turn the kayak upside down and get out into the water, a so called wet exit.

“I do not know if I dare,” said Robert. The leader was standing in the water next to everyone as they took turn to flip the kayak upside down, by leaning out over the side of the kayak. There were two children who hesitated a long time before they went around. Robert got stuck as he tried to get out too quickly. He lay back against the aft deck and tried to come up (Fieldnotes Monday pm).

Doing the wet exit was obviously a challenging activity causing anxiety. Robert was one of the children that went home later in the evening.

The activity of practicing wet exits continued, now it was Lisa’s turn:

“Well done Lisa”, said Ted, as she comes up to the surface. “Was it scary?” “Yes”, she says. They emptied the kayak of water and put the spraydeck back on. “Really scary” she says. “Was it scary?” Ted replied. “Yes, really scary”. “Will you do it again with spraydeck on if I jump in the water afterwards?” Ted says, smiling. “No”, she says, “but if my father does, he is a real scary cat”. As her father was nearby and promised to do it, the girl approved to turn upside down with spraydeck on. “Well done” says Ted “that was not so scary, was it?” No reply. (Fieldnotes Tuesday am).

In this instance, Ted gives prompt positive feedback every time she comes up. He then asks a narrow question about her emotional experience, I am supposing he could read from her expression. There is more energy around scary, she is saying it twice, adding “really” scary. By
asking her again she gets opportunity to say it again. Leader continues by using humour suggesting her to move on. She says her father is scared (just like her) and so moved on along with progression by having her father take a swim. With her counter suggestion on how to continue, they keep cooperating towards a common developmental goal. The leader in this situation does not himself acknowledge it is scary, instead ends with a leading question suggesting it was not scary, which in turn she does not answer. Taking a step away from allowing it to be scary is a balance to do, on the one hand acknowledge it being scary, on the other to move away from fear or finding a way to deal with it.

Ted himself reflects on his behavior in a similar situation when Lisa had fallen over in the current.

“First I got there to do a rescue as soon as I saw her and helped her come up. I stayed there to help her with the boat and help her all the time until she was back in the boat so she would not have to be alone on land thinking too much. You tell her “Yes, that was scary”, to show her you understand it was scary, at the same time being positive and encouraging. Positive in a way that she understands that I understand it was scary. And at the same time show that it is not so bad and these things happen. And that we shall continue.” (Leader Interview Tuesday pm)

In this description, he quickly gives practical help, stays with her and keep her thoughts off worrying. He then works to make it a common understanding that it was scary, which is different from the previous example. Thereafter he encourages her to keep going.

In terms of THLS, there are fears that come on the way of learning new skills in new environments. Fear is a natural defence response to threats of survival. Fear is a restraining force to learning and a driving force to survival when there is a real threat. What is real and what is perceived danger does not matter, it triggers the same response. The leader’s role is to support participants in moving from fantasy to facts. Learning to tell the difference between them is an important goal in the developmental process.

Looking at this interaction between Ted and Lisa from the THLS, functional subgrouping is happening spontaneously, as a way of modifying the defense of anxiety, opening the boundaries. Lisa is afraid and the leader works to first acknowledge and normalize the fear. Here they work together to explore the one side of the experience. As the next step the leader introduces the difference as wanting to move on attempting to overcome the fear. He gives a suggestion of him hopping in the water, she builds on it saying her dad should get in the water.
They work together and find a solution integrating the fear on one hand (recognizing others also have fears) and moving along on the other hand. As a result, the system develops, their working relationship, him in his role as a leader, her as a kayaker. It also affects the surrounding subsystem, the father who gets wet. The leader is reflecting on this process in the interview, satisfied with the solution and describing how on the one hand he is taking her perspective, and on the other tries to encourage her to move on (Agazarian, 2004).

In relationship to THLS and goals, there is an example of goal of survival at individual level connected to the fear of turning upside down or avoiding going upside down. As well as when going upside down, struggling to get out with the goal to survive. An example at group level is the decision to stay together instead of moving further upstream – as it would split the group and endanger the trust in the leader and the desire of members to keep on paddling. The secondary goals relate to the task of learning to kayak: Learning the strokes, learning to ferryglide and to get stable. If the primary goals are threatened there is no energy for the secondary goals (Agazarian, 2004).

**Getting annoyed**

On the third day, the participants are beginning to express discomforts. Arriving at the place to paddle there are lots of insects in the air, attacking the group.

The children complained loudly about the mosquitos, severely impairing the changing of clothes. The leaders agreed the mosquitos were annoying (Fieldnotes Wednesday am).

The complaints continue when they are on the water, first having to go upstream which is hard work and then when experiencing the boat unstable during an exercise.

Adnan says: “But if I spin it too quickly, the boat flips over” (in a grumpy voice). Leader Noah: “But don’t spin it so fast”.

Noah then tells them “Now we shall do it backwards on one side and forwards on the other” Adnan says: “But then I will fall in” (Fieldnotes Wednesday am).

There was a brief argument between the leader and child during the activity. In the activity that follows, the argument continues, this time directed towards another group member.

“Roger, you don’t have to paddle like that just because I am behind you”, says Adnan, in a grumpy voice. (Video Wednesday am).
These annoyances had not been apparent earlier during the course. In this one morning, within the first hour several complaints had been made. The leaders met the complaints in a couple of different ways, such as by agreeing, giving directions for how to avoid the problem and by ignoring the complaints.

When analyzing these complaints from THLS it is relevant to bring in the phases of development. The transition from flight to fight is a shift in developmental context for the group. It can be recognized in the above questioning of leaders’ authority and scapegoating of peers. The “But- communication” is discriminated as noise, being contradictions that closes the boundaries to communication. THLS sees these behaviors as defenses against the impulse to retaliate. Frustration is the life force that arises when things are not going the way the paddlers want. By weakening these defenses, there is more energy available for learning and development (Agazarian, 2004).

Teaching
During the camp, there was teaching going on. This section will describe how the instructors were teaching, employing a set of reoccurring strategies with some variations.

As a general analysis from THLS on learning to paddle, it happened by discriminating different movements of the body to achieve different results. Integrating those movements leads to maneuvering the kayak purposefully, for example in a roll where many parts of the body is performing several coordinated movements. As the ability to paddle increases by integrating more differences, the paddler develops and learns to handle more complex maneuvers. Parallel to this the kayaker discriminates the features of the water and integrates their understanding of differences and similarities in the movements of the water, while moving from the simpler flatwater to the more complex whitewater (Agazarian, 2004).

Instructing
The basic recipe in use by the leaders to instruct new skills reads Tell, Show, Do, with some variation. The teaching often followed the whole formula. Here was Ted introducing a paddling technique:

“Now we will do something called “Ferryglide”. I am sure you have done it before”. He then gave a description about how to put the front of the kayak upstream, slightly pointed to the other side. He then showed by paddling over to the other side of the river, crossing the current. The children followed, one after the other (Fieldnotes Tuesday am).
He is first telling them what they are going to do, next describing verbally how to do it. Then showing by doing it himself, the children coming after, doing it themselves. One participant confirmed this when asked how she had learnt:

“The leaders told me how to do it, then they showed me and I did the same as them.”

(Group interview Tuesday pm)

According to THLS, learning comes about by discriminating and integrating differences (Agazarian, 2004). Using tell, show as well as doing it themselves, gave the participants possibilities to both discriminate and integrate skills needed to be able to paddle across the river.

Tell

The Telling as part of teaching was done in a couple of different ways. It usually contained two or three of: what to do, when to do it and why do it.

The leader calls out: “Did you notice these swirls? There it is important to paddle all the time, because otherwise it gets unstable.” (Fieldnotes Tuesday am)

In this case he is also telling about a feature to clarify where to do what he is asking for, this time framing it as a question to get their attention, without expecting an answer. At another occasion the instructor observed what happened to an involuntary swimmer and gave instructions to avoid doing the same again:

“Think about, that when paddling downstream you no longer need to edge the boat” the leader says. “When paddling, you increase your balance by keeping the blade in the water and also from the speed of the boat” (Fieldnotes Tuesday am).

In this way, the instructions engaged the cognitive understanding in learning the strokes, here the group received five pieces of information telling them what to do: Think about, paddling downstream, no longer edge, to increase balance by blade in water and speed of boat.

Later the group is practicing ferryglides, attempting to cross the river without being washed down by the current. They have had a go and then do it once again.

Ted goes first. He says: “The current quickly catches your boat”. The participant coming after is quickly caught by the current. Ted: “Think about pointing your front more upstream when ferrygliding” (Fieldnotes Tuesday am).
The first piece of information is opposite to what he wants to achieve, however, the child follows the instructions. This is then followed by corrective feedback. Another way of telling was to use a metaphor that the children could relate to:

Martin gathers the group and shows them how they can sit and edge the kayak. He says that you should lean into the curve, like cycling, when entering the current (Fieldnotes Monday pm).

This verbal input connects leaning in paddling to a skill the children will have learnt previously and might understand and apply.

Asking questions to the group is a way to elicit what the group already knows, so they, instead of the instructor did the telling, as well as engaging them in the learning process, making it possible to learn from each other:

Ted then asks the group if they know what to do if they would fall in the water.
“Yes” they say and give some examples. Ted adds something. He then asks “Do you remember how to go in to the rapid? (Fieldnotes Tuesday am).

This dialogue involves the group in the communication and allows them to participate to a higher degree in the learning process. It also gives the instructor an indication on what the group has understood from what has been taught.

From the point of THLS, the goal of Telling is to use verbal communication to get information across the boundaries, so that it can be explored and integrated. All communication contains some noise that closes the boundaries. Examples of noise above are redundancy, when there is too much information at the same time and contradictions, when telling what not to do (instead of what to do). Involving the group in the goal oriented communication is a way to open the boundaries and increase the flow of energy. The use of a metaphor is connecting the paddlers to their apprehensive knowledge of how to lean into the curve. This describes the function of a living human system, to discover similarities between cycling and kayaking (seemingly different) and integrating them. Using “Think about…” in the instructions, likewise connects the paddlers to their comprehensive understanding. This can be described as a form of teaching where comprehension, the explanation, comes first and apprehension, the experience later. For knowledge to be integrated, both the cognitive and the apprehensive understanding is needed (Agazarian, 2004).
Show

The instructor was using visual information, also in combination with verbal information, to discriminate the correct behaviors. The most common way to show was for the children to follow the leader and copy what he was doing. Another way of showing was to make a clarification of right and wrong technique. Theoretically this might help the learner to discriminate differences in the apparently similar (Agazarian, 2004):

“Something I would like you to think about is to put the whole blade in the water when you paddle”. Noah shows the difference between putting just a bit of the blade and the whole blade in the water. The children paddle around to try it out. (Fieldnotes Tuesday am).

It sometimes happened that a peer was used as a role model with the instructor commenting:

Roger heads away, with good direction and speed. “Wow, he is going to go over all the way to the other side” says Felix. Martin answers “you can go as far as you like”… “Look there he is turning down and is leaning downstream, into the turn.” (Video Wednesday am).

Parallel to the child showing peers, Martin is referring to the key behaviors, telling the group what to look for.

Using peer, being more similar than the instructor, opens boundaries to take in difference and making it more likely that information will cross the boundary. It is also a difference from before having a peer demonstrating, which may increase curiosity. Thirdly, this is an example of system-development, due to increased independence from the leaders (Agazarian, 2004).

The leaders are also showing what can be done, not for the children to do it now, but to be inspired of what they can do later.

Here and there the leaders stop and surf a wave or do some tricks. I am thinking about the interview with one leader the previous evening. He said how important it was to inspire and show what can be done, to show that you are having fun (Fieldnotes Wednesday am).

In this instance, the goal of showing was not to teach and develop the skills of the participants. Instead they are working to inspire and having fun themselves as leaders.
From THLS the paddlers need to be able to resonate with what is shown to learn from it. If it is too complex or different to what they already know it will not work for them to copy. When analyzing the goal of showing what is beyond the members’ current reach, there may be both implicit and explicit goals, relating to different roles of the instructor. An implicit personal goal could be to be admired and looked up to, maintaining a dependent relationship. In a Instructor-role, the explicit goal could be to present a long-term goal (Agazarian, 2006).

**Do**

For most time after having been told and shown what to do, the children paddle on their own. Most of what they are doing, they are active and doing it themselves. They are not passive observers of what others are doing. Instead they are expected to be independent and are. They themselves got dressed, launched the kayaks, paddled and swam the rapids. Relating the “Do” part of instructions to THLS, it has the potential of strengthening the apprehensive knowledge and integrate comprehensive understanding from the verbal and visual instructions (Agazarian & Gantt, 2000).

When the children were asked how they learnt, they referred to trying and failing and trying again.

“I paddled and tried and fell in a couple of times and then you kept going.”

(Group interview Tuesday pm)

Through learning by doing, the children recognized they were involved with trying, making mistakes and giving it several goes. Just doing it, without instructions is also a central part of the teaching strategy. Stability and posture gets practiced by just doing it, there were no activities, lessons or feedback aimed at these skills during the course. These and other skills like launching, forward paddling as well as independence are learnt quietly and informally. Much of what is learned is learned from being in a context with others, doing what they are doing. The subgroup of peers has the greatest impact on the individual. To make a change it is most effective to work with the subgroup (Agazarian, 2004). This is driving when what the others are doing is vectored towards the functional goals of the context, here to learn whitewater kayaking. However, also “poor” technique will be adopted. Wrong techniques that are established are hard to change afterwards. When the group was learning to do the wet exit, no instructions were given as to how to do it, only told to do it. Watching others was not working, as the action took part under the water. Robert got stuck when he tried to get out too quickly. He lay back against the aft deck and tried to come up. In this example, “just doing it”, did not work as the student needed something more to be able to manage the task successfully. In this
and a few other situations, there was no discrimination of the fundamentals that would have been useful to the student. For example, learning a proper seating position on the flat builds fundamental skill for powerful paddling and balance in turbulent conditions. And being confident under water and doing wet exit, lowers anxiety that might arise from fear of falling in. By practicing skills in a less demanding context, the skills can then be used in more complex situations (Agazarian, 2004). Teaching paddling based on a model based on effective paddling and from an understanding of what is important to learn in each context, supports developmental work in contexts to come.

Doing what one has not done before is going into the unknown and different which easily triggers anxiety. Anxiety is a restraining force in relation to the goal of development, and therefore must be dealt with to open boundaries. When the participants are curiously working things out, they are exploring the unknown and manage failures by curiously experiencing. When anxiety triggers the survivor in the person as a system, the participants stop exploring and close the boundaries to new information (Agazarian, 2004). The participants attempting fearfully to get out of the kayak are working in “survival” and have no energy to spare for developmental work in that moment, they are not discriminating and integrating differences. As the kayakers are getting more confident being upside down, they can focus on how to roll back up.

At one instance (during the roll-exercise) the instructor was involved in the actual doing, by physically holding the child, partly doing it for him:

When going over, Harry holds the edge of boat and Roger’s shoulder to support going over in a controlled manner. Roger is taking in air with mouth open, filling his lungs. When upside down Harry lets the boat and Rogers shoulder go. He is using one hand on blade to support the blade’s path on the surface. The boy drives the blade and comes upright (Fieldnotes and video Monday am).

Here the instructor had caught up on the difficulty of getting upside down. Holding on, keeping slow pace going over in slow motion was allowing Roger to breathe lot of air in before going upside down. Also, when Roger is upside down Harry steers the blade in a proper movement.

One more example of the leader doing a part of the movement for the participant as she is going to practice going upside down, this time after giving an option of doing it herself.

“Shall I turn you over or will you do it yourself?” Asks Ted.
“You" says Lisa.

Giving the option of doing it herself or getting support is called “fork in the road" and supports the learner in vectoring her energy for exploration. Note that there is no option of not doing it, both options are vectored towards exploration and leaving the choice with the learner (Agazarian, 2004).

In these examples, the instructors facilitate the doing by intervening, taking over parts of the doing for the participant. The instructors are weakening the restraining force of anxiety when crossing the boundary of under water, enhancing learning by supporting the capsize. Lowering complexity by slowing down and taking over tasks for the participant is making it easier to keep the boundaries open. The learner then has more energy to keep exploring.

When applying “just do it”, the skills needs to be easy, partly already integrated, not to complex and low at perceived risk, not evoking anxiety. More complexity demands higher ability to discriminate and integrate, otherwise there will be too big difference and the boundaries will close (Agazarian, 2004).

Feedback
The instructor was giving feedback to the paddlers based on observations of behaviors, as a way of taking the next step in the learning process.

Positive reinforcement and corrective feedback
The instructors added feedback and had the children go again. Most of the time the feedback was in the form of positive reinforcement, as below:

“That’s good” said the instructor as Lisa paddled in to the current. “Good, keep paddling”, as she went downstream and paddled out of the current again. The instructor meets the group and says to everyone: “That went really well.” (Video Tuesday pm).

Regularly the exercises were set up like going around in circuits with feedback in between.

“They paddled back twice in a circular path - into the stream, down the stream, out of the stream, up to the side of the eddy of quiet water and back into the stream. They enter the circuit one and one, while the leader keeps watch over those who are in current. He provides feedback to participants individually: "Better", "Sooner"." (Fieldnotes Monday pm)
This time the feedback is again individual for everyone. It is short, encouraging and corrective. It is also given directly.

A few times the feedback was given during the actual maneuver, here is a successful example

“Ok Tom, you can go. Aim further upstream, at one a clock.” He goes in and turns downstream like the others before him. As he is last, Martin follows him, giving instructions to turn upstream again. He manages to turn his boat up again and manages to keep traversing facing upstream, joining the group in eddy further down. (Video Wednesday am)

Here Martin moved to a position closer to Tom, so that it was easier to give and receive the feedback. The feedback was specific (one a clock) and it was also repeated several times until it worked.

Analyzing the feedback from THLS, the instructor is discriminating the similarities and differences from ideal image to observed performance. The communication is then vectoring towards confirming and reflecting on what is done correctly, with the goal of strengthening the driving forces. The feedback is also correcting the faulty performance by carefully introducing differences, adding new information. The feedback loop containing corrective feedback may also be described as System correction. The leader is experiencing disequilibrium in relation to ideal performance from apprehensive experience of observing performance. The conflict is then aimed to be resolving by giving feedback (Agazarian, 2004).

**Feedback to increase engagement**

Feedback was also being used to increase the level of engagement:

Adnan does two strokes, then stops. Not very engaged. The blade goes in by his hip, not at all behind him as Noah had said. “Then let’s do it the other way.” Noah goes up to the not very engaged boy. “Put you blade in as far out as you can and the kayak will spin a lot faster.” The boy then keeps going, not quitting but keeps working. (Video Wednesday am).

Here Noah was recognizing the poor performance and goes to attend the problem of low activity. This motivational work got him going again as he complies with Noah´s feedback.
The instructor was vectoring energy into the system to move it along with the goals of the context. If the system was in flight-phase, and the student was in flight, then the instructors command pushed him into membership. If in fight-phase, the student was triggered into a compliant role. As Adnan had displayed annoyance and competitive behavior just before and after, there is support for the hypothesis of flight. Also, as the information was clear, and the task simple, there is less support for flight (Agazarian & Gantt, 2000).

**Failing feedback**

The work of giving feedback was sometimes more successful, sometimes less so.

As the group was practicing paddling into the current and out again, Felix fell in. I had been observing his previous attempt and had seen he was near falling in as he was crossing the lower eddyline. He then got the feedback from Ted to be prepared to use his blade to brace and support the balance. That tip did not work as now he fell in. (Fieldnotes Tuesday am).

Ted observed the student in the first round and picked up on that he needed feedback to improve. Something then went wrong, as the feedback did not help. Either the information did not reach through, or he needed more practice to do the support stroke. There was no feedback from Felix on what he took in when receiving the feedback. Another analysis would be that edge control and timing of edging is more important for Felix to practice. Using the support stroke is a defensive, reactive response to a mistake already made.

Using THLS to analyze this, a forcefield can be made. Any maneuver has a goal and can be analyzed in terms of driving and restraining forces in relation to the goal (Agazarian, 1997). Effective feedback would aim at weakening the restraining and building the driving forces (Agazarian, 2004).

<table>
<thead>
<tr>
<th>Goal: Going into the eddy</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Driving forces</strong></td>
<td><strong>Restraining forces</strong></td>
</tr>
<tr>
<td>Speed across the eddyline</td>
<td>Leaning back</td>
</tr>
<tr>
<td>Edging in to the turn</td>
<td>Edging out</td>
</tr>
<tr>
<td>Angle of 45-90 degrees to eddyline</td>
<td></td>
</tr>
<tr>
<td>Place the blade in the eddy</td>
<td></td>
</tr>
</tbody>
</table>

Table 2, Forcefield on going into eddy, with data based on British Canoe Union (2002, p. 300).
From this analysis, coherent with the observations, the feedback given above is not part of restraining force or driving force for crossing the eddyline. This means it is redundant and a hypothesis that was falsified.

Sometimes feedback was used as an intervention of the leaders to increase the driving forces, while other times aiming at weakening the restraining forces.

**Internal feedback**

Another form of feedback is the information that comes from the paddlers’ own physical experiences. These could be observed by their own comments and exclamations, clearly observable when things did not turn out as planned.

    Adnan heads into the current, next the current is catching the back of his boat, almost tipping it. “Damn” he swears as he recovers his balance. He drifts down the river a bit, taken down by the current. (Video Tuesday pm).

This is a clear example of how he just manages to stay upright, caught by surprise from the moving water affecting the kayak. He loses control and drifts away. The same thing happened when the group was practicing to turn the kayaks around in circles.

    “Wow” … “Hey, the kayak can flip over” Adnan called out. Martin told the group: “Let’s change side and turn the other way”. “The kayak can flip over if you turn it around like this”, said Adnan again. Martin takes no notice. (Video Tuesday pm)

Surprised and slightly upset about what happened in the kayak, the boy gets no response from the instructor, despite several attempts to get the attention. The same pattern was repeated next day:

    Adnan: “It feels like I am rocking all the time” (same boy who thought he would flip over). Noah: “No, no” Adnan: “But it feels like its rocking” (Video Wednesday am).

The information from the internal feedback was causing discomfort, something unwanted happened. In these occasions, Adnan was not finding why, or what to do differently to get more stable.

The unexpected and unfamiliar experience of the boat flipping is what is characterizing a surprise. Surprises are apprehensive and indicates new data to the system. By putting them into words crosses the boundary into comprehension, leading towards learning. (Agazarian & Gantt, 2000). In this situation, there was a reacting to the difference instead of exploring it. In the
communication with the instructor the boundaries were closed. The discrimination made, but no integration of the information. An alternative leader intervention could be to explore together by subgrouping. This was an example of a learning opportunity from apprehension, when feeling comes first, thoughts later (Agazarian & Gantt, 2000).

**Repetition**

Repeating the skills was a central strategy during the camp. This was especially noticed in ferrygliding.

On Tuesday morning, the group got instructions to practice ferry-gliding from one side of the current to the other. They go across the river 6-7 times and the leader gives a few inputs during that time. This was repetitive practice of the same skill, including some feedback. Whilst practicing ferry gliding, two of the children fell in a couple of times, leading to the instructor making the decision to change his plans and wait with moving further upstream and instead practice more.

“Let’s stay here to warm up with a few more ferry glides.”

The ferryglide is considered a basic skill to learn and therefore important to practice a lot. The fun was limited, it got boring and tedious. Not a lot of new input to support the learning was being given, nor any substantial, corrective feedback. The children themselves commented the work they did on ferrygliding.

I learnt to paddle across the current.
How did you learn this?
I just paddled and paddled.
(Group interview Tuesday pm)

…
Was there something that was not fun, something that was boring?
I thought it was boring to ferryglide.
(Group interview Tuesday pm)

The children are also referring to this practice as “hard work”.

“Now we will practice your favorite thing, do you remember what it is?” The group is quiet. “Ferry-gliding” he says. “We will ferry-glide over to that mossy rock.” The group follows Noah, over to the rock and back again. When returning Felix says, “it is hard work, hard work.” Three times. (Fieldnotes Wednesday am).
In the example above the ironic question contained a contradiction, as ferry-glides were not popular, well known by the leader. The answer from group in terms of silence was ambiguous, as there was no way to tell what information was in the group and the answer from the leader was redundant as he gave his own answer already known. The ferrygliding itself had become redundant, as there had been too much of the same. These examples of noise are closing the boundaries, is likely making the practice less fruitful (Agazarian & Gantt, 2000).

Ted and Noah were reflecting on repetition and hard work in relation to having fun and the usefulness and necessity of doing things many times.

I got the thought today, to take a break from the tedious work. There surely are some games you can do to get the atmosphere up a bit, to get away from going back and forth and back and forth all the time. Some game or competition that includes the training objectives. (Leader interview Tuesday pm).

You can’t learn from just doing it once, you have to repeat and do it many times. And also to get better stability, increase their balance and edge-control and also their posture – how they sit, to paddle more efficiently (Video Tuesday pm).

These reflections show on both driving and restraining sides of repetition. The necessity of doing things many times to learn and the potential risk of tedious work and low atmosphere.

The leaders are recognizing both driving and restraining forces of the repetition. On the driving side, there is the necessity of repetition to develop and integrate skills. The recognition of making it varied and fun comes as part of a self-correction, weakening the restraining force of redundancy. Practicing skills already demonstrated and basically developed is one context of learning, with the goal of integration to be able to use it. Discovering new skills is another context, crossing the boundary of the unknown, differentiating, containing and integrating what is new (Agazarian & Gantt, 2000).

Progression
At a couple of times during the camp the leaders were expressing and displaying an underlying motive for doing a certain activity where the instructors are aiming at goal further down the development. They had ideas about what the group was meant to be able to do further down the
line and therefore motivates training and certain leadership behaviors at this early stage. Setting up a play-competition was one example of this, with the objective of learning to compete.

"Now we run a race" says Harry. The five kids line up with his hands against the jetty and brings their kayaks up onto the bow. After a moment, three of them fall over, while the two others continue. (Fieldnotes Monday am).

As competing is one possible future goal for some of these children, there was a motive for the instructors to develop their abilities to compete. (Fieldnotes Tuesday am, talking to Harry). The activity had another pedagogical objective as well.

“Standing on the nose is starting to learn the trick called flatwater cartweel” Harry told me. (Fieldnotes Monday pm).

The activity was part of a progression towards a trick. Another example of this was learning to roll. The instructor started the tuition by asking the child to do what he knew as a starting point. Based on what he saw, he then worked with the student learning bit by bit the parts of the stroke, finally also moving out to deeper water. During the rolling exercise, the learner took more independence towards the end, which was also a sign of progression. Apart from the roll-session and the standing on the nose-exercise there were no examples of breaking specific paddling-techniques down in parts and learning them progressively.

**Using features progressively**
The leaders were using different areas of the river to build progression by starting in the calm water and moving up to faster current and bigger waves along with the development of the participant’s skills. This was a major pedagogical approach, to start of where it was easier and then move on to harder environments. The flatwater area and the rocks were used to practice forward paddling and turning. Starting in the flatwater was easier, as there was no current affecting the kayak.

Ted said “we shall start here in the eddy, to paddle around and warm up. Then we will go into the rapid, further up bit by bit.” (Fieldnotes Tuesday am).

In this way, they were working with progression by changing place from easier to more demanding waters. As the challenges increased, sometimes the participants did not manage their tasks.

Ted went first, paddling over to the other side of the river, crossing the current. The children follow, one after the other. One child managed what the leader asked for. The
other two lost the direction and were taken down by the current. (Fieldnotes Tuesday am).

Here the challenge was too big for two of the paddlers as they did not have the skills to follow across. This shows how the choice of places is connected to the skills needed to manage the particular place.

I wanted to see what they could manage and how they could handle going into the rapid, across the rapid and down, up the rapid and then paddling down the rapid. And they got to practice edging, edging the right way. So they would become stable enough to carry up and run the rapid from higher up. We did not get that far, so a little bit further next time perhaps. (Leader interview, Tuesday)

Ted continued this argument on skills connected to being able to paddle different places, reflecting on his own background:

That is how I learnt to paddle, my technique was lousy in the beginning, but I learnt the roll quickly and soon started to paddle bigger stuff. And then I had to learn better technique gradually when realizing you could not paddle everything with a lousy paddling technique. (Leader interview, Tuesday)

In this reflection, Ted described how he realized what he needs to know to be able to do what he wants to do. This then motivated him to further develop his technique. It relates to how he now, as an instructor, uses places progressively with his participants.

The leader makes decisions about where the participants will benefit from paddling and what to do in that area. They use the area and the features of each area to work on specific goals. They train the participants to learn the skills in one context that they will later need to be able to manage and enjoy other more complex environments. The leaders are collecting facts about abilities and deciding what skills to develop before moving on to more complex environments.

This can be compared to how THLS describes how work can be done to modify defences, where each phase of development presents specific challenges and learning opportunities, learning in each context the skills that will be required to manage the challenges in the next. Inherent in the work is a goal directed, inner strive to survive, develop and transform, becoming more complex (Agazarian, 2004).
Making learning fun

Having fun was one of the objectives of the camp and one of the teaching strategies applied. Ted took the group further upstream, to a new place for a new challenge. There he gave an introduction and asks a question to check their readiness.

Ted: “Do you feel ready and boosted? I am going first so you will see where to go. Has anyone got any questions? (no answer) Everything clear? I will go first, everyone follow me in a line, 10 meters in between everyone.” Ted paddles away. The children follow one after another. The last child, Adnan, exclaims” Tjohoo” as going through the rapids. (Fieldnotes Tuesday am)

The fun was obvious with the exclamation of joy. In group interview in evening Lisa also mentions this as the fun part of the camp.

Another way to make learning fun was by playing a game or setting up competitions.

Noah told them: “We shall play sunken ship. Empty your boats of water and come back in and then we will play”. During the game everyone tried to make water come in to the other’s kayaks, making them sink. (Fieldnotes Tuesday am)

This was a game of fun, with a competitive element. The instructors also joined in, making it a play-competing between instructors and children. In the activity, the children got to practice their maneuvering skills and as the boats get filled with water they also developed their balance as the boats were getting unstable with the water inside.

The Wednesday river trip was set up to have a fun and to learn. During the rivertrip the group was given a playful challenge:

Approaching a bit of white water, Noah gives the instructions to “Play on the way down here, and try to go into as many eddies as you can”. (Fieldnotes Wednesday am)

He then tells me this is to have a game and practice and not to make it into a competition, so there will be no winner. The group paddles to the bottom of that rapid and gather up. Then Noah asks them to say how many eddies they went into. The numbers varied from 12 to 1.

“Good job everyone” says Noah. And goes on to ask: “How was it?” “Fun” says Felix. “It was like slalom, to not go just straight down, but to turn a lot on the way.” “Yes, it is more fun, and also you learn something on the way” says Noah. (Fieldnotes Wednesday am)
Setting up this personal challenge to do something more than just paddling, added an element of extra focus and training. It also created variation. The task was given, but no instructions of how to solve it. This was successful as they had enough skills to work it out. Everyone could do it out from their individual level of skill, which was also found out during the follow-up question.

There were times when the children were free to hop in and swim the rapids. Here they were playing without leader-interventions, apart from having the rules to follow. Ted reflects on this activity during the interview the same evening

“Yeah, jumping into the river, was obviously [fun], they liked it, and it is a good example [of playing and learning] because they get really familiar, because if they would happen to swim the same rapid or a similar one but when they have flipped the kayak and swims, then it will not be so different, the swimming will not be a big thing because they know what it feels like and they know what to do.”…“Having fun and motivating, that is what makes them wanting to continue and that is how you learn most anyway. (Leader interview Tuesday)

In this way, he was stressing the importance of having fun when learning and being motivated in the activity.

An analysis from THLS is that the element of fun opens the boundaries for information transfer, so there is curiosity (and not anxiety or frustration). The context is supporting this by having a goal for learning and fun, boundaries in terms of time, space and there are explicit norms for what behaviors are expected. When the boundaries are open to exploration, there are conditions for exploring and taking differences aboard, which are the premises for development and transformation (Agazarian & Gantt, 2000).

Outcomes
During the camp, there are learnings and experiences made. Some are explicitly expressed, some can be derived from observed behaviors.

Arriving at the jetty by end of the second session, the atmosphere had shifted since the beginning of the session and the scene was a lot livelier. Some kids were swimming in the water. There was noise and shouting, children all over the place, taking own initiatives and having fun. One instructor was pushing a kayak in the water to help loop-training. One child shouted an engaged burst of “aoww, almost!!” to a new friend. (Video Monday pm)
Among the outcomes, three subthemes emerged: learning paddling, having fun and personal development.

From the perspective of THLS, a system was built. Boundaries were developed, containing the energy of the group and appropriately permeable for communication, allowing a flow of information. The system was functioning, vectoring the energy towards the explicit goals. The outcomes relate to the primary goals of system development; development of the members, leaders, subgroups and the group as a whole. Learning paddling relates to the secondary goal of learning to manage the environment (Agazarian & Gantt, 2000).

**Learning paddling**

Learning paddling involves a wide range of interconnected knowledge. What the children know can be seen while they are doing what they do during the camp. Get their equipment ready, launch, sit in the kayak, use the strokes, edge and lean the kayak, wet exit, how to get rescued, ferry glide and go in and out of eddies.

In the morning on the second day the group is getting ready to go in by putting spraydeck on and then shuffle in. The leader is in the water with other participants. Lots more efficient launching day two. Everyone had learnt how to do it (the spraydeck, the fitting of the boat and getting in off the jetty). And they also knew what to expect when on the water, knowing fairly well what would come, compared to yesterday. (Video Tuesday am)

They know how to do it and have the skills at a basic level. The group also learnt how to manage the physical environment: swimming in the rapids, maneuvering the kayak in moving water, coping with cold water, rain and mosquitos. Along with these learnings came the language relating to equipment, features, strokes and maneuvers. Learning to manage the environment was also about getting to know this particular place.

“I learnt how this rapid works, I have not been here before. It was fun to see what it is like here and to paddle in this stopper”

“What did you learn about this rapid?”

“I learnt where it is more pull and where it slips through. I still have a bit to go. I have started to get a feel for it, so it is easier. Then it is easier to decide where to do the tricks.” (Group interview Tuesday pm)
In this case, she is describing what she learnt about this place and at the same time implying that there are stages of learning. She is starting to get a feel for it, as one step in the learning process. Her knowledge has reached a certain level, but is not consistent and fluent. She has developed an idea of her level of knowledge in relation to a goal.

In the terms of THLS, learning to paddle is about having discriminated and integrated the concepts and skills that support managing the environment. Thereby the paddlers developed from simpler to more complex. She has discriminated and integrated where there is pull and where in slips though. Getting a feel for it is like having an apprehensive understanding, that is not yet comprehended. She has discovered there is more to learn implying there is a discrimination made about something that is not yet integrated (Agazarian & Gantt, 2000).

In learning to paddle there are also things like knowing the rules and how to behave and help in the group. There is a cultural aspect in learning to paddle, how to manage times and the hard work. The relaxed attitude is also a part of this, to not get stressed about things and that is ok to be scared.

This is connected to learning the norms and behaviours that support surviving and developing in the context. The system that was built influenced the members. For this to happen, the paddlers have crossed the boundary from person-role to membership-roles. In their membership-roles, the boundaries were open enough to be influenced by the group and leader-roles. The driving forces of the explicit goals were also stronger than the implicit goals of the restraining forces (Agazarian & Gantt, 2000).

**Having Fun**

The children are having fun because of the activities. This comes with getting more successful, feeling less scared and enjoying the experiences.

Finishing up at the end of the first proper river trip, Martin was asking Lisa having come down the last stretch of whitewater:

“How was it?”

“Really fun! And a little bit scary”

The satisfaction was unmistakable, seeing her face shining. It also seemed like this time the little scary bit was a part of the fun. (Video Wednesday am)
When asking the children if anyone did anything extra special today, they referred to the swimming and the paddling. There were also things they learnt that was fun and caught them by surprise:

“I tried the standup paddleboard, I have never done that before”

... 

“I managed to do flat-spin in the rapid. And it was fun paddling with others. They don’t have to be my age, it was fun anyway. We were swimming together in the rapid, I thought that was really fun.”

(Group interview Tuesday pm)

This excerpt from the interview with the children brings in how activities that where new and not always in the plan (like paddleboard and swimming together) where something extra and fun. Learning new skills was also part of the fun, like managing the flat-spin. Ted reflects on the positive feedback of learning:

“Yes, I believe that most of us feels that when you learn something, when it clicks, or when you get good at something it also becomes fun, you have learnt something. It is a part of all of it, you think it´s fun when you learn something new” (Leader interview Tuesday pm)

This positive feedback-loop of learning something new – making it fun – motivates to learn something new, is something that Ted is talking about as his most important role as a leader: To inspire and get past the first step of difficulties, so that paddling becomes fun and the children wants to continue doing it.

On the third day one child stayed at the camp and did not want to join the river trip. Another child was oscillating between participation and staying in the room. These examples are suggesting the paddling was not fun enough to get fully involved.

In relation to THLS, the participants and leader reports fun in relation to the satisfactions of overcoming difficulties. Discovering that one has learned the skills necessary to manage a new context gives a feeling of fun. There is also fun in relation to discovering something new that is pleasurable. A third fun comes with playing with others. In all three, there are open boundaries with connection to exploring. They are in the here and now and no defences are interfering with curiosity. As for the members that were not participating, there would be some
restraining forces inhibiting the explicit goals. There was no data suggesting what these forces might be (Agazarian & Gantt, 2000).

**Personal development**

Developing as a person was not an explicit goal of the camp. There were indications of changes in this direction in terms of increased level of independence and abilities of managing fear.

**Independence**

The camp fostered the children’s independence in several ways. They were alone in their kayak, paddling and managing it independently. During sessions or during the whole camp they were away from parents. There were also gaps between sessions when they were expected to look after themselves and their equipment. For the meals, the children were involved in cooking. Evidence for the change in independence came along with members learning how to do things, leader-interventions moving from basics of how to get dressed to more specific and advanced paddling skills.

Not all children learned to manage the independence involved in the course. Two children went home the first evening. One decided early on to go home with her parents, her younger brother followed later in the evening.

Systems that develop are moving from dependency to independence and interdependence, following the phases of development. There was data supporting that the group was moving towards flight on the third day, which supports that they had developed a greater deal of independence. A hypothesis about the children going home, is that the camp demanded more independence than the system, of which the individuals were a part, was ready for. The first phase being flight, can be pictured by the two children going home, driven by anxiety which is a survival response when crossing the boundary into the unknown (Agazarian, 2004).

**Managing fear**

Managing fear was actualized every time fear was brought up and worked with. Most of the work on fear was done when practicing the wet-exit as well as when capsizing involuntary. On the third day, having paddled the bigger more demanding river, Lisa was saying it was fun, and a little scary. In this work, there was relatively large amount of communication with the leader, working together with the frightened paddler.

In the THLS, fear is a natural response to perceived threats, an important feature of the survival system. People have the same reactions to real threats as threats we a making up in our fantasy.
One part of managing fear is learning to separate reality from fantasy by finding facts. Another part of managing fear is to contain the experience while exploring reality. Having normalized a human response, like fear, makes the response itself less frightening. The fear of the unknown is coming up and is dealt with in the phase of flight. As part of this work, trust was developed in the system by continuing despite the sensations of fear. Trust is defined as “tested expectation”, and could be seen as trust in the self, own ability and in the subsystem with leader (Agazarian, 2004).

Summary of themes
Looking back at the results of the study, there were four themes emerging from the material. Developing structures for work, leading activities, teaching and outcomes. These areas are contributing to develop an understanding about what was going on during the kayaking sessions at the camp. Structure and functions for work comes first. Still, in the middle of an activity there are pauses, things to fix and preparations for new steps. The activity then stops and focus is directed towards restructuring or refocusing to be able to continue, in terms of practical matter, setting new goals or clarifying rules, times or groups.

One part of leading is to set up conditions and share information for getting ready. What is discriminating leading is the focus on managing the leadership, the group, the environment, the risks and the individuals and planning activities in relation to goals.

The teaching strategies are employed as part of leading, with the goal of developing knowledge. The main strategies are instructing by telling, showing and doing, giving feedback, practicing and making it fun.

The outcomes discriminated in the study is covering the areas of learning paddling, having fun and personal development.
Concluding description of efficient outdoor leadership based on the results

The third research question will be concluded in the format of a forcefield based on the results. Forcefields were introduced by Kurt Lewin in 1951 and have been adopted and further developed by Agazarian (2000). A forcefield describes behaviors that are at work, keeping the system in a dynamic equilibrium. Any system can be understood by looking at the behaviors that are approaching (driving) and avoiding (restraining) in relation to the goal of system development. From the restraining forces one can infer the implicit goals that are opposing the explicit ones. Lewin posited that by weakening the restraining forces, the driving forces are released and moves the system towards the explicit goals. It is more efficient to weaken the restraining forces than adding more driving forces, as these are most likely to be met with equal amount of restraining force, keeping the system in balance (Agazarian & Gantt, 2000). Efficient leadership in this sense is about applying the behaviors that are most likely to be driving in a defined context, as well as weakening the restraining forces that are surfacing in the same context.

<table>
<thead>
<tr>
<th>Goal: Developing Structures and functions for work</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Driving forces</strong></td>
</tr>
<tr>
<td>Reducing noise by moving closer to hear better</td>
</tr>
<tr>
<td>Leaders clarifying roles</td>
</tr>
<tr>
<td>Leaders clarifying boundaries in time and space</td>
</tr>
<tr>
<td>Leaders clarifying norms of safety and helping (setting norms that are supporting the primary and secondary goals of the context)</td>
</tr>
<tr>
<td>Leaders supporting a reality testing culture by checking out abilities</td>
</tr>
<tr>
<td>Leaders vectoring the behaviours towards getting ready, attending the children that are not yet independent and in need of support to cross the boundary from land to water.</td>
</tr>
<tr>
<td>Leaders discriminating differences and similarities amongst the participants to develop a working structure with open boundaries.</td>
</tr>
<tr>
<td>Leader working with member to clarify suitable group</td>
</tr>
<tr>
<td>Leaders going slow giving relaxed and safe atmosphere</td>
</tr>
<tr>
<td>Learners getting themselves ready, supporting self-reliance</td>
</tr>
<tr>
<td>Leaders implementing goals supporting the phases of development</td>
</tr>
<tr>
<td>Member asking for what to do</td>
</tr>
</tbody>
</table>

Table 3, Forcefield in relation to developing structures and functions for work
Efficient outdoor leaders are developing structures and functions that are supporting the work to be done. Building the systems entails clarifying contexts, roles, norms and goals. The leaders are reducing noise at the boundary of new contexts and are orienting the group towards reality.

| Leading activities, goal: Influencing the system to achieve the goal of the context |
|--------------------------------------------------|-----------------------------------------------|
| Driving forces                                  | Restraining forces                            |
| Leaders awareness of need for leadership in relation to contexts | Ambiguous leadership at crossing of boundary between land and water |
| Clarity of goals for each context               |                                               |
| Leaders keeping appropriately permeable boundaries between subgroups to support each other with safety |                                               |
| Leaders dividing roles based on the criteria of resources |                                               |
| Leaders maintaining group boundaries            | Members crossing boundaries alone (in to and out of context) |
| Leader self-correcting noisy communication       | Leader thinking out loud giving contradictions |
| Members supporting the norm of staying together and helping |                                               |
| Leader basing decisions of where to bring the group on facts about the members’ abilities |                                               |
| Leader putting priority on establishing survival/safety before aiming for development and fun. |                                               |

Table 4, Forcefield in relation to leading activities

Leading activities is happening by influencing the system to achieve the goal of the context. The efficiency is marked by keeping appropriately permeable boundaries to support the survival, development and transformation of the system. Awareness of context supports vectoring behaviours towards the specific goals of each context. Efficient leaders are providing leadership in relation to challenges in each context by being aware of and working with driving and restraining behaviors at the boundary of each context.
Managing Risk, goal: Maintaining safety to keep energy for the goal of development

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders maintaining open boundaries by eliminating risks of harm</td>
<td>Psychological harm closing boundaries to further development</td>
</tr>
<tr>
<td>Identifying threats in each context</td>
<td></td>
</tr>
<tr>
<td>Measuring group member’s skills in relation to hazards/risks</td>
<td></td>
</tr>
<tr>
<td>Choosing tasks for participants that are within their reach</td>
<td></td>
</tr>
<tr>
<td>Introducing small enough differences that may be integrated (manageable given the present level of abilities of the system)</td>
<td></td>
</tr>
</tbody>
</table>

Table 5, Forcefield in relation to managing risk.

Efficient leaders are maintaining safety to keep energy for the goal of development. They are boundarying by identifying and weakening threats relating to each context. As part of diligent safety, they are also vectoring work towards tasks within reach of current abilities.

Managing dissatisfactions, goal: Vectoring the energy of the members towards work

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member telling leaders about problem with equipment</td>
<td></td>
</tr>
<tr>
<td>Leader solving the problems with equipment that lie on the way to the goal</td>
<td>Members anxiety</td>
</tr>
<tr>
<td>Keeping boundaries open for communication about problems</td>
<td>Annoyances closing boundaries to learning by stopping exploration and attacking peer</td>
</tr>
<tr>
<td>Paraphrasing and building on participants’ experience</td>
<td>Yes, but – communication</td>
</tr>
<tr>
<td>Leader gently introducing small differences</td>
<td>Ignoring difference/conflict</td>
</tr>
<tr>
<td></td>
<td>Introducing bigger difference than the participant can contain or integrate</td>
</tr>
</tbody>
</table>

Table 6, Forcefield in relation to managing dissatisfactions

Efficient leaders are managing dissatisfactions by vectoring the energy of the members towards work. They do this through functionally subgrouping to manage conflicts and keep energy flowing for work in the system. They are also solving the problems that lay in the way to the goal.
Instructing with the goal of learning to paddle

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders using Tell, Show and Do to vector behaviours and reduce ambiguity</td>
<td>Contradictions in communication by instructing what not to do</td>
</tr>
<tr>
<td>Using apprehensive and comprehensive processes</td>
<td>Leader flooding the system by giving too much information</td>
</tr>
<tr>
<td>Leader introducing small enough differences</td>
<td>Members anxiety</td>
</tr>
<tr>
<td>Building on similarities</td>
<td>Members fear</td>
</tr>
<tr>
<td>Stimulating curiosity</td>
<td></td>
</tr>
<tr>
<td>Providing correct models</td>
<td></td>
</tr>
<tr>
<td>Giving options to explore experiences</td>
<td>Explaining the experience</td>
</tr>
<tr>
<td>Leader taking over some of the work at the boundary of unknown</td>
<td></td>
</tr>
<tr>
<td>Containing failures and trying again</td>
<td></td>
</tr>
</tbody>
</table>

Table 7, Forcefield in relation to instructing skills

Efficient instructors are supporting discrimination and integration of differences by facilitating information transfer and containing differences not ready to be integrated. They model correct behaviors and use methods of functional subgrouping, vectoring and boundarying to explore and discover new techniques.

Feedback with the goal of information transfer to support development

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders giving feedback that is supporting discrimination and integrating of information.</td>
<td></td>
</tr>
<tr>
<td>Leaders giving specific feedback based on observed behaviors</td>
<td></td>
</tr>
<tr>
<td>Leaders giving feedback based on correct technical understanding</td>
<td></td>
</tr>
<tr>
<td>Leaders providing short, encouraging and corrective information</td>
<td></td>
</tr>
<tr>
<td>Leaders repeating feedback when necessary</td>
<td></td>
</tr>
<tr>
<td>Leaders giving feedback in relation to next developmental goal</td>
<td></td>
</tr>
<tr>
<td>Participants using surprises as internal feedback for further exploration</td>
<td>Participants reacting to differences</td>
</tr>
<tr>
<td>Leaders making use of internal feedback from participants by adding comprehensive understanding</td>
<td>Leaders neglecting internal feedback from participant</td>
</tr>
</tbody>
</table>

Table 8, Forcefield in relation to feedback

Efficient leaders are using feedback with the goal of information transfer to support development. They are gathering data to formulate hypothesis about driving and restraining forces, followed by translating hypothesis to operational methods through feedback to the learner. They are reducing noise in communication to support information transfer. They are...
testing hypothesis and methods by observing results, gathering data to discriminate similarities and differences in relation to hypothesis.

**Practice: The goals of repeated practice are to integrate differences and to discriminate differences in the apparently similar.**

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders providing varied repetition</td>
<td>Leaders applying redundant repetition (too much of the same)</td>
</tr>
<tr>
<td>Leaders providing feedback as part of the repetition</td>
<td></td>
</tr>
</tbody>
</table>

Table 9, Forcefield in relation to practice.

Efficient leaders are providing varied repetition that is including feedback, supporting the goals of integrating differences and to discriminate differences in the apparently similar.

**Progression with the goal of introducing differences to support learning**

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders awareness of the conditions and demands of each context</td>
<td></td>
</tr>
<tr>
<td>Leaders choosing physical context below or on the edge of the paddlers level of skill</td>
<td>Participants learning new skills in too demanding environment</td>
</tr>
<tr>
<td>Leaders changing to more demanding / complex environments as the skills develop</td>
<td></td>
</tr>
<tr>
<td>Leaders choosing environment depending on the goals for the participants</td>
<td></td>
</tr>
<tr>
<td>Leaders observing and assessing paddlers skills to acquire information about next step for where to go</td>
<td></td>
</tr>
<tr>
<td>Leaders focusing on developing the specific skills that will enable the participants to manage the next context</td>
<td></td>
</tr>
<tr>
<td>Leaders using specific measurable for when to move on to next skill and context</td>
<td></td>
</tr>
</tbody>
</table>

Table 10, Forcefield in relation to progression

Efficient leaders are providing progression through working with the driving and restraining forces in each phase of development, building the skills in one context and using them in the next.

**Fun, with the goal of eliciting energy and openness for learning and a goal in itself**

<table>
<thead>
<tr>
<th>Driving forces</th>
<th>Restraining forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leaders use activities that elicits the learning goals to make learning fun</td>
<td>Members in redundant practice</td>
</tr>
<tr>
<td>Participants hard work followed by successful performances</td>
<td>Members hard work not appearing to pay off</td>
</tr>
<tr>
<td>Participants playing within safe boundaries</td>
<td></td>
</tr>
</tbody>
</table>

Table 11, Forcefield in relation to having fun

Efficient leaders are making learning fun by setting appropriate level of challenges as well as setting up frameworks for play that are also vectored towards the goal.
Discussion
In this discussion, I will reflect on each of the research questions in turn and formulate conclusions related to the result, theory and previous research.

What happens during an outdoor education event?
This part of the result presented no great surprises, these happenings are not unique in relation to my own previous experiences and studies in outdoor education. It is quite likely that any camp in outdoor adventure activities would display similar themes or content.
I am finding it helpful to think of the beginning of a course as developing structures, functions and goals for work. It confirms a common approach where the leaders as well as participants are getting ready, clarifying what to do, where, when and how. It is also a matter of getting the group ready, which is furthermore obvious from a systems-perspective. In THLS there is an emphasis on first building the system that can then do the work (Agazarian, 2004). This is not outspoken as a strategy in the other theoretical perspectives explored.
Another distinction that is supporting the understanding of leadership for outdoor instructors is separating Leading and Teaching. These can be seen as two separate roles with different goals. The role of the leader aims to manage the group safely, maintaining norms (looking after ones’ things, to be quiet at bedtime and rules for swimming in the rapids) and keeping the group where it is meant to be and doing the work. The role of the teacher is to facilitate learning. In practice the roles are interlinked. Separating them allows to see the different parts and put focus on behaviours with different goals.
The thematical analysis allowed me to discover the teaching strategy of tell, show and do. Each of the three are connecting the learner to different senses in the process of learning a new skill, linking also to the tradition of outdoor education (Dahlgren & Szczepanski, 2002). The work with repetition had a separate goal and was being used to practice new skills that had been demonstrated. In the development of skills, the analysis brought out how the instructors work with progression in skills as well as in environmental constraints, increasing the complexity according to the development of the learner to match the challenge appropriately. Reflecting on feedback highlights a common feature of teaching and learning. The study shows that feedback comes naturally and often without reflection. Getting clear on the function of any feedback given support it being delivered purposefully. Walls (2012) is also clear on the importance of feedback as part of the learning process, supported by most the studies referred to in the review of previous research on outdoor leadership. Considering the traditional focus on experiential learning within outdoor education (Dahlgren & Szczepanski, 2002), it is surprising that there
was no use of it during the course I studied, nor was it referred to or described in the articles found in the review of previous research.

In terms of outcomes of the outdoor course, there are those stemming from what was planned and explicitly worked with, as well as those that came as consequences of more un-intended or implicit goals and behaviours. It was interesting to see how the development towards independence in combination with looking out for each other are both in line with the demands on the Whitewater kayaker, implying that these implicit goals were supporting the explicit goal. These outcomes are well in line with what Goldenberg and Soule (2015) found in their study, framing the key learnings as personal development and self-efficacy, due to managing challenges and interacting with others. In relation to learning the technical skills of paddling, this was prominent with Walls (2012) and Poff and Stuessy (2000), due to the goals of those contexts.

**How can an outdoor education event be understood using THLS?**
The THLS can be used to frame the events of outdoor education, allowing different things to be seen, or things to be understood differently. This is compelling as it offers potentially different opportunities for action. The discussion of this below is structured by using concepts from THLS.

**Context, structure and boundaries**
Understanding an outdoor education event from the THLS is about seeing isomorphic systems in a hierarchy and what supports and what hinders the survival, development and transformation of the system. The course can be viewed as the system as a whole, containing each session and the parts of sessions as sub-systems. Similarly, the group can be described as a system containing subgroups, in turn containing roles such as leaders and participants. These systems are all energy organizing, goal-directed and self-correcting (Agazarian, 2004).

In the context of the course the leaders are developing systems for work. As the system develops, so do the participants as parts of the system. The system-structure is made of boundaries. Working with structure is thus about working with boundaries. Setting boundaries in time (when), space (who and where) and reality (here and now or in imagination) is central to contain the energy of each part of the system, a primary condition for work to be done. One observable consequence of this was the leaders and members working to keep their groups together and self-correcting when drifting apart. Clarifying the norms at the camp is a part of the boundarying, specifying who (in terms of roles) can and can’t do what, where and when.
The leaders are managing the permeability of boundaries to information flow, by their communication and by providing tasks that are within reach, in an environment that is manageable to the participants. At times the boundaries close and the system is no longer learning, but instead focusing on keeping the energy for survival.

Morse’s (2014) research discriminates the river journey as a context for meaningful experiences, with boundaries closed to distractions from the outside, allowing time for here and now interactions with the surroundings. Smith’s notion of awareness of self and the surrounding may also be taken as an account for contextualisation as well as for open boundaries between self and the surrounding. The importance of interaction is stressed in several studies (Goldenberg & Soule, 2015; Poff & Stuessy, 2000; Richardson, Kalvaitis & Delparte, 2014; Morse, 2014; Laszlo, 2012). Rarely is the quality or properties of the communication clearly discriminated. Here Agazarian (2004) with the THLS provides a theory and also method for communication in functional subgrouping.

**Goals**

For every context and system there are goals to which the energy is vectored. From the perspective of the THLS, there are the primary goals of survival, development and transformation which have precedence to the secondary goals of learning to kayak. When the behaviours of leaders or kayakers are not coherent with the secondary goals, it means that there are primary goals that first needs to be met, of which there are examples in the study. Also, there are different goals for different contexts. Recognising these goals are necessary for the leader to be efficient, knowing where to vector the energy.

Walls (2012) is describing enskilment as a developmental goal in the context of Inuits learning to hunt, leading to an embodiment or mastery of skills that is similar to transformation in the terms of THLS. Goldenberg and Soule (2015) are referring to the goal of personal development in the context of outdoor adventure programs. D’Amato and Krasny (2011) are reporting on personal transformations as outcomes of outdoor programs. Hayasy and Ewert (2006) are referring to results of their research, describing that more experienced instructors set higher goals. Together these are all examples of how goals are put forward in outdoor education, often relating to the primary goals of development and transformation.
**Function**
Reaching the goals of learning to paddle and developing as a system is from a THLS a function of the degree of discrimination and integration of differences. Learning the skills of paddling step by step where the differences are introduced small enough, allows discrimination of the new, while too different experiences closes the boundaries to the information. Another example of learning is by discovering similarities between cycling and kayaking (seemingly different) and integrating them as similarities. By practicing the difference, or similarity, that has been discovered, like a new move, the move becomes more and more integrated as a part of the paddlers ability. In the same way, the kayaker also discriminates the features of the water and integrates the differences in the movements of the water while moving from the simpler flatwater to the more complex whitewater, in phase with an increased complexity of knowledge and paddling skills. This function of human living systems is called self-correction, where information such as corrective feedback from the surrounding environment is destabilizing the system by introducing a difference. The system then restablizes by avoiding change or containing the difference until it can be integrated as a change in the system (Agazarian, 2004).

In the reviewed articles, there are several examples of what activities bring about development, such as deliberate practice, competitions, instructions and feedback (Walls 2012; Poff & Stuessy 2000). Goldenberg and Soule (2015) as well as Richardson, Kalvaitis and Delparte (2014), put forward the need for more research on what specific components lead to the desired outcomes. Here the THLS and working with forcefields may provide some of this knowledge.

**Energy and vectoring**
Noticing the level of energy and where the energy is directed, vectored, supports an understanding of what is going on in the lesson. As, according to the THLS, every system uses its energy first to survive, develop and transform and secondly to reaching the secondary goals, observations may reveal where the energy is going. There is no point teaching a stroke when a participant is upset and focused on primary goals of survival. Here, the instructor first must meet the participant, for example by functional subgrouping to find curiosity and fun before moving on. Vectoring behavior by asking “Do you want to do it self or shall I do it?” is framed as a fork in the road, giving two options of which both are leading to actually doing it, opening the boundaries for exploration. Directing energy – information – by saying “Follow me” is vectoring behaviors and the energy of the group towards a specific goal.

An outdoor event may be understood by gathering data about energy in forcefields, analysing what behaviours supported and hindered the goals of development in each context of the event.
It was also possible, and helpful, to apply when looking at manoeuvres in the kayak, analysing driving and restraining forces in relation to a goal. From there it was possible to deduct what interventions would be helpful to the learner.

What the leaders do, does have an impact on the energy available for learning and development. In parts of the sessions where there was no new information transfer, the system became redundant and the participants experienced boredom. When instructing by using explanations, there is less room for exploration. By increasing the exploration and fun, the participants are engaging more of their developmental energy. This relates to what Morse (2014) writes about being alive to the present as a key experience in outdoor education.

When energy is defined as information in human living system, communication is central to the energy available in the system. Following the findings of many others (Laszlo, 2012; Agazarian & Philibossian, 1998; Richardson, Kalvaitis and Delparte, 2014) successful leadership is based on communication.

**Functional subgrouping**
The SCT method of functional subgrouping can be used to understand more about communication in outdoor education. There are examples of instructors sometimes using this communication pattern to support learning. Especially in tricky situations where apparent differences where surfaced, functional subgrouping had the effect of continued cooperation.

In the review, there are many references to the importance of communication, however there are no clear descriptions of what communication is functional. One element of this may be from the reoccurring concept of emotional intelligence found in successful outdoor educators (Hayasi & Ewert, 2006). This may well relate to the ability to resonate, as described by Agazarian (2004) and by Sibthorp (2011). When considering the gap between the much-stated importance of communication and the less stated criteria for functional communication, there is a gap well worth exploring about what is known about communication in outdoor education.

**Phases of development**
Understanding outdoor education by employing the model of phases of development supports discovery of what development is taking place and an understanding of what interventions may release the drive towards further development. From this perspective, the conflicts arising on the third day as a participant questions the leader and hassles a fellow member, is not a personal problem, but an example of the system development. Contextualizing the development of the group by framing it as entering the fight-phase is avoiding personalising, giving clues of what
to expect and being prepared to manage the challenges coming up by developing abilities in one context to manage the next. As the group is developing towards independence, so are the individuals developing towards more autonomous paddlers.

Modifying defenses is a technique in SCT for vectoring energy by weakening the restraining forces at each boundary of phases of development. Similarly, a framework can be developed of moving from simpler to more complex paddling environments. Then the driving and restraining forces relevant to each boundary can be explored and worked with. Practicing the skills in each environment is modifying the restraining forces, moving the paddlers towards next environment.

In none of the reviewed articles on outdoor education the authors refer to any model for or process of phases of development. From the findings of this thesis, there are advantages for leaders to be able to make such discriminations, both in terms of development of people and groups and for understanding a sequence of progression in skills related to environments.

**How can efficient outdoor leadership be described, based on the results?**

As a concluding hypothesis, bringing out the information from the forcefields, efficient outdoor instructor behaviors can be defined by the degree that they are influencing the systems´ ability to discriminate and integrate differences.

First build the system, clarify and develop the boundaries, appropriately permeable. Support membership of a functional subgroup. Pay attention to the contexts and the roles and goals of each context. Work with the driving forces in relation to each context and goal and weaken the restraining forces, building the skills in a less complex context that will then be used in the next and more complex environment. Support the discrimination and integration of information by resonating, building on similarities and introducing differences carefully.

This way to frame efficient leadership is largely different to Sibthorp (2011), addressing effects of learning due to how they delivered the course, stood out as role models, inspired, supported and resonated with the participants. It is also different to Smith´s (2011) characteristics´ of extraordinary leaders described as an **awareness** of and **value of relationships** to self, others and nature, the skill of **intuition** and the behaviours of **spirituality** (meaning caring and living for a greater purpose).
Strengths to be found in THLS as a framework for outdoor leaders is the way it lends itself to identifying efficient behaviors in specific situations, made possible by discriminating different contexts, goals and behaviors. The strong connection between theory and practice is allowing for dynamic analysis of events and development of creative practice. Potential weaknesses for the application of THLS may be that the concepts are not built and commonly used in an outdoor context, making it unfamiliar to whitewater instructors. It is a general theory, not a step by step model for kayak-instructors to immediately apply. The theory demands that outdoor instructors are open to learning a theoretical perspective as part of their work. This is not specific to THLS, but a challenge to any theory entering a field where physical activity is the norm (Clayton & Smith, 2014; Hickman & Stoke, 2016). Lastly, when analyzing the outcomes and processes relating to Fun, the THLS was limited in enhancing the understanding of fun as an outcome and as part of the learning process.

**Suggested further research**

Based on the study, these are ideas raised for further research.

For a fuller exploration on efficient leadership and the use of THLS in the context of outdoor education, it would be useful to look at more cases, specifically with well experienced tutors who are perceived to be experts and expected to be displaying efficient leadership. In this way, a more complete and thorough framework for efficient outdoor leadership based on THLS could be developed. In such a study, it would also be interesting to approach the data-gathering from a systems-perspective, building on the results and discussion of thesis as well as on the THLS.

Another interesting approach would be to use action research to try out a line of hypothesis in a course, building on and developing the theory and forcefields outlined in this study. Here the opportunities and shortcomings in application could be investigated, testing the theory in practice.

Finally, a theme to explore is the element of fun. Fun plays a part both as a part of the learning process and as a part of the result. In recent development of THLS there is a new description of the person as a system (Agazarian, 2016), it would be interesting to find out if that model contributes to further understanding of fun.
Conclusions
To conclude this thesis on efficient leadership in outdoor education from a Theory of Human Living Systems, there are two things I would like to put forward.

Firstly, the conclusion that THLS may function as one theoretical framework to understand the leadership, communication and learning processes in outdoor education. This use of one theory is something new to outdoor education, and different to the common approach of kitchen-sink pedagogics where models from different areas are mixed to make up a soup of ingredients.

Secondly, how the perspective of systems theory is different from leader-centered and from participant-centered approaches, in that it takes in account both leader and participant-behaviours and experiences in a context. This broadens and deepens the understanding of efficient outdoor leadership.
Literature


http://ro.uow.edu/thesis/351


Hej,


**Du som är förälder/vårdnadshavare för någon under 15 år som deltar i kursen:**

1. Vad heter den deltagaren: ............................................

2. Samtycker du till att han/hon medverkar i undersökningen (sätt ett kryss)
   
   ja: ____
   
   nej: ___

3. Din namnteckning: .......................................................  

Namnförtydligande: ............................................................

**Du som deltar i kursen (såväl äldre som yngre än 15 år):**

1. Samtycker du till att medverka i undersökningen (sätt ett kryss)

   ja: ____

   nej: ___

3. Din namnteckning: .......................................................  

Namnförtydligande: ............................................................

Du kan lämna det här samtycket på plats eller genom att e-posta en bekräftelse till mig eller kursledaren, som har det övergripande ansvaret för lägret. Jag delar gärna med mig av rapporten när den blir färdig och svarar gärna på frågor inför, under och efter arbetet.

Jonas Forsmark  
(Kontaktuppgifter)
Syftet med undersökningen är att förstå ledarskapet i en pedagogisk utomhusaktivitet som forspaddling. Jag tycker det är mycket intressant eftersom man som ledare har en komplex situation att hantera: lärprocesser, deltagare, gruppen, sin egen kajak och en potentiellt riskfylld miljö, som i detta fall även ”rör på sig”. Fokus är med andra ord på vad och hur ledarna gör för att utveckla deltagarnas kunskaper i denna situation.


I detta arbete följer jag dessa etiska riktlinjer som finns för forskningsarbeten:

- Informationskravet: Alla berörda ska få information om syftet med studien.
- Samtyckeskravet: Varje deltagare ska själv bestämma om, och hur, de vill vara med eller inte. För personer under 15 ska även föräldrar/vårdnadshavare lämna medgivande. Deltagare kan när som helst välja att avstå medverkan utan att det ska få några konsekvenser för denne.
- Konfidentialitetskravet: Insamlad information (som bilder, anteckningar och inspelningar) kommer att hanteras på ett sätt så att ingen av deltagarna i studien ska kunna identifieras av utomstående.
- Nyttjandekravet: Den insamlade informationen får inte användas till något annat ändamål än det som informerats om. I denna studie kommer resultatet användas av mig i forsknings-sammanhang och eventuellt till utbildningsmateriel och bokprojekt, med bibehållet konfidentialitetskrav enligt ovan. Om bilder där personer kan identifieras skulle komma att användas förvisning i något publikt sammanhang, kommer jag först att be om medgivande från den eller de som finns med på bilden, samt för personer under 15 år även föräldrar/vårdnadshavare.

Interview-guide for group interview

What have you done today?
Was there anything extra fun?
Something you did not like?
Something you learnt?
How did you learn?

Interview-guide for interview with a leader

What have your goals been?
When thinking about today, are there any particular situation you are thinking about from working with the group?
Have you got any other thoughts about leadership and about the group you had today?