Sustainability Education at Reykjavik Municipal Work School
Student Experiences and Next Steps in Developing RMWS

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M.Ed. Thesis
Faculty of Teacher Education
Sustainability Education at Reykjavik Municipal Work School

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M.Ed. Thesis in Teacher Education
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Preface

This thesis has helped me grow as an educator, and as a person. Sustainability education is important to me, and I know I want to work with it more. I still cannot believe that this journey is almost over, but I know that after one journey, a new adventure begins.

My supervisor was Auður Pálsdóttir, and my co-supervisor Caitlin Wilson. I would like to thank them, they helped me a lot, they have been critical in all the right places, professional and wonderful. I would also like to thank my specialist for this thesis, Ingólfur Ásgeir Jóhannesson. I would also like to mention the students I interviewed, without whom this would not have been possible. My family gets special thanks for support and love. Brynja Stefánsdóttir for the work we accomplished in the summer of 2015. Last, but not least, my best friend Helga Kristín Hermannsdóttir who supported me and helped me during the time I wrote this thesis.

I think education will change the world, as it has changed me. Education is so much more than a class, a room, a book. Education is everything and everyone, together.
Abstract

The aim of this research was to examine the experiences of students at the Reykjavik Municipal Work School (RMWS) while they participated in sustainability education. The purpose was to develop and structure the activity of RMWS, using the character of sustainability, a fundamental pillar as described in the Icelandic national curriculum. There were two types of data used. The first was ten semi-structured interviews with students, who had worked at RMWS during the summer of 2015. Secondly, the researcher was also an instructor at RMWS and used a field journal where he reflected on the educational sessions, which was also used as data for analysis.

The findings suggest that the students had a positive experience of working at RMWS, as well as of the educational sessions, that introduced the concept of sustainable development. There were indications that the tasks, the students performed outside the educational sessions, were monotonous. The assignment that required problem solving was more memorable than the assignment that required imagination and putting themselves in other people’s shoes. There are suggestions about how the assignments could be expanded, so that they would better connect to other aspects of sustainability. Looking back, the students should have had a chance to assist in the daily planning of activities.

Additionally, the findings indicate a difference between the experiences of the girls and the boys, where the girls thought that participation in group work was the most fun and educational and the boys thought that finding solutions to problems was the most fun. There are also suggestions as to how students could get the opportunity to plan and prioritize their activities.

Finally, the findings suggest that there is room to develop the work further as well as the educational sessions about sustainability that students pursue at RMWS. It is important to address the interests of both girls and boys and assignments need to have qualities of problem solving, participation, and communication, as well as opportunities for lively debate and an exchange of ideas.
Ágrip


Niðurstöður benda til þess að nemendur hafi almennt verið ánægðir med Vinnuskóla Reykjavíkur, bæði verklegu þjálfunina og þá fræðslu sem þeir fengu og snerist um sjálfbærnimenntun. Fram komu þó vísbendingar um að verklegu viðfangsefnin væru oft fábreytt og nemendur hefðu fá tækifæri til að skipuleggja framkvæmd þeirra. Nemendur mundu helst eftir fræðsluverkefninu sem fól í sér að leita lausna, en síður eftir verkefninu sem krafðist þess að nemendur væru hugmyndaríkir og að þau settu sig í spor annarra. Fram komu vísbendingar um hvernig mætti dýpka fræðsluverkefnin svo þau tengist betur fleiri sviðum sjálfbærninnar. Einnig kom í ljós munur á upplifun unglingana eftir kyni þar sem stúlkunum fannst sjál þáttað í hópvinnu vera skemmtileg og fræðandi, en drengjunum fannst viðfangsefnið að finna lausn á vandamáli vera skemmtilegti hlutinn. Þá komu fram ábendingar um hvernig nemendur gætu í auknum mæli fengið tækifæri til að skipuleggja verkleg viðfangsefni.

Niðurstöðurnar gefa tilefni til að móta enn frekar verklega þjálfun og fræðslu um sjálfbærni sem nemendur takast á við í Vinnuskólanum. Taka þarf mið af áhuga stúlkna og drengja, þ.e. að hafa bæði lausnamiðuð viðfangsefni og verkefní sem fela í sér virka hópvinnu þar sem svigrúm er fyrir lifandi skoðanaskipti.
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1 Introduction

The Reykjavík Municipal Work School (RMWS) (ísl. Vinnuskóli Reykjavíkur) was established to offer employment to teenagers during the summer time in Iceland. Through RMWS, the teenagers help to maintain and care for the city of Reykjavík’s infrastructure. Today, hundreds of students, who are finishing 9th and 10th grades, sign up for work every year. RMWS’s goals are to offer students a chance to work in a constructive and positive environment, where they can meet new people and learn about the environment, communication, and respect (Vinnuskóli Reykjavíkur - Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.). The students’ tasks vary from group to group. They tend to planters all over the city, mow lawns, plant trees, and other relevant tasks.

From its forerunner in 1937, the school has gone through changes but perhaps the most significant change to the school occurred in the year 2007, when RMWS joined the Eco-School movement (ísl. Skólar á grænni grein, Græfnánaverkefnið). Since RMWS became a part of the Eco-School movement, there has been an increase in sustainability-oriented education that is available to all students, throughout the summer, based on the principles of the Eco-School movement. In order to do provide this, the school organizes specific educational sessions.

My interest in sustainability started whilst I was attending the Agricultural University of Iceland, completing my B.Sc. in environmental planning. Thinking back, I have always had an interest in sustainability, even though I didn’t know it. When I was a child, I worked with my grandfather at our property, planting trees, and protecting the land from overgrazing.

I started collecting data for this thesis in the summer of 2015. When I think about it, I had already begun the data collection in my first year at RMWS, by reflecting on practices and writing down ideas. I started out as a “green instructor” (ísl. grænn fræðsluleiðbeinandi) whose task was to bring environmentally oriented education to the students of RMWS. That very same year I started my M.Ed. in upper secondary school teaching. I saw that RMWS was doing wonderful things by bringing environmental education to students. That is when my interest in this study really came to life; RMWS has so much potential for introducing students to sustainability. The following summer I had some ideas about how to bring the provided education closer to the fundamental pillars (ísl. grunnþættir) of education, as
described in the Icelandic National Curriculum (MESC, 2011, p. 16), as RMWS had no official curriculum.

During the summer of 2015, I got the chance to coordinate changes to the educational sessions offered by RMWS. Firstly, changes were made so that all groups within RMWS would receive similar educational sessions, with clear goals and aims. Secondly, assignments were set so that students could complete them in the educational sessions, which ended in a group reflection session led by the green instructor. The assignments kept to the spirit of the fundamental pillars of education, as well as having specific goals and aims relevant to each particular assignment.

The aim of the fundamental pillars, in a school-based environment, is to promote increased equality and democracy and to produce informed citizens who can influence society for the good of all (MESC, 2011, p. 16). RMWS is a work school that offers educational sessions. The fundamental pillars mirror how students learn and work in a democratic environment, which coincides with RMWS’ goals to prepare teenagers to be sustainability-oriented. This preparation consists of students entering the workforce by doing outdoor work, with additional education about work ethics and basic labor training. Aside from work training, students are offered education in an environment where they are encouraged to participate as valued citizens in society (UNESCO, 2011; Vinnuskóli Reykjavíkur - Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.).

The aim of this thesis is to examine the experiences of students at the Reykjavík Municipal Work School while participating in sustainability education (SE). The main research question concerns what characterized the students’ experience of the RMWS and the SE provided. I also asked them what their overall experience of the school was and in particular the educational sessions that were provided. Furthermore, I asked the students how they understood the concept of sustainable development and what their opinion was about the selected assignments, relating to sustainability. Finally, I asked the students to what extent they felt they had had the opportunity to influence what and how they learned. An underlying task was to examine the strengths and weaknesses of the changes made to the program in the summer of 2015 in order to better understand how RMWS provides formal and informal education.

This thesis is divided into seven chapters. Chapter Two provides a literature review on the concepts of sustainability, sustainable development, UNESCO’s view on sustainability education, the zone of proximal development, collective work, and the Eco-School movement. Chapter Three
describes the Reykjavik Municipal Work School, its inner workings, and the assignments provided there. Chapter Four presents the qualitative methodology used and the research questions. Chapter Five reflects the findings of this research, after interviews and field notes were examined. In Chapter Six the findings are discussed, in relation to the research questions posed and linked to the literature. Finally, Chapter Seven contains conclusions and reflections from this study together with proposed next steps.
2 Literature and Concepts

The literature review explores the concepts that are critical to the changes made to the educational sessions at RMWS in the summer of 2015. The main change was to shift the educational focus towards the fundamental pillar of education, sustainability, as described in the Icelandic National Curriculum, as well as to define what sustainability education represents. This first section presents definitions of sustainability, including a discussion of sustainability in the Icelandic National Curriculum. The second section connects sustainability to education and the third section describes UNESCO’s proposed changes to sustainability education. The fourth section describes action competence and participation within the scope of education. The fifth section describes the zone of proximal development and collective work, and the sixth section explains the Eco-School educational principles.

2.1 Sustainability

Sustainability is one of the fundamental pillars of education in the National Curriculum of Iceland (MESC, 2011, p. 19) and has been one of the foci of the educational program at RMWS in recent years. Sustainability as a fundamental pillar is connected to all the other pillars and cannot stand alone.

Education for sustainability encompasses creating a society of collective responsibility where individuals develop as active citizens, conscious of their own values, attitudes and feelings for global impact and equality of all the inhabitants of the earth, for nature and the environment, for democracy, human rights and justice, for equality and multiculturalism, for welfare and health, and for economic development and vision of the future (MESC, 2011, p. 20).

Sustainability has many aspects, as described in the quotation above and relates closely to all the fundamental pillars. The most well-known definition of sustainability echoes the same idea: “development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and
Many people identify sustainable development with this quote but it can be easily put into question by asking what “need” truly is and linking it to the global and local community. This “need” connects to the concepts of anthropocentrism and ecocentrism. Anthropocentrism takes the perspective that humans are the only species who have the capacity to assess the natural world in terms of exploitation or protection, all in favor of human interests. In contrast, ecocentrism is the perspective that all life forms and ecosystems have value. Life and ecosystems are connected and human beings are a part of the greater biosphere (Óskarsdóttir, 2011, pp. 27–28).

The National Curriculum defines sustainability as the goal and sustainable development the journey towards it. The journey can contain many small victories on the way to sustainability that should be worthy of celebration (MESC, 2011, p. 20). Sustainable development is about finding solutions and improvements, to ensure quality of life without doing irreparable damage to the environment, and to reflect on our way of life to minimize said damage (Andreassen & Pálsdóttir, 2014, p. 50).

2.2 Sustainability and Education

When it comes to education and sustainability there are many existing concepts already in use: education for sustainable development, education for sustainability, education about sustainability, sustainability education, and sustainable education.

Chalkley, Blumhof, and Ragnarsdóttir (2010, p. 103) refer to three levels of education for sustainable development: (i) Education about sustainability, which is a focus on the knowledge of sustainability issues. (ii) Education for sustainability equips students with the understanding, expertise, and values to make a positive change. (iii) In education as sustainability, the learning process emphasizes holism, systems thinking, dialogue, citizenship, cross-cultural empathy, and interdisciplinary learning.

Sterling (2001, p. 14) talks about sustainable education as a paradigm change which asserts both humanistic and ecological values. Sterling talks about an educational culture where human potential is realized in relation to the need to secure and sustain social, economic, and ecological wellbeing and realize their connectivity (2001, p. 22). Sustainable education is a transformative learning experience characterized by the following aspects:

- **Holistic**: How does this relate to that? What is the larger context?
- **Critical**: Why are things this way? In whose interests are they?
- **Appreciative**: What’s good and what already works well here?
• **Inclusive**: Who/what is being heard, listened to and engaged with?
• **Systemic**: What are or might be the consequences of this?
• **Creative**: What innovation might be required?
• **Ethical**: How should this relate to that? What is a wise action? How can we work towards the inclusive well-being of the whole system? (Sterling, 2009a, p. 82)

Sterling (2009b, p. 111) chose *sustainable education* to move people away from ‘how we educate for sustainable development’. Sterling argues (2009b, pp. 115–116) that sustainable education is a larger, deeper and more reconstructive notion than ‘education for sustainable development’, where ‘education for sustainable development’ is often times merely an add-on to the curriculum.

According to Sterling, sustainable education (2009b, p. 106) distinguishes itself from sustainability education but is included in the latter concept. The term sustainability education is used by many researchers who do not use the term education for sustainable development but who agree with Sterling’s definition of sustainable education (Pálsdóttir, 2014, p. 36). Sustainability education (SE) is used in the Icelandic Curriculum and includes the characteristics as detailed by UNESCO and will be used as a main concept in this thesis.

### 2.3 SE and UNESCO

A decade was dedicated to sustainability and education by the United Nations Educational, Scientific and Cultural Organization (UNESCO); The United Nations Decade of Education for Sustainable Development (DESD, 2005–2014). The goal of the decade was to seek to transform educational policy and to engage people and communities in meaningful lifelong learning, in more sustainable ways (UNESCO, 2005, p. 5). UNESCO (2011, pp. 20–28) proposed four processes and identified engagement opportunities and six learning strategies. The processes that establish SE frameworks and processes to enhance SE (2011, pp. 20–28) are:

• **Process of collaboration and dialogue**. Collaboration and dialogue are interconnected processes, vital to negotiating a more sustainable future. Multi-stakeholder dialogue brings stakeholders together in creating knowledge. Problem solving in sustainable development is increased through collaboration and dialogue.
• **Processes, which engage the ‘whole system’**. The ‘whole system’ is schools, government, regulatory bodies, and NGOs, as well as teachers and educational institutions.

• **Processes of innovation.** A transformative mindset that engages the learner in changing their perspective, (UNESCO, 2011, p. 25) as described in Table 1.

• **Processes of active and participatory learning.** Multiple pedagogical strategies were adapted from work that Cotton and Winter used in higher education (2010, pp. 46-50). Some of them are: Role-plays and simulations, group discussions, debates, and problem-based learning etc. These approaches were drawn from a survey and are commonly used in SE.

Many researchers consider critical thinking and participatory approaches are core to SE. These approaches are considered appropriate because they encourage students to:

• Ask critical, reflective questions
• Clarify values
• Envision more positive futures
• Think systemically
• Respond through applied learning
• Explore the dialogue between tradition and innovation (UNESCO, 2011, p. 29).

Table 1. Educational shifts proposed by SE.

<table>
<thead>
<tr>
<th>From</th>
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<tr>
<td>Passing on knowledge</td>
<td>Understanding and getting to the root of issues</td>
</tr>
<tr>
<td>Teaching attitudes and values</td>
<td>Encouraging clarification of values</td>
</tr>
<tr>
<td>Seeing people as the problem</td>
<td>Seeing people as facilitators of change</td>
</tr>
<tr>
<td>Sending messages</td>
<td>Dialogue, negotiation and action</td>
</tr>
<tr>
<td>Behaving as an expert – formal &amp; authoritarian</td>
<td>Acting as a partner – informal &amp; egalitarian</td>
</tr>
<tr>
<td>Raising awareness</td>
<td>Changing the mental models which influence decisions &amp; actions</td>
</tr>
<tr>
<td>Changing behavior</td>
<td>More focus on structural and institutional change</td>
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Critical, reflective thinking is mentioned time and again throughout the literature about SE (Breiting, Mayer, & Mogensen, 2005, p. 10; MESC, 2011, p. 21; UNESCO, 2006, p. 17; 2009, p. 48). Students should get the opportunity to examine how they view the world and how they form their knowledge about it. Critical thinking can help students to see how values, beliefs, and culture influence their way of thinking; it is a process to uncover the root causes of unsustainability (UNESCO, 2011, p. 30). Combining critical thinking with clarifying students’ values helps shape their perceptions on how background, culture, and values interact to shape knowledge, for themselves and others (UNESCO, 2011, p. 30). Understanding one’s own values helps identify values that are often overlooked and that can hinder dialogue towards sustainable development (Tilbury & Wortman, 2004, p. 40).

A very important aspect of SE is its envisioning of positive futures; the mentality of ‘what can we do?’, and it helps people take ownership of, and responsibility for, a better future (Breiting et al., 2005, p. 25). In essence, systemic thinking is about ‘seeing the big picture’, where teachers and students prepare to ‘expect the unexpected’ and how transdisciplinary knowledge is created with systemic thinking (UNESCO, 2011, p. 35). Applied learning pertains to students’ participating in SE and responding to a real life problem. Research shows students become more aware of what they can do for themselves and for others (UNESCO, 2011, p. 36).

The processes and strategies described above are tied into UNESCO’s five pillars of education. These pillars are: learning to do, learning to be, learning to live together, learning to know, and learning to transform oneself and society (UNESCO, 2009, p. 26). The whole focus of SE, according to UNESCO, is to move away from rote learning towards participation, self-evaluation, and dialogue. It is important that students are able to influence what they learn and how they learn (UNESCO, 2006, p. 17). SE is seen as a way to develop students’ capacities and opportunities with issues in sustainability, to solve common issues and to use a holistic approach to achieving economic and social justice (UNESCO, 2009, p. 26).

2.4 Action Competence and Participation

Action competence is a concept defined as how individuals act when unforeseen complex situations arise (Mogensen & Schnack, 2010, pp. 68-69). Jensen and Schnack (1997, p. 168) assert that the role of schools is not to change students behavior, but to influence their attitudes. Actions are, by the agent’s intentions, conscious and purposive that could solve a problem or change the condition that created the problem. Action competence builds on
knowledge and the actions students perform and points to a democratic and participatory teaching-learning environment, so that students will play an active role in a democratic solution (Mogensen & Schnack, 2010, pp. 61–62).

Action competence is a part of the competence criteria for natural sciences in the Icelandic National Curriculum, see Table 2 (MESC, 2011, p. 169). The concept of action competence could be thought of as a tool for teachers to embolden maturity and competency in students, so that students gain the confidence to act on projects that matter to them and their community. Another important aspect of action competence is that students get the opportunity to reflect on their actions, so that they understand the meaning of their actions better and can make improved plans in the future (Andreassen & Pálsdóttir, 2014, pp. 69–70).

Pálsdóttir (2014, pp. 54–56) explains, in a summary about participation, that it is an exercise for students to develop their action competence, as future democratic subjects. Where students get the chance to influence their lives and to learn more about the democratic process. Participation should be looked at as a tool for students and teachers to establish shared decisions and to bridge the gap between learning in a formal situation and implementing it in society. Problem solving, or disputed issues, should be emphasized, so that students learn to mediate, debate, and to separate the issues from those taking part in the discussion.

Table 2. Competence criteria for procedural knowledge – Action Competence.

| • analyze how factors, such as technological levels, knowledge, cost and societal infrastructure affect every solution to a problem |
| • analyze the state of their own surroundings and preceding events, and then organize participation in actions that lead to improvements |
| • take part in and explain their experience and the outcome of participation in activities |
| • adopt a well-founded stance toward issues and make proposals on how to react to changes, but, at the same time, take into consideration that in the future many things are uncertain and complicated |

2.5 Lev Vygotsky

Lev Vygotsky was born in Belarus, in the year 1896, graduating in history and philosophy at the University of Moscow in the year 1917. Vygotsky saw language and communication as an important tool for children to develop.
The tool, language, impacts how children think and do (Andreassen & Pálsdóttir, 2014, p. 95). Vygotsky defined a *zone of proximal development*, which is explained as what a child can do on his own and what he can do with guidance or mentorship. Therefore it is very important for teachers or instructors to realize which abilities the child possesses, in order to set appropriate assignments to further development (Andreassen & Pálsdóttir, 2014, p. 97). Vygotsky suggests that there should be a focus on what children are capable of in real situations when assessing their development. What children can do with assistance, they can do on their own in the future (Jóhannsdóttir, 2010, pp. 43-44). The developmental process does not end when students master new experiences; development comes after a learning process. When students are tested on what they can do, it is then yesterday’s development and not a new developmental stage (Vygotsky, 1978, pp. 34-35).

Roth and Lee (2007, p. 205) point out that *collective work* fits well within the zone of proximal development. New learning can occur when the individual and society interact and learning possibilities are formed. Roth and Lee (2007, p. 205) identify two forms of learning possibilities for an individual in the zone of proximal development. The first is in collaboration, when a less experienced person observes a teacher, instructor, or peer. The student emulates the performed action and gains proficiency in the action. The second is when two or more students collaborate. New actions unfold through a division of labor; actions are revealed that one student could not perform alone. This shows that students who collaborate on the same developmental level can learn without a more advanced other. Students increased learning opportunities, through collaborative activity, and learned to *teach* peers and to emulate and practice actions in a collective activity.

Collective work or activity can be used to bring different students together. The environment in which students engage in collective activity should be open for dialogue and inclusive. The focus should be on the “intersection of teachers’ and students’ cultural, discursive, and knowledge resources that offer opportunities for shared learning” (Roth & Lee, 2007, p. 206). This has shown to encourage underachieving students, as the activity system in which students engage in is targeted at the learners’ culture, their knowledge, but not their deficits (Roth & Lee, 2007, p. 206).

Vygotsky explains that the role of the teacher is to stimulate the development of their students, which is in the form of dialogue between students or between teacher and students (Andreassen & Pálsdóttir, 2014, p. 97). This illustrates the importance of language for students’ development.
and learning. Vygotsky’s ideas about students’ development, in their local community, build on their ability to express their views, communicate with others, peers and teachers alike, and to have the opportunity to describe their experiences to others (Andreassen & Pálsdóttir, 2014, p. 98).

### 2.6 Eco-School Movement

RMWS is a part of the Eco-School movement and when their educational principles are compared to those of SE, UNESCO’s policy, and the National Curriculum, they share many of the same goals. The Eco-School movement has its origins in environmental education but, over the years, they have adopted many of the same emphases that UNESCO has, on SE, in their program. These principles gravitate heavily towards participation and how students can influence their learning and surroundings. These are participatory and reflective principles that link into SE. These principles are (Eco-Schools, 2014):

1. Ensure that participants are engaged in the learning/teaching process.

2. Empower participants to take informed decisions and actions on real life sustainability issues.

3. Encourage participants to work together actively and involve their communities in collaborative solutions.

4. Support participants to examine their assumptions, knowledge, and experiences, in order to develop critical thinking, and to be open to change.

5. Encourage participants to be aware of cultural practices as an integral part of sustainability issues.

6. Encourage participants to share inspirational stories of their achievements, failures, and values, to learn from them, and to support each other.

7. Continuously explore, test, and share innovative approaches, methodologies, and techniques.

8. Ensure that continuous improvements through monitoring and evaluation are central to our programs.
3 Reykjavik Municipal Work School (RMWS)

This chapter describes how RMWS operates, and the responsibilities of the researcher. For the past three summers, 2013–2015, the researcher worked for the city of Reykjavík at RMWS. In the summer of 2015, the researcher had the opportunity to review and restructure the education that students received at RMWS. This was done in collaboration with Brynja Stefánsdóttir. Brynja is a compulsory-school teacher for the 7th grade, but also worked for RMWS during the summers of 2014 and 2015.

This chapter has four sections. The first section explains the role of the staff and goes into detail about who attends RMWS. The second section illustrates RMWS’s ideology and details the direction in which the educational sessions are heading. The third section describes the educational sessions and details the assignments that the students completed during the sessions. The final section describes a typical day for the researcher during the summer of 2015.

3.1 Staff and Participants of RMWS

The principal of RMWS works the whole year round and, before the students arrived, last summer; around one hundred people were hired to fill the various positions at RMWS. The city of Reykjavik was divided into six areas, in order to reach students better and to make the work more efficient. Several people were responsible for each area; they were the senior staff. The principal sits at the top and then there are the senior instructors and then the green instructors (the researcher’s title in the school). After that, come the instructors who are responsible for managing the students. Additionally, all areas had access to support staff who helped with various operations, for example, in the office, workshop and so on.

Preparation for the summer began approximately three weeks before the students arrived, with the senior staff, senior instructors, green instructors, and the support staff. The senior staff was responsible for planning the summer, for acquiring information, and for making sure, everything ran smoothly. During the preparation period, all the senior staff was given information and attended courses that related to the work planned for the summer of 2015. Due to restructuring and new goals, the researcher and Brynja began working earlier in the year. The biggest changes were effected to make the educational setting more goal-oriented and the green
instructors more aware of the participants’ learning, which will be explained, in more detail, later.

RMWS offered employment to all teenagers who had completed the 9th and 10th grades of compulsory-school and they were each assigned a group where an instructor oversaw their daily assignments and tasks. There were up to 15 groups per area and the group’s size could vary from 4–25 students. The summer of 2015 was split into two periods, with each period having three weeks of work for students and each student could only work one period. The 9th grade was offered the possibility to participate in two educational sessions taught by the green instructor over one period. The 10th grade was offered one session per period. Each educational session lasted from two to three hours.

3.2 RMWS’ Ideology and Intent

RMWS works on the principles of inclusive education. Because students come from varied backgrounds, respect is shown for diversity and different needs, abilities and characteristics (MESC, 2011, p. 41). The main goal of RMWS is to provide teenagers with a job, along with an environmental education, in a safe working environment, that is positive and constructive. (Vinnuskóli Reykjavíkur - Umhverfis- og skipulagssvið Reykjavíkurborgar, n.d.).

RMWS has been an Eco-School since the year 2007. It was awarded a green flag in the year 2009 and every year since then. Eco-Schools have to take seven steps to be awarded a green flag. They are: (i) Form an eco-committee that meets to discuss environmental actions; (ii) Carry out an environmental review where participants investigate environmental issues; (iii) Create an action plan to resolve problems identified by participants; (iv) Monitor and evaluate the action plan and improvements made; (v) Do curriculum work by linking it with other subjects; (vi) Inform and involve the wider community; and (vii) Produce an eco-code that represents the schools’ commitment to the environment (Eco-Schools, 2014). After going through the seven steps, the school is audited by the Eco-Schools’ program administrators and the green flag is awarded.

The green instructors made some revisions to the educational program of RMWS, in the years before Brynja and the researcher joined the program. Those revisions were based on comments and reports from previous years. The changes made in the summer of 2015 took these revisions into consideration. The researcher and Brynja made an analysis of the Eco-School initiative and the fundamental pillars in the Icelandic curriculum, in order to
strengthen the program. These pillars are: literacy, sustainability, democracy and human rights, equality (equity), health and welfare, and creativity. The main role of the fundamental pillars is to encourage students to realize their potential in a democratic society, how they can influence it and develop as individuals. The aim of the fundamental pillars is to produce educated individuals by promoting equality, equity and democracy (MESC, 2011, pp. 14-15). In the preface of the curriculum, the Minister for Education, Science and Culture, Katrín Jakobsdóttir writes:

It is of great importance to develop systematically the knowledge, skills and attitudes that strengthen the individuals’ future ability to be critical, active and competent participants in a society based on equality and democracy ... Schools are factually the only institutions of society that can guarantee youth an opportunity to prepare for active participation in a democratic society, exercise critical and creative thinking and to face diverse social and cultural circumstances (MESC, 2011, p. 5).

Those words capture the intentions of what RMWS wants to become, a school that echoes sustainability education and not just environmental education. A short handbook was written explaining how the green instructors should organize the educational approach. The handbook introduced the goals of RMWS and the roles of the green instructors; it explained the evaluation and gave short descriptions on the fundamental pillars. In addition, some suggestions were made about how the green instructors could open up a dialogue on difficult issues.

In the past years, the emphasis had been on using games as an educational tool. The games were supposed to be provoke thought about environmental issues in the educational sessions. The instructors, who led the students, used other games to reward the students and to help them to get to know one another. Because of this, it was decided that games were not the best solution for introducing the students to the concept of sustainable development, as games lacked flexibility when exploring issues. It was decided to use assignments, so that students could explore and reflect on issues.

3.3 Content and Structure of the Educational Sessions
The green instructors, who are hired each year, have different backgrounds. In the summer of 2015, there were instructors who had specialized in
environmental engineering, pedagogy, landscape planning and Icelandic literature, to name but a few subjects. The green instructors were encouraged to use examples from their fields of expertise, for example, the environmental engineer would focus on hydropower and its impact on Iceland. Green instructors were responsible for bringing an assignment to the table. All the green instructors would then work on these assignments as a group, to refine them and to ensure their conformity to the rest of the program. All the assignments had to reflect one or more of the fundamental pillars of education, with clear goals and defined ways on how those goals would be reached. During the educational sessions, the researcher used two assignments called the “washing machine” and the “spaceship”.

Washing machine. The goals of this assignment were to give students an opportunity to realize that there was no one solution to any problem, to put themselves in another’s shoes, to work in groups, to respect others’ opinions, and to debate issues.

The assignment was based on a TED Talk, by Hans Rosling. In this talk he spoke about the transformative power of the washing machine. He talked about how his mother was able to educate herself because she didn’t have to wash clothes all the time and about how most women in the majority world are unable to educate themselves (this term is used in preference to the largely inaccurate, out-of-date and/or non-descriptive terms such as “developing countries”, “third world” and the “South”). He talked about how women do not stand on equal footing as women in the minority world (as many refer to as “the developed countries”). The assignment’s purpose was to illustrate the difference between people, depending on where they lived on the Earth. The students were asked:

- Who washes your clothes?
- Is one gender better at washing clothes than the other?
- Does everyone have the right to wash using a washing machine?
- Do people have more possibilities in life if they have a washing machine?
- What was positive and negative about the TED Talk?
- Should we forbid some people having access to washing machines, or not?
- What did Hans mean when books came out of the washing machine?

When all the groups had answered these questions, it was the responsibility of the researcher to summarize their answers and to come up
with counterpoints or to ask the students to clarify their answers. The assignment’s purpose was to open up a dialogue about how people do not have the same opportunities around the world and that a washing machine could perhaps help educate women in the majority world. The green instructor pointed out that increased energy usage could affect the environment and asked if there was a third option.

**Spaceship.** The goals of this assignment were for students to work in a group, to decide democratically on decisions, to respect each other’s opinions, and to present their conclusions.

The assignment revolved around a spaceship, on its way to Kepler-186f. 100 people were chosen to go and the journey would take 500 years at light speed. The students were divided into groups and asked to solve certain problems that might arise on-board the spaceship.

- Where does food come from?
- What do we do with trash and waste?
- How do we keep the air clean?
- How do we keep the water clean?
- What will the 100 people do?
- What happens if there is conflict or war?
- How do people live?
- Where do clothes and furniture come from?
- What happens if we have too many people on-board?

The groups got time to debate and to decide on how they would solve the problems, as stated above. All the groups presented their spaceship and how it would work. The researcher came up with counterpoints to the students’ ideas. As an example, many groups wanted to bring cattle on-board. The researcher pointed out that to make one ton of meat you would need four–seven tons of greenery. When all groups finished presenting their ideas, everyone contributed to a discussion on what the best idea was and students got the chance to make the case for their ideas.

In order to help organize and to learn from the experience, each green instructor filled out a lesson plan; how they were going to reach their goals and they reflected on each session afterwards. The lesson plans were valuable tools to monitor the progress made by each green instructor and to adapt to adversity.
3.4 A day at RMWS – an Example

The researcher read and filled out a lesson plan as preparation for an educational session with students, then went to the planned meeting with a group of students. The meeting began by everyone introducing him- or herself so that the students felt more comfortable speaking. Then the assignment was introduced and the students split into groups that had been randomly selected by the researcher. Each group would solve their assignment while discussing and writing down the key questions provided by the researcher. Then each group would present their findings. Students were asked to elaborate, to come up with a counterpoint and asked if they would re-evaluate their findings. Each group’s findings were presented and then, as a whole, a conclusion was explored.

At the end of each educational session a single question would be asked to be answered, anonymously, which pertained to the discussions the group had earlier. These evaluation questions were designed to gauge students’ reactions to their own learning. It was used by the green instructors as indicators of student engagement during the educational session. The researcher used a specific form to reflect on the educational session and time spent with the students. The reflection would entail what went well, what surprised the researcher, where the goals of the educational session reached, and if there were something the researcher would change. After a short break, the researcher would meet the next group and use the same methods as described.

The educational environment of RMWS has altered over the past years with a big change occurring in the summer of 2015 where RMWS’ goals and purpose were analyzed and compared to the fundamental pillars and principles of the Eco-school project. The researcher used the fundamental pillars to strengthen the assignments and had a systematic approach to the education provided. These changes were made so that students could increase their competencies and build on the knowledge they already possessed. Competence also encompasses attitudes and moral strength, feelings and creative force, social skills and initiative (MESC, 2011, p. 23). The assignments were designed so that the students needed to exercise these competencies.

RMWS is constantly re-evaluating itself, using reports and suggestions that are written each year by various senior staff members. In order to evolve the education RMWS provides, it is vital that this thesis looks into the concept of sustainable education and how students understand it.
4 Research Questions and Methodology

4.1 Research Questions

As stated before, the aim of this thesis was to examine the experiences of students at the Reykjavík Municipal Work School while participating in sustainability education. The research questions were:

What characterized students’ experience of RMWS and the SE provided?

In addition, five sub-questions were designed to guide the search for answers:

- What was the students’ overall experience of RMWS?
- What was the students’ experience of the educational sessions at RMWS?
- How did the students understand the concept of sustainable development?
- What was the students’ opinion of the selected assignments, related to sustainability?
- To what extent did students feel they had the opportunity to influence what and how they learned?

4.2 Research Approach

Research is divided into two main approaches, with divergent purposes: qualitative and quantitative. When it comes to choosing a research method, there is a difference between these two approaches. This difference is best described in saying that quantitative research is based on numbers that can be counted and measured (Davíðsdóttir, 2003, p. 222), on attitudes and opinions given a numerical value (Lichtman, 2013, pp. 12–15), and where the researcher finds the mean and distribution from groups of people, as well as how these groups are interconnected. In qualitative research the experiences of individuals from a group matter to the researcher (Davíðsdóttir, 2003, p. 222), the goal being to describe and interpret, not generalize (Lichtman, 2013, p. 193).
For this research, qualitative research approach was selected and applied. Qualitative research suited this study well, as the interviewer knows the participants of the study as a teacher. As the researcher was the participants’ teacher, it was difficult to keep an objective distance from the participants. Instead of doing this, the researcher built on an existing rapport with the participants, before starting each interview (Lichtman, 2013, p. 193). The goal was to interpret the reality of the students who were interviewed (Lichtman, 2013, p. 190).

This study looked into the experiences of the students, with the emphasis on words, or lack of words, to analyze and interpret the joint discussion between the researcher and the participants (Lichtman, 2013, p. 61). Qualitative research is well suited for the analysis and interpretation of experiences. This research is characterized by an exploratory approach to understanding how participants experienced certain phenomena or situations. Qualitative research uses an inductive approach, where the researcher sifts through data to find many examples that help to identify a central issue or themes (Lichtman, 2013, p. 19). A qualitative study seeks to understand participants’ experience, views, and perspectives.

4.3 Data

Ten students were interviewed, for this study. Twelve students were asked to participate, but one student did not show up for the interview and one interview could not be analyzed due to background noise. The students all came from the researcher’s area in Reykjavik and attended the researcher’s educational sessions in the summer of 2015. The participants were students who had completed 9th grade, in the spring of 2015 and were going to attend the 10th grade later that year. These students took part in two educational sessions with the researcher of roughly four–five hours in total.

The participants of this study were all under 18 years of age and their parents gave consent for the researcher to contact the students. The researcher asked the students to join the study and found other participants if they declined. More boys attended RMWS in the summer of 2015 than girls, with a ratio of 3:2 from roughly one hundred students in total. This study interviewed an equal number of boys and girls to represent the voices of both girls and boys equally.

The interviews took place over three days, from the 12th–14th of December, in public libraries and at a local community center for teenagers (ísl. félagsmiðstöð). The researcher contacted the participants and let them choose from a range of times at the convenience of the participants.
Participants were notified that the interviews would be digitally recorded and encrypted for privacy. Participants were also notified that their names and place of work would be altered to ensure privacy. Participants received two tickets to the cinema as a gesture of appreciation. Interviews ranged from 12–30 minutes each.

The questions were semi-structured with a general format that was followed and used for all the participants. The interviewer had the capacity to vary questions when the situation demanded it (Lichtman, 2013, p. 191). The questions were open-ended with a peer-to-peer dynamic, showing the participant the utmost respect (Jónsdóttir, 2003, p. 74).

In addition, the researcher kept a field journal, during the summer of 2015 that contained information about the educational sessions, reflections and other miscellaneous thoughts. The field journal was a part of the analyzed data.

4.4 Data Analysis

The characteristics of the questions were that this was exploratory research into understanding how the participants experienced certain phenomena or situations at RMWS. The interviews were analyzed in order of date. After the first interview was read and analyzed, initial thoughts were carried over to the next interview and so on. There was a constant comparison of interviews in the initial coding of what the students said and what they did not say. After the initial coding, the interviews were analyzed again, this time considering the research questions. This led the researcher to identify recurring patterns and themes. Findings were descriptively presented and discussed using the literature that framed the study (Merriam, 2002, pp. 6-7). The field notes were analyzed using data collected from the interviews, as well as by comparing the research questions to the field notes. The themes of the field notes were compared to the themes and patterns in the interviews.

When reading the interviews, the researcher was aware that people are equipped differently when they are asked to describe their experiences. The researcher was also aware that many participants could have been inexperienced in reflecting on important experiences (Jónsdóttir, 2003, p. 74).

4.5 Ethical Issues

Ethical issues are as important as the methodology (Kristinsson, 2003, p. 161). It is ethically questionable to inflict harm, discriminate or falsify data.
Kristinsson (2003, pp. 163-164) talks about four principles that are associated with ethical conduct.

The first one is respect for autonomy. People are intrinsically invaluable and deserve respect and dignity. Informed consent is most important in this study, where participants were not coerced into the interview. The participants were informed they were able to withdraw from the study and could ask questions during and after the interview. During the interview, the researcher behaved in the same manner as in the educational sessions, so as not to intimidate the participants with a formal objective manner. The questions took the participants’ age and maturity into consideration.

The second principle is of non-maleficence. The core of this principle is to do no harm and to ensure that the study is in the participant’s interest. Risk of harm to the participants was negligible; the study was anonymous and all data was encrypted. The study was in the participant’s interest, as they were able to influence RMWS and to discuss and reflect on their ideas.

The third principle is of beneficence. This principle deals with how the study should be in the interests of society. Researchers are obligated to select a method that delivers the best outcome with as little sacrifice. Participants in this study benefitted by means of personal development as they reflected and discussed in the interview. This study could potentially further education provided by RMWS to students in Reykjavik in the near future.

The fourth principle is of justice. This principle is foremost, as some participants could be perceived as disadvantaged and should be protected from all risks. Participants were treated equally; all participants were asked the same questions, the interview location was proposed in collaboration with the participants and all the participants received the same reward. An equal number of boys and girls were asked to participate from the sample (Kristinsson, 2003, pp. 163-164).

The Data Protection Authority was notified of the study, in compliance of the law (receipt number S7586/2015). All information gathered was treated confidentially and encrypted digitally. Participants were advised of their right to withdraw from the study and were told about its compliance with the law. Access to the information gathered in the interviews was restricted to the researcher and his instructors for this study. The questions are found as an appendix to this document, in Icelandic.
5 Findings

This chapter presents the answers from the students who participated in this study along with data from the field notes taken by the researcher. The results are presented in three sections based on the participants’ overall experience of RMWS, their experiences of the assignments they did, and their learning experience in the educational sessions designed as sustainability education.

5.1 Reykjavik Municipal Work School

In the interviews, students were initially asked what they remembered about RMWS from the past summer. The students mentioned the people they worked with, what tasks they did, and they also mentioned games or fun they had had such as playing werewolf, a verbal game of catching killers in a small village, or laughing with friends. One girl remembered the educational sessions and the assignments:

Both the educational session with you and the rest. Because we were talking about the spaceship, we were going on.

Three girls mentioned their co-workers, friends, and instructors as things they remembered from last summer. Three girls also talked about the work and the tasks they did. One girl said:

The other kids and staff ... the kids I was with ... getting manure all summer.

By comparison, the boys talked about work and fun, like weeding and playing football. One boy said:

What we did, like the work and such.

Another boy noted:

I remember what tasks were offered and for example what games [we played].
When the focus was moved, more to what the students did, no difference was identified between boys and girls. Eight students out of ten described some type of work, planting, weeding, sweeping, digging, or else they described general work. Work was always mentioned before students mentioned fun or friends. One girl stated that working is a big part of RMWS:

We were planting trees and getting manure, picking up trash and all sorts of work, mostly for the environment. Building planting a new forest that was there and then we played some games and something, like group games, walks and enjoyed the surroundings.

Many of the students also described fun and games when they were asked what they did at RMWS. Seven students out of ten talked about general fun and selected games, socializing, or friends. Students described fun and games, such as conversations, being inside, confiding in friends, soccer, and sun-tanning. Seven students connected RMWS to fun and games, as a part of what they did at RMWS. One student described fun as:

Then my friends were there so I could talk to them while I was doing it [work] ... The first day we mostly played games and worked a little bit in the planters [flower bed]. And then most of the days we were working but the first week we didn’t play werewolf in the breaks. Then we played werewolf a lot, after like the first week, we played it a lot and just had fun.

Six students described having had an influence on their work. These students talked about how the work they did over the past summer was their influence on and/or contribution to RMWS. The work they referred to was planting trees, weeding, painting, or general work. Two students mentioned that if they hadn’t been there, there would still be weeds around, or a certain area would still be in disarray. One student noted:

We would maybe still have a lot of weeds around.

Another student said:

Yes, because if we hadn’t been doing anything around [one school] it would be full of weeds.
One student described how he and his group had taught their instructor the games they would later play during free time. Lastly, one student thought he had no influence and only did what he was told to do by his instructor.

Students were also asked about whether they were able to choose or decide on anything. Eight students out of ten said they did not influence much, but that they had had a choice of work and play, what to do, whom they worked with, or what tools they used. One student said:

We got to choose our groups, we also got to choose what trees we planted sometimes.

Another student noted:

We got to choose if we wanted to work, or how we wanted to work, if we would work a lot and get more free time.

However, the students who were mostly planting trees said they thought they had a choice of how they did things, not which things to do.

Yes, and no, we always had this one thing we were supposed to do. We could decide on how we did it.

Four students mentioned how they liked their work method of having regular breaks. One student said:

We did like these agreements ... working for an hour, then we got ten minutes break and then we worked again.

When asked if they wanted to have more influence, the students were roughly divided into wanting to have more influence and not wanting any more. The students who wanted to have more influence linked it with a direct impact on their surroundings or the people around them, as one described:

Yes, or don’t you always want to have more influence? You could have more influence on the environment by planting trees, and in doing so solve environmental problems and pollution.
Another student had a similar response when he talked about the school grounds. He wanted to help improve and maintain the school grounds, where his family members attend school, or will attend. Comments were made, in the field notes, about students being more motivated when they were working at pre-schools while the children observed them. The RMWS students had an audience of children who admired them and they felt they were doing good, while contributing to the welfare of others. One student wanted to have more influence but didn’t feel as if he had the knowledge of how to influence RMWS. About half of the students did not want to have any more influence and simply said no when asked, or pointed out that someone needed to be in charge.

One student felt that her group didn’t need any more influence, as her group had a choice on how to reach the outcome the instructors had tasked the students with; in this case it was planting trees.

Well not really, we had this one outcome, and we could choose how we reached the outcome.

Students did not talk about influence in a way that they could have improved RMWS to their benefit, or that RMWS could have offered a better way of working to the students. The students did not mention that they could have influenced the order of the tasks they performed, or areas they worked in. In the field notes there are comments noting that students were often insecure about having an opinion or worried that no one would listen.

When asked about what RMWS could do to make it an even better workplace for teenagers, three girls out of five talked about more diversity of tasks and wondered if there was a possibility to do other things than what they did last summer. This is supported by the field note entries where students complained about the monotony at work; as one student said:

You could get more diverse tasks

Another student noted:

Plant trees and then do something else maybe one day.

Three boys out of five talked about the tools at RMWS. They wanted better or more tools to be able to accomplish their tasks. One boy noted:

Fix some of the tools. Some of them are falling apart.
Another boy stated:

Probably the tools; there weren’t enough tools.

Two boys mentioned that RMWS should increase their wages, or shorten the work day to compensate them better for the work done. Two commented on the organization of RMWS and the city of Reykjavik. The first comment regarded a sense of fairness, where RMWS would make sure that everyone worked equally. The second comment concerned a student’s perception of a lack of planning at the city of Reykjavik. The field notes support this, commenting on students’ talk about the lack of communication between departments at the city of Reykjavik.

Then you could plan this better at the city of Reykjavik. Like one time we were working in a planter near the school and then just two weeks later when we went to a different planter and there comes an excavator or something and digs the planter away where we were working [had finished].

One boy talked about the necessity of training, where everyone would be offered the opportunity to master tasks and the importance of friends in the workplace.

If a student thinks he sucked at a task for example ... in a planter. Rather teach them [to do better] than make them do something else. [Work] didn’t suck, I think though it would have kind of sucked if you were alone, but I was with my friends.

In summary, students remembered the people, tasks, and the fun and games they had. Girls mentioned people and work whereas boys mentioned work and fun. In the follow-up question about what the students did over the past summer, most students listed a few tasks, games, and other leisure activities they participated in. Boys talked as much about friends and socialization as girls did, but later in the interview. The educational sessions were not remembered well or described in detail by the students. When asked about their influence on RMWS the students connected influence with their work or surroundings, planting, cleaning, or weeding. They did not think they influenced RMWS in any other way than with work or they felt as if they didn’t influence it at all. When asked about choice and decisions, the students gave examples of choosing where to work, with whom to work, or
about using a certain tool. One group got to experiment with how they solved a certain task, they were granted more autonomy than other groups.

When asked about the decisions students felt they could decide on, such as working longer and getting a longer break, or what they did at lunch break, some students were happy with the work method of working hard and getting short breaks in between. Half of the students wanted to have more influence. They described their influence as doing more for their surroundings or improving a certain area for others to enjoy. The other half had little interest in having more influence; this response was most prevalent from students coming from one particular school. Students had diverse opinions on what could be done to better improve RMWS, to make it a better workplace for teenagers. Girls wanted more diversity of tasks whereas boys wanted better or more tools to finish assigned tasks. A few students also talked about higher wages for their work at RMWS.

5.2 Assignments

Students were asked a series of questions about the assignments and the educational sessions. When students were asked what they remembered and thought about the educational sessions, five students out of ten mentioned the assignment about the spaceship. The students described the assignment about the spaceship in a few words such as, going to space, the spaceship, or the other planet. However, one student described the assignment in greater detail and talked about what needed to be done inside the spaceship:

We did an assignment, and, were talking together. And, space or something.

How much food we needed. How we would reuse the water and the commodities and stuff. It would take like a few years. And, yeah how we would reuse [recycle] inside the spaceship.

Four students talked about group work, where they participated in a discussion with fellow students. Three students remembered the assignment about the washing machine. Students described the washing machine assignment with few words. One student showed signs of increased awareness and personal growth when describing the assignment about the washing machine.
Yes. I remembered we watched a video about the washing machine ... then we talked together, we sat in a circle and talked together... the washing machine was about that not everyone has the same rights and [don’t] get the same things we do. Some live in poverty and aren’t in the same place as we are.

Four students talked generally about the environment. They used words such as nature, environmental thing, or green to describe what was talked about during the educational sessions. The students did not talk specifically about any issues, only mentioned that they had received some green or environmentally oriented education. One student noted:

I learned about nature and the greenhouse effect that I’ve learned more about at school.

When students were asked what they thought about the educational sessions, nine students out of ten talked favorably about them. They used words such as fun and interesting to describe them. In the field notes there are comments about occasions where the students seemed to be engaged during the educational sessions and in particular during group work. One student stated that it was good to get a break from work to learn, but also mentioned that the sessions were positive.

A lot of fun. They weren’t just meh, but really fun ... I thought they were good. Have a break from work and learn.

Four students also thought the educational sessions gave them food for thought, calling the sessions educational, informative, and interesting. The field notes had statements about students being diligent, asking questions, and showing interest in the topics discussed in the sessions. One student described the sessions:

They were just, educational. Like the space part I liked, I thought that was most interesting. It could be like that I thought it was interesting so I just aha and watched it [paid attention]. Yeah and I just really watched it [paid attention] when the space part was happening and then I thought it was really interesting and a lot of fun. It was also kind of nice not to work.
Eight students out of ten thought communication was the most fun about the educational sessions. They described communication as talking to each other, getting time with one another to explain and understand, group work, and presenting their findings in the assignments. The field notes confirmed the eagerness of the students to discuss and participate in group work. One student described how they couldn’t discuss during free time because they were playing games.

Sitting together and talking. We didn’t do that very often during free time.

Four students talked about how solving the assignments was fun. They described how they enjoyed writing down their answers with their peers and presenting their findings to the other groups, and this is also commented on in the field notes. One student said:

When we were talking together and thinking about it together and something.

One student mentioned a video, as the most fun and another the spaceship assignment. One girl pointed out that the format of the educational sessions was beneficial for her learning new things.

When you asked us questions ... we got to talk ... participated in the session and not just listened to someone but also asked questions and you answered.

In general, the students had little to say when asked whether something should be left out of the educational sessions. Nine students claimed that everything was relevant and that nothing should be left out. As one student described:

No I don’t think so. I doubt that many knew a lot about [what was talked about] ... they didn’t know or thought about these questions before.

The students did not criticize any of the assignments or the educational sessions. They felt that most things were necessary for everyone to understand. Several entries in the field notes commented on issues to improve the educational sessions. Some of the comments reflected the need to connect the issues and assignments to concepts such as sustainable
development. There are also several comments on group size during the educational sessions. When the size of the group exceeded 15 it became more difficult to have meaningful discussions in the group.

In the next set of questions, students were asked if they remembered the two assignments; about the washing machine and the spaceship. The previous questions were generally about the educational sessions. Students were asked what they thought about these assignments. Two students either couldn’t remember the assignment or weren’t present during the session. Eight students out of ten remembered the assignment, but the students’ answers varied on how much they remembered from the assignment, from very little to how the assignment affected them. One student talked about how the assignment connected to real life, while two remembered and talked about the video from the TED Talk. Two students described how the assignment had changed their view on equality and equity:

... like on a scale where you are, if people had been on an airplane and like people who could afford electricity and people who couldn’t afford electricity.

Go to some place to wash your clothes and walk many days. Now you just walk into a different room and load a machine [with laundry].

When asked what was the most fun in the washing machine assignment, four students had a passive opinion. They mentioned that it was a long time since they completed the assignment or stated they couldn’t remember what was the most fun. One pointed out that the group work was the most fun in the washing machine assignment, another the speaker and video of the TED Talk. The worst thing about the assignment, as mentioned by one student, was the length of the video.

Probably the length of the video. I thought it was a bit too much in the end.

Other students did not offer criticism about the assignment or claimed they did not remember any specifics. Two students referred to the difference between their personal lives and lives of the majority in the world. How machines have made our lives easier and created free time for both genders, to pursue things other than survival, such as education and self-improvement. Comments from the field notes suggest that during the
assignment on the washing machine, students were thinking about equality and equity, but it is not evident in the interview data.

When students were asked what they thought about the spaceship assignment nine students remembered the assignment, but one was not present on that day. Three boys and one girl mentioned specific problems they had helped to solve during the assignment and described problems such as queues for the toilets, how to recycle water and how to grow food with soil from other plants. Two students connected the assignment to ecology and talked about growing food and one said:

How we could [make compost] with plants and leftovers and when we could put it together, leftovers and maybe soil because you always need soil to plant more plants and then you could use the leftovers [to make compost].

The remainder of the students talked about how the assignment gave them a lot to think about or that there were many good ideas generated by students during the assignment, however they mentioned no specific problems or ideas, as one noted:

The 500 years? It was a bit difficult to solve. Think it wouldn’t work out in reality. Unless maybe in 200 years or something. I thought it was just, fun to solve this assignment. Before I went to bed I was thinking like, how can you do it, but it’s very difficult to solve.

Indications of a difference between the genders surfaced when students were asked about what was the most fun during the spaceship assignment. Four girls out of five thought group work and listening to others was the most fun. Two girls also thought that problem solving was the most fun things about the spaceship assignment. One girl states:

The discussion. The most fun talking about it, there were so many crazy ideas.

Another girl noted:

You know how we were supposed to fix it. To grow grass and how we would grow grass if there wasn’t any sunlight.
All the boys talked about problem solving as the most fun in the assignment about the spaceship. They talked about the best way to reach the goal, to arrive at Kepler-186f; working out problems, or simply solving the assignment. Four boys also talked about working in a group, or debating with the others about what the best solution was. Comments in the field notes suggest that the spaceship assignment worked well with most students. Groups had different dynamics but ultimately the groups were mostly engaged in the group work, solving problems, and coming up with solutions. The field notes also pointed to creative thinking among some students. Ideas such as mining asteroids on the way for water and minerals so that no one had to recycle, or keeping an eye out for a wormhole to shorten the distance. One student said:

Most fun how it was supposed to be [solving the problems], how we wanted it to be. What kind of things we needed … To debate in your group what the best way was to do things.

Students had an easier time describing what the worst thing was about the spaceship. Five of them talked about the worst, or the hardest, thing to do was to agree with other students when working in a group. They described how it was difficult to reach a consensus when they didn’t have their friends in the group as one student noted:

It was when someone was coming up with bad ideas that you knew wouldn’t work out. And like protest basic ideas from others that were good, but [protesting] they did.

In summary, the students recognized the assignments when asked to remember what the educational sessions were about. They talked about the sessions in general and connected them to group work and swapping ideas. Overall, most of them were happy about the educational sessions and when asked, in general, about the most fun had in the educational sessions, there seemed to be no difference between the genders. Some talked about problem solving and group work, others about the video that was shown. The washing machine assignment was remembered, but only with general descriptions; two students reported personal growth from the washing machine assignment. The assignment about the spaceship was remembered in greater detail. Indications of a difference between the boys and girls appeared when talking about the most fun during the spaceship assignment. The girls put more emphasis on group activity, but the boys on problem
solving. When asked about the washing machine assignment, the students seemed to have difficulties giving critical feedback, but when asked about the spaceship, students described how difficult it was debating and having differences of opinion.

5.3 Learning experiences

The next series of questions asked students what they thought they had learned in RMWS and in the educational sessions. Seven talked about learning something new that was work-related. Students also talked about new skills or the appreciation for work and felt they had become better at work. One student mentioned how he’d become more aware of the work that needed to be done in the city.

It was probably the weeds you know, yeah or you know learning to, working in the planters ... There was a lot more weeds than I thought there was.

Two students described how they had learned to appreciate work in a new way. One student explained how a routine, showing up at the right time, had taught her a valuable lesson. Another student talked about how he learned that work could also be fun.

I probably learned the most to have fun even though I was working. Working even though, I’m working and had fun. Not just having fun and then worked but do both at the same time.

Two girls mentioned how they had learned to communicate better with others and how to work in a group, both from each other and at RMWS. One of them noted:

Maybe working better with others in ... when we were working together and, just communication as well.

Three students mentioned the educational sessions but did not offer any examples of what they had learned from them. Three students talked about learning about how their work connected to the wider world and one said:

I learned, probably, the most that, that what I threw away outside, no one was going to come after me and pick it up ...
How I’m not supposed to think about the environment and not to throw [trash] in the environment.

Students were asked about their understanding of the concept of sustainable development. The responses were interesting in two respects. Firstly, in relation to the topic, of which they seemed to have a limited understanding and, secondly, in relation to the situation of how they were asked, because they were reluctant to give an answer, possibly being afraid of giving a wrong answer.

In relation to the UN’s definition and also how the concept is explained in the Icelandic national curriculum, the students seemed to have a limited understanding of the concept of sustainable development. Seven students linked the concept to the words development, or to evolve. They described how people, or mankind is developing or evolving, often on its own. One of them said:

It’s when something evolves [develops] with people and how, you know, something evolves [develops].

And another student noted:

When things develop like, on its own, like there’s nothing that’s touching it just evolves on its own.

Two students described sustainable development from a resource management perspective with examples of fish or money. The field notes contained comments that described how difficult sustainable development was to explain to the students, as they had not heard of the concept or showed little understanding of it. One of the students had argued that:

Using our resources and stuff not that much so that … the next generation has enough … for example we don’t make the fish extinct… it’s like allowance, you only get a certain amount and when it’s spent, then you can’t really take any more because when the next person comes they get something.

Another student connected sustainable development to self-improvement and becoming a better person over time.
I think it means everything you know... when children grow up and ... I thought a lot about that the older you get the better version of yourself you become. Not necessarily, looks but more like your personality or you know what’s inside you.

Seeking to find general learning experiences from the educational sessions, students were asked if they had gained something from them. Two girls mentioned how they felt they had become more aware of their surroundings. One student noted:

Thought about it [the environment] and recycling and stuff. Trying to save nature. So the next generation could live a good life.

And another student said:

I’m more aware of nature around me and other stuff around me. More like thinking about stuff than just, what am I doing next week?

Two boys talked about how their knowledge of space had increased and one of them mentioned how the educational sessions were a spark for his science project at school later that year. One of them contemplated:

... how much work it is going to space. Space is a bit big, and just awesome ... My nature assignment. I looked at a book that had another solar system and thought that it was something you had talked about.

Four students out of ten did not mention any specific things they had gained but said they felt they had gained something for sure. One student talked about earning money and getting to know his friends and instructor better, explaining how that was a good deal.

When students were asked if they had learned something that had been of use to them later on, three students described how they considered recycling more often and thought more often about nature. One of them said:

I knew how to recycle and stuff, but you maybe I think more about it, I yeah. I had maybe got more information on it.
Two students described how they had learned from their peers about differences of opinion, as one described:

I learned for example in the second session that everyone has, like your distinct reason [opinion] and it doesn’t necessarily mean it’s the right reason [opinion].

Other students did not describe what they had learned, or how it had been of use to them. They simply stated that they had learned something of value, but did not elaborate further on the matter.

Five students out of ten did not feel that the educational sessions had helped them to perform better, later on, in any assignments. However, one student claimed that he was better at weeding, to help his grandmother in the countryside. One student connected the educational sessions to a spark for a project in an extracurricular activity Skrekkur, a talent show.

What we wanted to have in Skrekkur. Helped us in the conceptualization [of what to perform].

Students were also asked if they felt the educational sessions had helped them understand something better. Five students felt they understood various concepts better. They mentioned the Eco-School project, growing plants and recycling, people’s rights, people’s living standard in other countries, and refugees. The remaining five felt they did not understand anything better today. In this context, the field journal had a few reflections about how students knew more than they thought they did, that they had great insight into various issues but were timid about voicing their opinions, thinking their ideas were silly or not valid.

As explained above, students were asked a series of questions to see if they had learned, gained, or performed better after attending the educational sessions. In summary four students talked about how they had become better workers, listeners, and friends and one student described personal growth when reflecting on the matter:

I thought it was a lot of fun, [working was] very educational and I thought I was really lucky with the group and instructor I got. I didn’t have a very boring instructor that was always like, now we are going to work. You know, let us decide when we wanted to have a break and [working longer and having longer breaks].
The kids were also a lot of fun. It was a lot of fun and we were outside of course. Playing and stuff.

Another student pointed out that RMWS offered a good working environment and some education that teenagers wouldn’t necessarily get elsewhere.

Just that, people should go to the work school [RMWS]. It was a lot of fun and yeah just with the educational sessions just thinking about it and getting information if they don’t get education like we did ... It was much better working outside and be outside all day rather than being inside on the computer or something. Working at a cash register in Bónus [supermarket], there was a lot more freedom being outside and, having fun.

Three students explained how they had become better at certain tasks through RMWS, where they were able to show initiative and creativity in completing their tasks. These students had learned a new task and had become more competent in completing their tasks, after learning how to do this on their first day at work. One student described how her group was able to explore the best way to plant trees and experimented how to do it.

We could decide on the order, one day we were just digging holes, we were free and we could do the easy stuff the next day.

Two students described group work and discussions, how they discussed topics and reached a conclusion and took other people’s opinions into consideration.

When we were in the groups and talking about everything. [When we] were in the groups and wrote down what we thought. This or that, wrong or right in the groups. You got to hear what the other thought and their opinions.

Two students wanted to go beyond their role at work and do more for the environment and their local community.

It could have been fun, thought there wasn’t much of playthings there. There was just a soccer field and then was, it could have been fun to install more playthings for the kids and maybe do more for the school grounds.
Another student described the difference between how things were in the past and how they are today, a reflection of what we enjoy in our modern lifestyle:

You know there weren’t always washing machines, or dish washers and machines like it’s now. It was just different.

Another student stated:

I learned in, the educational sessions, that people are not living, or understood more, that people are not living by the same conditions like we are and people who live much worse lives than we.

In summary, most students thought the most useful things they learned was work-related. They learned how to work, how to use tools and to be a part of a team. Girls tended to mention communications skills more than boys did, when learning something new and described how they were better at debating or group work. A few students described how they viewed the environment differently, for example, that no one will clean up trash if they throw it on the ground. Many students had difficulty describing what sustainable development was and they connected it to the words evolve or develop. Few students used resource management analogies such as fisheries and not depleting fish stocks. The genders showed a difference, when asked about what they felt they gained from the educational sessions. Some girls described gaining insight or awareness about nature or the environment. Some boys felt they gained knowledge about space or gained ideas to help finish an assignment at school later that year. Most students showed they had learned something new that had been of use to them, as gleaned from the interview. They explained the work and how they conducted themselves in group work in the educational sessions. Most students said they had not become better at work assignments, although a few students showed they had grown as workers and as people, through RMWS; showing signs of understanding concepts, situations, or ideas better after attending RMWS and the educational sessions. Examples include concepts about equality, human rights and how students see themselves in the world.
6 Discussions and conclusions

The aim of this thesis was to examine the experiences of students at the Reykjavik Municipal Work School while participating in sustainability education. What overall characterized the experience is that most students had a positive experience of both RMWS as well as the educational sessions.

In this chapter the results are discussed in relation to the findings and the research questions. In the first section, I discuss the overall experience within RMWS and how students manage to influence RMWS. Thereafter the students’ experiences in the educational sessions are discussed; the assignments and their understanding of sustainable development. Finally, a reflection concerning the overall learning experiences is presented.

6.1 Reykjavik Municipal Work School

After interviewing ten students who attended RMWS in the summer of 2015, the overall findings indicate that most students had a positive experience at RMWS. The key factors that made the experiences positive are that students worked in groups, had exemplary instructors overall and were able to play games and socialize in their breaks. Work played an integral part for the students at RMWS. However, the boys emphasized work and play on more occasions than girls, while girls, on the other hand, seemed to focus more on the social aspect of RMWS; the people they worked with and instructors. Work is not all they did at RMWS; many students talked about having fun at work, playing various games, socializing, or chatting with friends. No student had the same experience at RMWS, therefore RMWS should endeavor to create an environment where many different views, and opinions can thrive, as UNESCO (2011, pp. 20–28) proposes. The same can be said about students’ development, where they might be at different stages. RMWS needs to gauge students’ development, that tries their ability to organize and adapt to new tasks, as Vygotsky (1978, pp. 34–35) emphasizes; that challenge students to grow and develop further.

Only one student mentioned the educational sessions in particular, which indicates that the students looked at work as the primary function of RMWS. RMWS is a part of the Eco-School movement and should, not only reflect the education in the educational sessions, but also the informal education they receive while working (Eco-Schools, 2014). Work is informal education that
could be incorporated into the principles of sustainability education to strengthen students’ work ethics and cooperation (Sterling, 2001; UNESCO, 2011). Students should get more opportunities to become active participants in shaping their working environment and thus become more aware of their actions and how they participate in a working environment (Pálsdóttir, 2014).

Students pointed out two issues when they described how RMWS could become a better place for teenagers: task diversity and better tools. Girls talked about how they wanted to try more things at work and boys complained about lack of tools, or that the tools were broken. RMWS had access to the various tasks through departments at the city of Reykjavik and the forest service. Labor laws that apply to minors could also put a constraint on what the students could do at work. Each group within RMWS needs to take stock of the tasks they have at hand and to offer students the possibility to try them. Students need to know how important they are to the city of Reykjavik and what role they play each summer. They are a part of a team that collaborates and contributes to the maintenance of planters and gardens in Reykjavik, often in their own neighborhoods and communities, as explained by UNESCO (2011, pp. 20-28) to be important. Boys seemed to be very goal-oriented and wanted access to more tools or to have the ones they had fixed. This could be accomplished by renewing the stock of tools or even by allowing students to help maintain the tools in a workshop.

One student described an incident that made some students feel as if their contribution through RMWS was merely nominal. The incident was when a planter was dug out, after students had worked in it. RMWS should affirm students’ importance in the city when such situations arise; explain what has happened and not keep students uninformed. They should have received an explanation of why this happened and how it could have been avoided. Students attending RMWS are not only working for the city, but are also stakeholders and users in their local community (UNESCO, 2011, pp. 20-28). Therefore, students at RMWS are a part of ‘team Reykjavik’ and should feel needed. When communication fails between departments or administrative levels, it can be a valuable practice for students to see how RMWS and Reykjavik responds to the situation. They could learn the inner workings of a large workplace; accept that mistakes can be made and move on (Mogensen & Schnack, 2010, pp. 61–62).

Students thought they had influenced RMWS by their actions, that is, what they did. Some students believed that without them there would still be weeds all over the city of Reykjavik. Half of the students did not want to
have any more influence, claiming that someone needed to be in charge. Those who wanted to have more influence mentioned they could have done more for their surroundings, solved environmental problems or done some good for the community. When students worked at a preschool, they had an audience and felt they were doing good work; they knew for whom they were working. The students that didn’t want to have any more influence simply answered that they didn’t want to. Some even felt they didn’t know how to influence RMWS. Most of them felt they had a choice of work and play, what to do, whom they worked with, or what tools they could use. One student described how her group didn’t need any more influence because they got to decide on how they completed their tasks.

Students in the planting group showed signs of increased action competence; they learned new tasks, they felt comfortable doing them and got the chance to finish their tasks with greater autonomy than other groups. Some students were able to see their influence on RMWS through their actions, and how it influenced them in becoming a better worker (Mogensen & Schnack, 2010, pp. 61–62). Although, students could decide on how they performed tasks, this does not mean they should not be able to influence RMWS even further. Their description of increased autonomy could affect RMWS to give students more independence at work, in order for them to become more competent workers and citizens. Influence could also be understood as students asking questions, and that RMWS should listen to them when looking for new ways of doing things; giving them a chance to influence and to think critically about the work they are doing (UNESCO, 2011, p. 30).

For students to influence RMWS, the school needs to clarify how they can influence RMWS, but also to explain to them how they can exert their influence. When the students talked about influence, they described how they weeded planters, kept school grounds clean, or even solved environmental problems by planting a forest, but not how the aforementioned tasks were accomplished. Therefore, the next step for RMWS could be to let students influence how they finish these tasks, so that they can take ownership of what they are doing during the summer. This is in accordance with how UNESCO (2006, p. 17) proposes that students should be allowed to influence what and how they learn, in line with RMWS goal as being a work school.

Influence can mean different things to different individuals. For one student influence was teaching his instructor a new game, but for others it meant learning collectively. The group that was mostly doing planting felt
they didn’t need to influence RMWS because they had the freedom to finish their tasks as a collective unit. That group received more autonomy than other groups and got to experiment with planting, even to decide on the design of the forest. Many felt they got to choose at RMWS, work and play, what to do, who they worked with, and what tools they used. Therefore, choice and influence should go hand in hand, where RMWS trusts students to complete their tasks and assume responsibility, under the guidance of more knowledgeable others, as explained by Andreassen and Pálsdóttir (2014, p. 97).

In summary, students should be allowed to influence their working environment, to assist instructors in the daily planning of activities and time management, so that students become partners at RMWS. Partners who know who they are working for, not just the local community, preschools and compulsory schools, but also themselves, as participants in society and individuals whose contribution matter. Students use areas, walk by, and even meet other peers in their neighborhood. Students should be considered experts in their own neighborhood; they use the various public spaces and their views constitute valuable contributions in prioritizing tasks and maintenance. The findings indicate that the students felt they had a choice of work and play, what to do (what side of the planter they worked in), whom they worked with, or what tools they used. Whether or not this is a real choice, students should have a say in their time management, work prioritization, and working environment as emphasized in by the Eco-School movement (2014) and UNESCO (2011, pp. 20–28).

6.2 Educational Sessions

Most students who participated in this research described the educational sessions positively, where they could exchange ideas in a group, ask questions, listen to others, and get the chance to present their findings to others in collaborative work (Roth & Lee, 2007, p. 205). The environment in the educational sessions seem to have supported developing action competence within the individuals because they practiced these skills in a democratic setting as explained by Mogensen and Schnack (2010, pp. 61–62) to be important.

When the students were directly asked about the educational sessions, the students offered more insight into their experience of the sessions. Half of the students talked about the spaceship assignment, a few mentioned the washing machine assignment and some talked about learning something about the environment, nature, or ‘green things’. The students were
generally happy with the educational sessions as they were able to ask questions and participate.

The educational sessions have some of Sterling’s characteristics of sustainability education (2001, p. 22) in how the issues are related to the students and the larger context and in listening to everyone’s opinions in an informal setting. The students got a chance to express themselves in the form of questions, group work, and debates (Andreassen & Pálsdóttir, 2014, p. 95) which is important.

6.2.1 The Spaceship Assignment

The majority of the students remembered the assignment about the spaceship and half of them offered details from the assignment. The most memorable thing seemed to have been how the students solved various problems in the spaceship such as how to recycle water, reuse soil, and what to eat. However, what the students do not mention, or indicate in the interviews is the connection between the spaceship and Earth; how you have to consider water recycling, food production, and other issues that occur both on a spaceship and on our planet. These issues might need further consideration and research.

As stated earlier, a difference between the genders was identified in terms of the spaceship assignment. The boys put more emphasis on problem solving first and group work second, when they described what was the most fun about this assignment. Girls, on the other hand, emphasized group work first and the problem solving second. Students felt that debating and reaching a consensus in group work was the worst aspect of the assignment, probably because of a lack of experience in working with controversial issues. As Pálsdóttir (2014, pp. 54–56) argued, disputed issues should be emphasized so that students learn to mediate, debate and separate issues from those taking part. RMWS should encourage students’ participation in complex debates or exchanges of ideas to help them enhance their skill and increase their competency in a democratic setting (Andreassen & Pálsdóttir, 2014, pp. 69–70).

It was surprising how well the students remembered the spaceship assignment, considering that almost six months had passed since solving the assignment and the interview taking place. The assignment had many characteristics of SE; how students worked in groups and then presented and got a chance to reflect on their groups answers (Andreassen & Pálsdóttir, 2014, p. 97; Eco-Schools, 2014; Sterling, 2001, p. 22; UNESCO, 2011, pp. 20-29). Little indication was shown that students made connections with the
ecology and social interactions on board the spaceship and on Earth. Students seemed to have remembered certain problems but did not link the problems to concepts, such as sustainable development. The goal of the assignment was to connect life on board a spaceship and Earth. This connection failed and needs to be addressed in the future, so that the point of the assignment is clearer from the start. Additionally, it was interesting to see that the genders liked the same things, problem solving and group work, but put a different emphasis on what they thought was the most fun. Boys liked problem solving whereas girls liked group work more, and the assignment has both of these qualities. Group work and problem solving are in line with Roth and Lee’s (2007, p. 205) ideas about collective work, where students debate and practice their skills to solve an assignment.

The spaceship assignment seemed to have grouped students together when they were tasked to solve certain problems that could arise onboard a spaceship, requiring them to use their knowledge and creativity (Andreassen & Pálsdóttir, 2014, p. 97). The assignment needed cooperation between everyone in the group, where the group debated and reached a conclusion about how they would solve certain problems. This seemed to have succeeded and the students got practice in a democratic setting, described by Mogensen and Schnack (2010, p. 68-69) as important, where they exchanged ideas, listened to others, and decided on which route to take.

6.2.2 The Washing Machine Assignment

Surprisingly the assignment about the washing machine was not as memorable for the students as the spaceship assignment, since the students did not offer much detail about it.

However, two students seemed to have undergone personal growth in relation to this assignment. They explained how good their lives were as they had access to a fairer society and, in this case, electricity for their washing machine, affirming that the assignment had elements of Sterling’s definition of sustainability education (2001, p. 22).

But time had passed and students had a difficult time describing what they thought was the most fun during the assignment. Thus, they did not offer any criticism of the assignment. It was quite surprising that the students did not remember the assignment better.

The goal of the assignment had been to ask students to reflect on their personal lives, what they took for granted and how something as simple as a washing machine could change other people’s lives. Their opinions appeared passive and it seems that the assignment could better be aligned with the
participatory values of controversial issues, in order to spark a lively debate and to introduce them to the democratic process, explained as important by Pálsdóttir (2014, pp. 54–56) and UNESCO (2011, p. 29). The strength of this assignment was that some students, albeit a few, thought about equality and equity as well as their place in the world. However, all future assignments need to be carefully crafted to reflect sustainability education values, where students can understand the roots of issues, clarify their values, see themselves as facilitators of change, open up dialogue, and see how students can influence decision and action (UNESCO, 2011, p. 25).

6.3 Learning experiences

Overall students seemed to have felt that they learned something from the educational sessions and from RMWS, as a whole. The most useful thing that many of the students learned was not learned in the educational sessions but while working at RMWS. Seven students talked about how they became better at working in one way or another, better at weeding, learned a work routine, or at working with others. Two students described how they had become better at communication and working with others in groups. Three students talked about learning something from the educational sessions but explained it no further. Interestingly, three students talked about how picking up trash made them more aware of their surroundings.

The students felt they had learned the most from the actual work they did and they regarded work highly at RMWS. The work performed was remembered and, according to what they said, it was what they learned the most from. Thus the work was viewed as an actual contribution to their local community, maintaining the gardens and planters in their neighborhood, or finding better ways of gardening. That is very much in line with UNESCO’s educational shift (2011, p. 25). The work that the students did at RMWS was an opportunity to incorporate a more SE-valued stance, where students practiced their participation skills, group work, problem solving, autonomy, and creativity (Mogensen & Schnack, 2010, pp. 61-62; Pálsdóttir, 2014, pp. 54-56; UNESCO, 2011, p. 25). Thus, being a part of RMWS seems to have taught students, in both a formal and informal way, about a more sustainable future.

The goals of the assignments and the educational sessions were to put students into situations where they had to work in groups, talk about issues, and reach a conclusion (UNESCO, 2011, p. 25). Collecting trash seemed to have had an impact on some of the students, where they mentioned that there was trash everywhere and that no one was picking it up except them.
This made students realize that what doesn’t end up in the trash bin, ends up outside. This realization influenced an attitude change in some of the students to put trash in the bin, emphasizing Jensen’s and Schnack’s (1997, p. 168) point of view, that if we want a change in behavior we need to work with attitude first.

Surprisingly, many students were unable to connect what they had learned in the educational sessions to real life situations. Students were unable to identify the actions they performed in the sessions to something they had become better at, or had learned. However, some of them showed indications that the educational sessions had helped them perform better in a democratic and participatory setting, where they practiced group work, gained knowledge and used it later on, such as in the examples of extracurricular activity. This could be further developed better, more in line with Mogensen’s and Schnack’s (2010, pp. 61-62) suggestions.

The concept of sustainable development seemed to be poorly understood by the students and this poses a particular challenge for educators. The students were unable to make connections between sustainable development and the assignments they worked on during the educational sessions. This is a valuable guide for the further selection of assignments in RMWS. The educational sessions and assignments should reflect sustainable development and the educator must make clear connections in order to enhance an understanding of this multi-faceted concept and thus to lead to transformative learning experiences (Sterling, 2009a, p. 82) which is the core purpose of education.
7 Final Words and Next Steps

RMWS is in a great position to work inside the spirit of sustainability education (SE). The school’s organization opens up possibilities of letting students influence and participate as workers at the city of Reykjavik.

RMWS is often a students’ first job. They are exposed to a massive amount of learning, both formal and informal. What students learn in a formal setting at RMWS should be clearly stated with goals and a clear intent. As discussed earlier, group work and problem solving suit both genders very well and future assignments should build on these qualities. Assignments should also give students the opportunity to reflect.

RMWS has the goal of introducing students to work ethics in a positive environment, but they lack a general curriculum that states how students learn, where students learn, and what students learn. There are no uniform learning outcomes stated, i.e. what students can do when they finish RMWS. Thus, there are great opportunities for RMWS to clarify their values and how they offer work in a positive environment.

Therefore, the next steps for RMWS should be to draft a curriculum and define learning outcomes to be implemented at RMWS. The principles of SE need to be clarified and explained to all partners at RMWS, both educators and students. Instructors could get a journal where they plan the day together with the students and, at the end of the day, they reflect on what went well and what could be improved.

Future research could look into these points as well as how they affected learning for the students in both the formal and informal setting. It could also evaluate how SE has changed how RMWS operates and whether students’ competencies, in working in a democratic setting, have increased.
References


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Appendix – Interview schedule

Takk fyrir að leyfa mér að taka þetta viðtal við þig. Ég met þess mikils. Svaraðu bara eftir eigin hjarta og hér er ekkert rétt eða rangt, bara eins og þér finnst.

Sæl(l) __________________

Hérna eru 2 bíómiðar sem mig langar að gefa þér sem þakklætisvott fyrir að hitta mig og spjalla aðeins um Vinnuskólann í sumar.

1. Hverju manstu eftir úr Vinnuskólanum í sumar?
   a. Hvað var gert þar?
   b. Geturðu nefnt dæmi?
   c. Hvað fannst þér gagnlegast – í hverju læðir þú mest?

2. Manstu eftir fræðslustundunum
   a. Hvað var gert þar?
   b. Um hvað voru þær?
   c. Hvernig fannst þér þær?
      i. Hvað fannst þér best?
      ii. Hefði mátt sleppa einhverju?

3. Lærðiru eith hvað á fræðslustundunum (eða í Vinnuskólanum)?
   a. ... sem hefur nýst þér seinna? Eða..
   b. ... gert þig betri í að takast á við einhver verkefni? Eða..
   c. ... að skilja eith hvað betur í dag?
   d. Græddir þú eith hvað á fræðslustundunum?

4. Manstu eftir hugtakinu sjálfbær þróun?
   a. Hvernig skilur þú það? Hvað helduru að þetta hugtak þýði?
5. Varstu með þegar við töluðum um þvottavélina?
   a. Hvað fannst þér um það verkefni?
      i. Hvað var skemmtilegast?
      ii. Hvað var leiðinlegast?

6. Varstu með þegar við töluðum um geimskipið?
   a. Hvað fannst þér um það verkefni?
      i. Hvað var skemmtilegast?
      ii. Hvað var leiðinlegast?

7. Hafðir þú, eða þið í Vinnuskólanum einhver áhrif á hvað var gert í Vinnuskólanum eða hvað hvernig? (Fenguð þið að ráda einhverju á einhvern hátt, eða velja eitthvað?)
   a. Geturðu tekið dæmi?
   b. Hefðir þú viljað hafa meira áhrif? (Um hvað, hvernig?)

8. Hvað finnst þér að við gætum bætt (eða lagað) í Vinnuskólanum svo unglingunum sem eiga eftir að vera í honum finnist hann (enn þá) betri?