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Master's thesis

Addressing 21st century skills: Breakout games in the EFL classroom

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Sammendrag

Et nytt nasjonal læreplanverk er nå under utarbeidelse, hvor ’21st century skills’ inkluderes med et økt fokus på ferdigheter elever vil trenge i fremtiden. Fokuset for denne oppgaven er derfor å utforske hvordan man kan inkludere faglig innhold og ’21st century skills’ i den pedagogiske praksisen. En plattform med spill til bruk i utdanning (Breakout EDU) hevder å nettopp legge til rette for denne kombinasjonen. Det overordnede forskningsmålet i denne oppgaven er derfor å utforske hvorvidt det er fordeler ved å anvende breakout-spill i engelskundervisning i videregående skole. For å få innsikt i dette, er forskningsmålene i denne oppgaven å 1) utforske elevers oppfatning og erfarte verdi av aktiviteten, 2) evaluere hvordan kompetanser øvet av elevene under aktiviteten samsvarer med det gjeldende læreplanverket og læreplanverket som er under utvikling, og 3) vurdere samsvaret mellom den intenderte, oppfattede og observerte timen. Denne studien svarte på disse forskningsmålene ved å anvende kasusstudie som forskningsmetode; ved gjennomgang av relevant teori, og videre ved å innhente og analysere trianguleringe data. Datamateriale i studien er sammensatt av feltnotater innhentet ved observasjon av elever som spilte et breakout-spill, elevsvar fra spørreskjema gitt etter aktiviteten, samt transkripsjoner fra et fokusintervju som bygget på data fra observasjonen og spørreundersøkelsen. Det samlede empiriske materialet fra observasjonsnotatene, analyse av data fra spørreundersøkelsen og fokusintervjuet indikerer at elevene ikke bare liker spillet, men også at aktiviteten muliggjør læringsutbytte relevant for både faginnhold og ’21st century skills’. Denne oppgaven konkluderer med at det er fordeler ved å anvende breakout-spill i engelskundervisning i videregående skole, og videre antyder at tilnærmingen kan være et supplement til eksisterende undervisningspraksiser.

Nøkkelord: game-based learning, breakout-spill, breakout-spill for bruk i utdanning, 21st century skills, 21st century competencies

Abstract

A new National Curriculum is under development, adding 21st century skills into the mix, with an added focus on the skills learners will need in the future. The focus of this thesis is therefore to explore how to include subject content and 21st century skills in the pedagogical practice, looking into claims of an educational-games platform (Breakout EDU) that argue breakout games may facilitate such a combination. As such, the overarching research focus of this thesis is to explore whether there are any benefits to playing educational breakout games in the context of the upper secondary EFL classroom. To do so, the thesis 1) explores learners' experience and perceived value of a breakout game activity that was specifically developed for use in the English classroom, 2) evaluates how skills practiced by learners during the activity align with the current and developing standards, and 3) assessed the relationship between the intended, experienced and observed lesson. The thesis meets these research objectives by applying a case study research method, through a literature review, triangulating data-collection, and analysis. The empirical material consists of field notes obtained through observation of the learners playing a breakout game, learners' responses to a post-activity questionnaire, and lastly transcriptions from a focus group interview that built on the observation and questionnaire data. The collected findings from observation field notes, analysis of the empirical questionnaire data and focus group interview indicate that learners not only enjoy the game, but also that the activity promotes successful learning outcomes relevant both to subject content and 21st century skills. The thesis concludes that there are benefits from applying breakout games in the context of the EFL classroom, and furthermore suggests that the approach could function as a supplement to the standard classroom practices'.

Key words: game-based learning, breakout games, educational breakout games, 21st century skills, 21st century competencies

Preface

Submitting this thesis marks the end of five years of hard work and great fun. To begin with, I would like to thank all of the wonderful teachers in both GLU and MIKS programs for guiding me through these five wonderful years at Inland Norway University. A special thank you to Knut Øystein Høvik for his tremendous presence and ability to see every student - every aspiring teacher should encounter a teacher like you. Equally important, thank you to all of my fellow students for the wonderful discussions, arguments, support and laughs.

There is one person who has proven to be invaluable when working on this thesis; my supervisor Susan Lee Nacey. Thank you for sharing your knowledge, and thank you for always being direct, calm, supportive, positive and patient. I also want to thank all of the wonderful students participating in this research for making this thesis possible.

Finally, I would like to thank my husband for making these last five years both possible and livable – I could never have finished without you cheering me on. And lastly, my two wonderful and patient daughters: Mommy is coming home!

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Contents

1. Introduction

> Kids often say it doesn't feel like learning when they're gaming – they're much too focused on playing. If kids were to say that about a science lesson, our country's education problems would be solved (Gee, 2003).

The National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training (hereafter 'the National Curriculum) consists of 'The Core Curriculum', The Quality Framework', the subject curriculums and teaching hours (see section 2.4.1 for further elaboration). The Core Curriculum is an extension and elaboration of the Education Act, compromising the foundation for primary and secondary education in Norway, and a section in the introduction created the basis of this study;

> The aim of education is to furnish children, young people, and adults with the tools they need to face the tasks of life and surmount its challenges together with others. Education shall provide learner with the capability to take charge of themselves and their lives, as well as with the vigor and will to stand by others. Education shall qualify people for productive participation in today's labor force, and supply the basis for later shifts to occupations as yet not envisaged (The Royal Ministry of Education and Research, 2006b, p. 5).

Even though the 'Education Act', 'The Core Curriculum', 'The Quality Framework', and the subject curriculum should be applied to all aspects of education to prepare the learners for the future that awaits, there seems to be a gap between the intended practice and the actual practice. As a teacher I have found myself wondering about what to apply and how to focus my practice to those overarching and often diffuse elements; and unwilling to admit to it, I tend to focus most of my attention to the subject curriculum.

In a recent government report regarding the development of a new national curriculum, the Royal Department of Education and Research (2016) concludes that the core curriculum and 'The Quality Framework' is not being implemented in the development of local subject curricula (p. 19), thus supporting my subjective feeling of not fulfilling all of my obligations. However, this is being addressed in the new developing curriculum, not so much by introducing new elements, but rather by connecting the different parts of the curriculum tighter together. The suggestions for the new curriculum is closely inspired by the Ludvigsen Committee's' suggestions (see section 2.4.2 for further elaboration), which in turns is based

on a quite unanimous understanding of what education should contribute with; skills learners need in the 21st century (see section 2.3.1).

Even though the lack of implementation of elements from the general sections of the National Curriculum is addressed in the development of a new national curriculum, teachers are still required to integrate all parts of the current National Curriculum and the Education Act in their teaching *today*. From this, the focus of this study emerged; How to teach according to all these aspects?

In the first stages of this thesis work, I decided not only to focus on the current curriculum, but also to apply predictions drawn from the developing curriculum. When diving into both the old and the new, I realized a previous educational-games site I came across a while back that seemed to fit the description. 'Breakout EDU' is an immersive educational games platform, which proclaims to provide teachers with the tools for developing 21st century skills in learners. As such, I decided to learn more about these games.

As a teacher, I am constantly trying to meet the official standards of the English subject curriculum and the National Curriculum, all while trying to make learning inclusive, inspiring and fun. This study intends to address this issue, by exploring the question of whether breakout games, can facilitate such practice. Furthermore, I hope that this study might provide a basis for discussion and further research on how to address 21st century skills, in addition to challenge existing perceptions of learning activities and views of how to interpret the curriculum.

1.1 Overall Research Aim and Individual Research Objectives

To achieve the overall research focus, this study focuses on learners while playing a breakout game, in the context of one EFL class in an upper secondary school in Norway. As such, this study will examine which skills, if any, breakout games promote, how the activity align with the National Curriculum, and furthermore how the learners value the activity. As such, the following overarching research question has been formulated:

- What, if any, are the possible benefits of using breakout games in the EFL classroom?

To answer the overarching research question, the following sub-objectives have been formulated to form the analytical focus of the study:

1. Explore the learners' experience and perceived value of the activity
2. Evaluate how skills practiced by learners during the activity align with the current and developing national standards
3. Critically assess the relationship between the intended, experienced and observed lesson

To answer the individual sub-objectives, a case study research method has been applied in this thesis work. To address sub-objective 1 *Explore the learners' experience and perceived value of the activity*, one EFL class has been observed when playing a breakout game. The observation was followed by a post-breakout questionnaire, to get the learners' perspective of experienced benefits and challenges. Lastly, a focus group interview was carried out to enable further discussion and elaboration deriving from the questionnaire findings.

The results from the empirical data-collection are presented in Chapter 3. 'Findings', and furthermore discussed in Chapter 5 'Analysis'. Sub-objective 2 *Evaluate how skills practiced by learners during the activity align with the current and developing national standards*, will be addressed in Chapter 2 'Literature Review', and in Chapter 5 'Analysis'. Sub-objective 3 *Critically assess the relationship between the intended, experienced and observed lesson,* will be addressed in Chapter 5 'Analysis'.

1.2 Thesis structure

Chapter 2 contains a presentation of the theoretical background for this thesis. In section 2.1 learning theories that apply to this study are presented. In section 2.2 21st century skills are presented and defined, followed by section 2.3 which explores how 21st century skills are represented in the Norwegian National Curriculum. Section 2.4 gives a brief presentation of research on game based learning in relation to 21st century skills. The last section, 2.5 provides a detailed description of the 'breakout games' approach. Chapter 3 contains a presentation and justification for choice of methods for this study, in addition to reflections regarding ethical considerations, validity and reliability of the study. Chapter 4, presents the findings of this study, followed by an in-depth analysis in Chapter 5. Chapter 6 is the final chapter in this thesis, with concluding remarks and implications for further research.

2. Literature review

This chapter is structured in six sections, to form the theoretical background needed in this thesis. Section 2.1.1 contains a brief presentation of Dewey's perspective of learning, since aspects from Dewey's perspective can be argued to relate to both 21st century skills and breakout games. Section 2.1.2 contains an elaborate presentation of Gee's study of 'good video games', and how this can be transferred to classroom practice. Gee's research and theory of learning is included in this thesis, as it draws clear parallels to breakout games and 21st century skills.

Section 2.2 is divided in two sections, where section 2.2.1 provides insight in the background for '21st century skills', and section 2.2.2 presents ATC21S' definition of 21st century skills. ATC21S definition will be made use of when discussing the empirical data collected in this study.

Section 2.3 is structured in two sections, where 2.3.1 examines how 21st century skills is present in the Norwegian National Curriculum, and 2.3.2 provides insight in how 21st century skills will be implemented in the development of the new national curriculum.

Section 2.4 presents the conclusions made from a study on how game-based education addresses 21st century skills. Since there is little relevant research regarding the use of educational breakout games, this research is included to provide some insight on the general field of educational games.

Section 2.5 is structured in two sections, where 2.5.1 contains a presentation 'Escape Rooms', the background for the educational breakout games. Section 2.5.2 presents 'Breakout EDU', a teacher resource-platform for educational breakout games, the platform consulted when planning the observed lesson in this study.

2.1 Theoretical background

The theory applied in Chapter 5 'Analysis' is based on elements from Dewey and Gee's perspectives of learning. Section 2.1.1 presents such elements of Dewey, while section 2.1.2 elaborates on Gee's principles for learning.

2.1.1 Dewey

As education undergo continuous development and change, the pendulum swings in regards to which learning theories are seen as relevant and applicable. The focus of education research today are the skills of tomorrow, and thus give grounds to theories such as Dewey's "Learn to Do by Knowing and to Know by Doing" again can be argued as relevant. Dewey has written numerous articles and books about his pedagogical philosophy, but his general perspective about learning will be briefly discussed in this section.

Dewey argues that education of early 19th century America, did not foster liberal and autonomous learner, but primarily centered around reproducible knowledge. As a contrast to this, Dewey argues that education should facilitate cooperation and problem-solving among the learners. He states learning to be a result of dynamic, active and creative processes – as something we *do* – by applying previous knowledge when faced with new challenges, through systematic reflection of our actions, in interaction with others (Manger et.al 2011).

In addition to valuing problem-oriented learning, Dewey also argues the imporatance of the unintended and unpredictable learning that happens all the tine, in a wide range of contexts (Manger et.al 2011). He claims there is a need to not only see the value in what teachers facilitate, but also the unintended learning that occur thourgh play, and through the casual interaction between learners. Learning is according to Dewey a result of active and dynamic situations, where situations are "the interaction between the individual and its surroundings" (own translation, Manger et.al 2011, p. 238). The most interresiting situations according to Dewey, are not those of automated actions based on habits, but unfamiliar situations which require will and systematic action to be solved.

2.1.2 Gee

James Paul Gee, a recognized American researcher, argues there is much to learn from how good games are designed to make players play and learn complex games. Gee has through his studies of video games, developed a set of principles he argues facilitates learning;

> The principles are neither conservative nor liberal, neither traditionalist nor progressive. They adopt some of each side, reject some of each, and stake out a different space. If implemented in schools they would necessitate significant changes in the structure and nature of formal schooling as we have long known it, changes that may eventually be inevitable anyway given modern technologies (Gee, 2007, p. 30).

The principles Gee developed from the study of what he calls 'good video games', he argues facilitates empowered learners who are able to solve complex problems and gain deep understanding of what they are learning. Even though Gee maintains there is a place for video games in education, he clearly states this is not the essential point to draw out of his principles. His main argument is how educators can learn from what good games provide, and how to apply what he calls 'game-like learning':

> 'Game-like learning' need not to involve an actual game – it simply requires learners to live and have (guided) experiences in the world from the perspective of the area being learned, for example, a particular branch of science (p. 146).

The principles and argumentations from Gee's 'Good video games – good learning' is discussed in this section, and how it relates to the use breakout games and 21st century skills.

Principles for good learning

Good games are designed with a set of possible actions, so that the decisions made by the players affect how the game evolves. Gee argues that this principle should be applied in education as well, by having the learners' co-design their own learning. To achieve this principle of agency, Gee claims; "The whole curriculum should be shaped by the learners' actions and react back on the learners in meaningful ways" (Gee, 2007, p. 31). In addition, Gee argues it is important how learning is customized to give learners the opportunity to choose how to address their own learning. This principle is applied in good games, since the design allows a player to solve the games in different ways. When applying this principle to education, with or without games involved, the learners should not only be given the opportunity to use their preferred learning strategies, but also be encouraged to try out new, in a risk free environment. Gee (2007) argues this not only to give the learners a strong feeling of agency, but it would also provide the opportunity to develop their metacognition (p. 31).

Not only should learners be active participants in how the curriculum unfolds through both active involvement and through how learners' progress map out the road forward, educators should also challenge the learners to take on new roles. Games invite players to take on a variety of different identities, or build identities from scratch. Gee claims that education falsely centre around an understanding of school topics and subjects as collections of facts. Instead, he promotes a different perspective;

> …academic areas are not first and foremost bodies of facts, they are, rather, first and foremost, the activities and ways of knowing through which such facts are generated, defended, and modified. Such activities and ways of knowing are carried out by people who adopt certain sorts of identities, that is, adopt certain ways with words, actions, and interactions, as well as certain values, attitudes, and beliefs (Gee, 2007 p. 32).

By giving the learners the opportunity to invest in different identities or roles, the learners develop a deeper understanding of different fields, such as science, biology, geography, art and so on. These different domains carry a set of rules and actions, the use of certain types of tools and techniques. Gee (2007) claims that the investment in a variety of identities or roles will give learners a deeper understanding, rather than only being able to reproduce information to pass a test. To do so, Gee points out that learners must be invited to try out different identities, and furthermore provide concrete goals for what to get out of the experience (p. 33).

When learners engage in the various domains, with all the aspects involved ('the rules of the game'), this also includes applying relevant tools appropriate to that domain or relevant to the problem at hand. In video games, characters inhabit a designed knowledge and a set of skills. However, the players can manipulate the character in terms of being "a smart tool" by applying knowledge the characters in the games are not designed to have.

Another aspect is when tasks in a game rely on multiple players having to work together to solve a task or a problem. This distributes the knowledge of how to solve a task in a game between the character and the player, or between players and characters in multiplayer games. Gee argues this to apply in education as well, which he exemplifies with how Galileo discovered the law of the pendulum by applying geometry. By encouraging and facilitating the use of different types of tools in solving a problem, being technology, geometry, or other relevant tools, this will give the learners a deeper understanding of a topic or domain when seeing this in relation to the perspective of identity (Gee, 2007, p. 34).

The interaction described in the multiplayer games, is a relevant element in education as well. In modern workplaces, teams are constructed based on their different areas of background and expertise;

> This form of affiliation – what I will call cross-functional affiliation – has been argued to be crucial for the workplace teams in modern ' new capitalist' workplaces, as well as in modern forms of social activism. People specialize, but integrate and share, organized around a primary affiliation to their common goals an using their cultural and social differences as strategic resources, not as barriers.(Gee, 2007, p. 28)

Interaction is already seen as a valuable part of learning any language and working with different subjects, but is the interaction facilitated to function as a shared knowledge arena between learners with strengths in different areas within the context of what they are working with?

Gee argues that one cannot be an effective resource in society without the ability to solve complex problem. Not only are most real problems the learners will meet in their future domains of a complex nature, but issues such as global warming, democracy and politics, requires a deep understanding of all perspectives involved. In video games, the players meet challenges that are consistent with the level of expertise they are at, hence 'levels' in videogames. By only providing doable tasks and problems suitable for the level, players are not only kept motivated to continue, but it also provides them with basic skills for levels to come. By applying this in education, giving learners tasks and problems to solve according to their level of mastery at the given moment, they can build on the experiences they make as the complexity of problems increases.

The challenges learners meet should however not be too easy; they should be what Gee calls 'pleasantly frustrating'. Problems presented to the learners should according be "…at the outer edge of, but within their 'regime of competence'. That is, these challenges feel hard, but doable" (Gee, 2007, p. 36). When the learners master the present level, they should be given more complex problems that require them to apply knowledge acquired from previous tasks. This is basic game design, which gives the players the tools they need to continue, and gives them a feeling of mastery and motivation.

Not only should the problems learners are faced with be according to their level of mastery, but they should also be of a risk free nature. In games, players are to a great extent introduced to the game by having the first levels risk free, where nothing really can go too wrong. This encourages the players to get familiarized with the game, and learn the basics they need to get the motivation to continue. In education, this should be implemented as well, for the same purposes, Gee argues; allowing learners to try new things in a risk-free environment before adding to the complexity of the topic on the schedule.

In video games, players need to practise different skills to carry out a specific task, to be able to move on further in the game. Education, Gee claims often focuses on isolated elements in any given subject not giving the learners the tools they need to apply when later facing more

complex systems, nor communicate to the learners how these skills translate to strategies in real-life domains. Gee argues there is a greater need to view and communicate that time spent in school is a path to gain skills the learners can apply as strategies down the line. This implies that educators need to facilitate practise of relevant skills, with clear goals for why they are doing what they are doing. The process of learning should be clear to the learners (and educators); it is part of a whole. Each element the learners are focusing on is part of a greater system, and that all of the elements of their learning path is there for a reason.

Information provided to the learners should also be considered, and be either 'just in time' or 'on demand'. Gee claims education often give learners too much information, and out of context, whereas video games give players the information the moment they need it, or when the players are ready to make us of it. This is a principle Gee argues should be implemented to a greater extent in education as well; "lectures and textbooks are fine 'on demand', used when learners are ready for them, not otherwise" (Gee, 2007 p. 38). In addition to providing the learners with the appropriate amount of information at the appropriate time, Gee also argues there is a need to rethink its packaging:

> Even bare adequate games make the meaning of words and concepts clear through experiences the player has and activities the player carries out, not through lectures, talking heads, or generalities. Good games can achieve marvelous effects here, making even philosophical points concrete realized in image and action (Gee, 2007, p. 43).

With the players fully engaged in the *doing* of the tasks, the action gives words situated meaning based on the experiences attached to the word. Gee elaborates on how learners create situated meaning of words and concepts:

> A situated understanding of a concept or word implies the ability to associate the word with specific images, actions, experiences, or dialogue in such a way that one knows how to apply the word in specific contexts to solve problems or accomplish goals (Gee, 2007, p. 143).

This implies a rethinking of how, especially language teachers present new vocabulary to learners, but also how learners are presented with terms and procedures of a given field.

2.2 21st century skills

Due to the broad research and interest in how to address the rapid changes in society, numerous research projects have generated many different definitions and terms. This section will provide a brief introduction to the background of 21st century skills in section 2.2.1, and furthermore clarify the definition this study has adopted in section 2.2.2.

2.2.1 Background for 21st century skills

'21st century skills', is a trending concept in educational research around the world, based on a common understanding of the need to adapt education to meet the rapid and complex changes in society. Erstad (2009) offers his perspective:

> In the 21st century economy and society, the ability to respond flexibly to complex problems, to communicate effectively, to manage information, to work in teams, to use technology, and to produce new knowledge is crucial. These economic and social trends have significant implications for education (Erstad, 2009).

As a result of the rapid changes, numerous research projects initiated by different government appointed committees, independent researchers and research groups, national and international corporations, has led to numerous interpretations and definitions of 21st century skills.

2.2.2 Defining 21st century skills

'The Assessment and Teaching of 21st Century Skills' (hereafter ATC21S) project was established by the multinational corporations Cisco, Intel and Microsoft in 2009 in cooperation with educational researchers, to both define 21st century skills and to develop ways of assessing them. The project was initiated to overcome barriers of understanding the skills to create a common understanding of the skills to enable implementation and progress (Erstad, 2009). After reviewing related research projects and existing national curriculums around the world (with a focus on 21st century skills), ATC21S generated an outline of ten skills divided in four main categories; 'Ways of thinking', 'Ways of working', 'Tools for working', and 'Living in the world' (see table A).

Ways of thinking	*Ways of working*	*Tools for working*	*Living in the world*
1. Creativity and innovation 2. Critical thinking, problem-solving and decision-making 3. Learning to learn, metacognition	4. Communication 5. Collaboration (teamwork)	6. Information literacy (includes research on sources, evidence, biases, etc.) 7. ICT literacy	8. Citizenship – local and global 9. Life and career 10. Personal and social responsibility – including cultural awareness and competence

Table A. ATC21S 21st century skills

Within these ten skills, the project also drew out the aspects of 'Knowledge', 'Skills', 'Attitudes, Values and Ethics' (hereafter KSAVE) that are related to each skill:

- *Knowledge*: the specific requirements related to the different skills
- *Skills*: the abilities, skills, and processes designed to develop in learners
- *Attitudes, Values and Ethics*: the behaviors and aptitudes the learners should develop within the different skills

When analyzing existing research and frameworks, and furthermore trying to unify the various aspects within 21st century sills, Binkley et. al. (2012) explains how there were some difficulties in how to define features to be within in 'Knowledge, 'Skills' or 'Attitudes, Values and Ethics' of each skill: "For some of the indexes, the decision whether to allocate them to the skills category or to the attitudes/values/ethics category appeared to be marginal" (Binkley et.al., p. 37). When looking into ATC21S' complete definitions of the ten skills (Appendix 2), it becomes apparent to this researcher as well; the distinctive aspects within the different skills are hard to designate to being a knowledge aspect, sub-skills, or aspects of attitude, values and ethics. As such, this study will make use of the elements from the different categories, depending on their relevance to the study.

2.3 The National Curriculum

This section will provide insight in which aspects from ATC21S' definition of 21st century skills (see section 2.2.2), are compatible to the National Curriculum. Section 2.3.1 contains an examination of how elements found in ATC21S's definition links to the current National Curriculum, and section 2.3.2 contains a presentation of how 21st century skills are intended to be present in the development of a new national curriculum. Table A. 'ATC21S 21st century

skills' as seen in section 2.2.2 have been reproduced for the sake of convenience to illustrate links found between the different documents in the curriculum and ATC21S' 21st century skills.

2.3.1 The National Curriculum for Knowledge Promotion

'The National Curriculum for Knowledge Promotion in Primary and Secondary Education and Training' (hereafter LK06) consists of 'The Core Curriculum', 'The Quality Framework', and the subject curriculums.

'The Core Curriculum for Primary, Secondary and Adult Education in Norway' is an extension and elaboration of the Education Act, comprising the foundation for primary and secondary education in Norway. The Core Curriculum describes how education should provide development of the 'whole' human being, through addressing and facilitating growth within seven focus areas.

'The spiritual human being'
'The creative human being'
'The working human being'
'The liberally-educated human being'
'The social human being'
'The environmentally aware human being'
'The integrated human being'

Within these seven focus areas for human growth, there are several aspects that are found in ATC21S' definition of 21st century skills. Throughout the document, there are several aspects mentioned as important factors in the learners' education, that link with features found in ATC21S indexes:

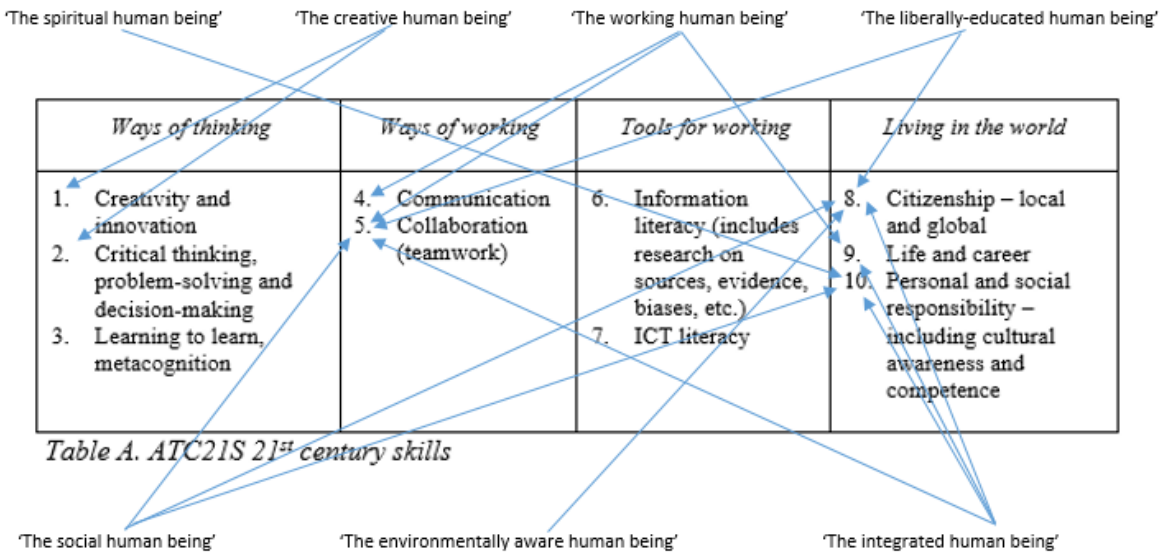


Illustration 1: 'Core curriculum for Primary, Secondary and adult education in Norway: links to 21st century skills

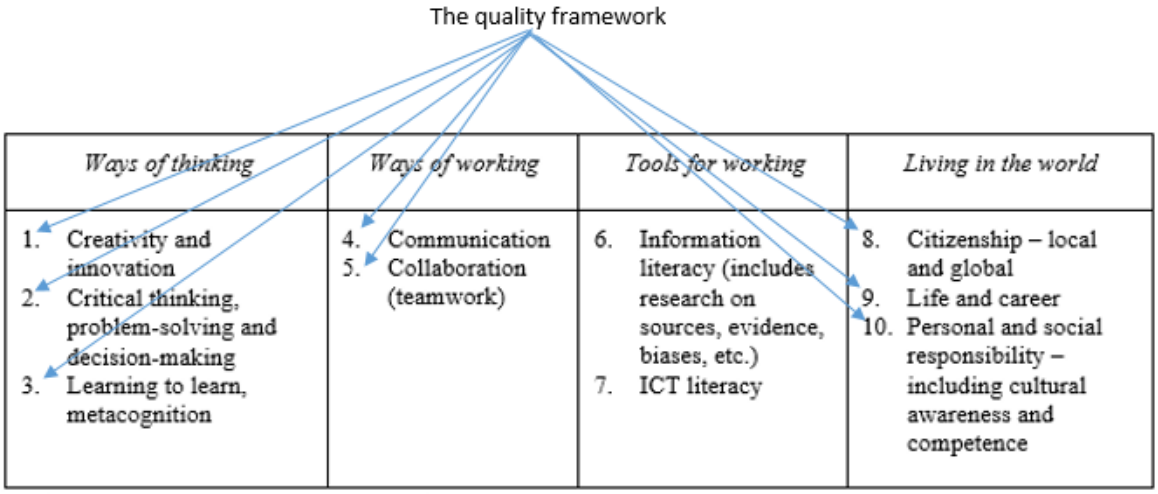
Even though aspects relating to 21st century skills are found within the document, they are more implicit, and presented as general aspects to be emphasized and facilitated throughout primary and secondary education. In 'the working human being', one example is related to collaboration, self-assessment, and managing projects:

> A working environment functions well when everyone appreciates that they shape the conditions for each other and hence must show each other consideration. Progress thus depends not only on how teachers function in relation to each pupil, but also on how they make each of the pupils relate to the others. In a good quality working team, the members enhance the quality of each others' work. In this, pupils also share responsibility for planning, executing and evaluating their own work (The Royal Ministry of Education and Research, 2006b).

The aspects found in the excerpt from 'The Core Curriculum' are found in ATC21S' definitions of 21st century skills as well. However, these elements are found throughout the document within the different areas for human growth, while in ATC21S' definitions they are formulated as explicit KSAVE elements within each skill (see Appendix 2).

'The Quality Framework' is a summary of the Education Act and the National Curriculum, and consists of a bullet-point list, 'The learning poster', that includes what are considered the most important aspects from the documents, in addition to a section elaborating of some of these elements. As to be expected, since the quality framework is a summary and elaboration of both the Education Act and the National Curriculum, many of the same aspects found in

ATC21S' definition of 21st century skills are found in this document as well (see illustration 2).



Ways of thinking	*Ways of working*	*Tools for working*	*Living in the world*
1. Creativity and innovation 2. Critical thinking, problem-solving and decision-making 3. Learning to learn, metacognition	4. Communication 5. Collaboration (teamwork)	6. Information literacy (includes research on sources, evidence, biases, etc.) 7. ICT literacy	8. Citizenship – local and global 9. Life and career 10. Personal and social responsibility – including cultural awareness and competence

Table A. ATC21S 21st century skills

Illustration 2. 'The quality framework': links to 21st century skills

Although 'The Quality Framework' is a comprised (and somewhat elaborated) extension of the National Curriculum and the Education Act, it does offer explicit parallels to 21st century skills. In the section 'Social and cultural competence', value of difference in opinion, cultural diversity, and general cooperation are enhanced as important values that should be encouraged and facilitated. Communication, which is one of the ten 21st century skills, is explained in 'The Quality Framework'; "To develop the pupils' social competence the school…shall ensure that pupils are trained in various types of interaction and problem and conflict solving…" (The Royal Ministry of Education and Research, 2006a, p. 3).

Another aspect from the same section of the document apply to both 21st century skills and one of Gee's 'principles for good learning'; the value of attaining different roles when exploring different domains (see section 2.1.2). This is expressed in the 'The Quality Framework' as, "The education shall help to develop…mastering of various roles in society, working life and leisure activities" (The Royal Ministry of Education and Research, 2006a, p. 3).

In addition to seeing corresponding values in the above-mentioned documents in the National Curriculum and in 21st century skills, there is an additional framework, 'Framework for Basic

Skills'. This document has been implemented within all subject curricula, and furthermore in the different subject curricula competence aims:

> Each subject curriculum integrates competence aims, basic skills and subject content. The skills are consequently expressed in different manners and to a varying degree in the different curricula, depending on the relevance of different skills aspects for the subject in question (The Norwegian Directorate for Education and Training, 2006, p. 5).

'Framework for Basic Skills' is described as being fundamental elements for learning in any subject. These fundamental elements are argued to be 'orals skills', 'reading skills', 'writing skills', 'digital skills' and 'numeracy'. Being that 'Basic skills' are more explicit in the sense of being 'skills', they are easily recognized as parallels to 21st century skills.

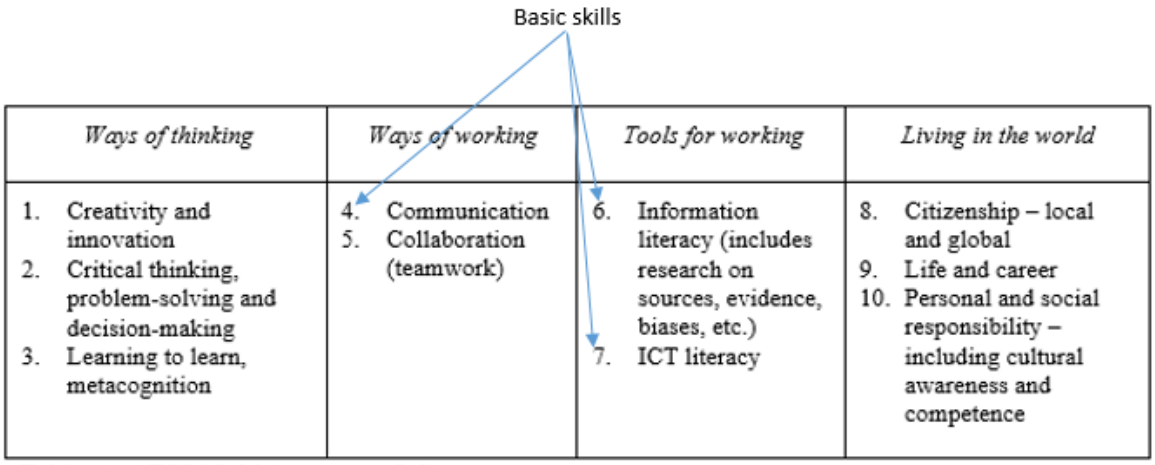


Table A. ATC21S 21st century skills

Illustration 3: 'Framework for Basic skills': links to 21st century skills

Even though the 'Basic skills' only link to a few of the ten skills, this is where information-literacy and ICT literacy is expressed clearly, and it adds on to the complete picture of the National Curriculum's parallels to 21st century skills.

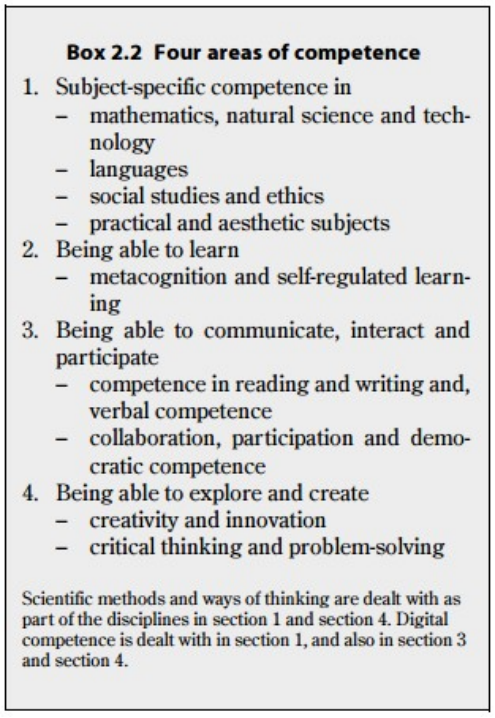
2.3.2 The Developing National Curriculum

After an evaluation of the National Curriculum, the government appointed a committee to path out the way towards a new national curriculum (The Ludvigsen Committee, 2015, p. 15). In 2015, the government appointed Ludvigsen Committee submitted their report, concluding that

there is a need to address the changes in society, and furthermore concretized how to address learners' need for future competencies:

> Pupils in the school of the future will need to develop subject-specific competences and competences that are important in many subjects, such as being able to learn, communicate, cooperate, participate, explore, and create. Assignments and challenges the pupils will encounter demand that they develop thinking, practical skills and social and emotional competence in an collaboration (The Ludvigsen Committee, 2015, p. 39).

After an assessment of up-to-date research and the current national curriculum, the committee presented recommendations for four new areas of competence:



Box 2.2 Four areas of competence

1. Subject-specific competence in
   - mathematics, natural science and technology
   - languages
   - social studies and ethics
   - practical and aesthetic subjects
2. Being able to learn
   - metacognition and self-regulated learning
3. Being able to communicate, interact and participate
   - competence in reading and writing and, verbal competence
   - collaboration, participation and democratic competence
4. Being able to explore and create
   - creativity and innovation
   - critical thinking and problem-solving

Scientific methods and ways of thinking are dealt with as part of the disciplines in section 1 and section 4. Digital competence is dealt with in section 1, and also in section 3 and section 4.

Illustration 4. Summary of competencies recommended by The Ludvigsen Committee (2015, p. 23).

The areas of competencies are further elaborated in the report, but as seen in 'Illustration 4', the committee's competencies share many aspects found in ATC21S definition of 21st century skills (see section 2.2.2). Based on their research and conclusions, the committee advises a renewal of the national curriculum, including the different subject curricula, and furthermore urge that the four areas of competencies should be implemented in all parts of the curriculum (The Ludvigsen Committee, 2015, p. 39).

As seen in section 2.3.1, aspects seen in 21st century skills are not absent in the existing curriculum. However, the department recognizes how 'The Core Curriculum' and 'The Quality Framework' in LK06 are not being implemented well enough in the daily practice:

> Research suggests that 'The Core Curriculum' and 'The Quality Framework' is only to a small degree included in the local development of curricula…To create a better connection in the National Curricula, the department will renew the existing 'Core Curriculum', 'Quality Framework' and subject curricula (own translation, The Royal Ministry of Education and Research, 2016, p. 19).

Based on the committee's recommendation, there will be a new document replacing the current 'Core Curriculum' and 'Quality Framework', where key words and phrases such as 'knowledge', 'skills', 'attitudes', 'critical thinking', 'in-depth knowledge', and 'scientific thinking' are mentioned. In addition to renewing the general sections of the curriculum, the department also state that the recommended areas of competencies will be implemented in the different subject curricula as well (The Royal Ministry of Education and Research, 2016, p. 20-32). The new curriculum is expected to be implemented at the earliest in 2019/2020, but to which extent and how these new competencies will be implemented, is not yet finalized.

2.4 Game based learning

This section provides a brief introduction to the term 'game-based learning', and how it relates to 21st century skills. This researcher could not find any research on educational breakout games, thus providing the research made by Qian & Clark on 'game based learning' and how it relates to 21st century skills, to provide research that links 21st skills with educational games in general.

2.4.1 Game Based Learning and 21st century skills

Game-based learning is described as "an environment where game content and game play enhance knowledge and skills acquisition, and where game activities involve problem solving spaces and challenges that provide players/learner with a sense of achievement" (Qian & Clark, 2016). Qian & Clark (2016) examined recent quantitative studies regarding game-based learning in relation to 21st century skills. The focus of this review was to examine how games might influence learner acquisition of 21st century skills, and to provide some insight in further game design and implementation of educational games (p. 50).

Even though the authors acknowledge the limitations of their study due to their lack of including qualitative studies, they still conclude "there is reason to be optimistic about the potential of using a game-based learning to promote 21st century skill development in the future…" (Qian & Clark, 2016, p. 56).

2.5 Breakout games

This section will provide a thorough explanation of 'breakout games', by presenting the background for educational breakout games – 'Escape Rooms' – in section 2.5.1, and furthermore by presenting an online platform for educational breakout games in section 2.5.2.

2.5.1 'Escape rooms'

Breakout games have been around the last decade as a recreational real-life collaborative game, and 'Escape Rooms' is the most used term for these breakout games. There is little information and research in this field, and the question of when this growing industry first started is not well documented. However, there seems to be a general acknowledgment of the Japanese publishing company SCRAP Enterprises Inc., the self-proclaimed 'Escape Room' inventors, as the first to launch the concept in 2007, with their 'Real Escape Game' (Nicholson, 2015, p. 3 & Corkill, 2009).

The concept is based on players collaborating, in order to complete a given task while experiencing an adventure, and the phenomenon 'Escape Rooms' has spread across the world. According to The Escape Room Directory (2017), there are now physical game-rooms in 97 different countries registered to their site (as of April 15 2017).

Despite the growing industry, there is little research conducted in this field. Dr. Nicholson, a Game Design and Development professor at Syracuse University, is the first to publish a scholarly study of Escape Room facilities (Stone, 2016). Even though the study does not research the breakout games for educational purposes, it does give some insight into how the games are facilitated. Nicholson (2015) explains:

> Escape Rooms are live-action, team-based activities where players discover clues, solve puzzles and accomplish tasks in one or more rooms in order to accomplish a specific goal (usually escaping the room) in a limited amount of time (p. 1).

Escape-room games are most known for their physical theme-based games where players are locked in a room where they have to follow different clues to escape the room, find a treasure, solve a crime, or to unlock a puzzle – all while a set timer is ticking down. The most common form of this game is where a game-facilitator instructs the players of the plot, rules and frames of the game, followed by closing and locking the door behind them. As time is ticking down, the team have to find clues and solve different tasks in order to advance in the game, or open a lock – which in turns leads to a new puzzle or task to complete. A common feature is also how the game facilitators monitor the progress, and if necessary provide hints to help the players (Nicholson, 2015).

2.5.2 Breakout EDU

Modified escape-room games for educational purposes have emerged over the last few years. The collaborative approach to different themes in recreational breakout games intrigued a group of teachers, which has led to a community of teachers developing breakout games for use in all levels of education.

The former teacher and entrepreneur James Sanders founded Breakout Edu, a teacher-platform with resources for playing educational breakout games (hereafter breakout games). Breakout EDU was established in 2015, after Sanders experienced an Escape Room, and from there created solutions for implementing this in the classroom. The biggest difference between Breakout EDU games and the typical physical Escape Room game is how the learners have to unlock several locks to open a box. The game itself is fashioned in a similar way, by setting up different clues and tasks around the room for the learners to solve, in order to get the combinations that opens the locks. The general idea of the game is the same as with recreational breakout games when played in classrooms. The set-up however, is altered to make games available and easy to use by any educator (Sanders, 2015).

Illustration 5: Basic recourses for breakout games

The illustration above shows basic items used when playing a breakout game. The smaller box is typically the first the learners need to get open to gain access to further resources to advance in the game. Different locks with different possible combinations are placed in the hasp on the large box, and the clues will then guide the learners towards opening one after the other. A standard element in most games is the use of invisible ink that can only be read when illuminated by a UV light. The games that are approved by the Breakout EDU team normally involve the standard elements included in the retailed set (https://store.breakoutedu.com). This however, can be altered to fit the objective of the target lesson. In the researched lesson for this thesis, a game was made to fit the criteria of this particular lesson (see section 3.1 for further explanation and link to a brief video presentation of the lesson).

Even though 'fun' is a key word, the main objective for using educational breakout games is to facilitate increased and meaningful learning, collaboration, communication, critical thinking and creativity, and furthermore activate and develop the learners' problem-solving skills. Nicholson (2015) explains how different skills are activated when playing Escape Room games: "Escape rooms require teamwork, communication, and delegation as well as critical thinking, attention to detail, and lateral thinking" (p. 2). Skills described from recreational games are certainly transferrable to games altered for learners to play in class, as seen in the explanation provided from the online platform:

> Breakout EDU games transfer the ownership of learning from the instructor to the student, making it easy to observe how learners approach problem solving and apply their knowledge. In addition to the content knowledge needed in a specific game, all Breakout EDU games require critical thinking, collaboration, creativity and communication. A Breakout Edu provides learners with many opportunities to fail forward. Every unsuccessful attempt to open a lock forces the player to try again (Breakout EDU, 2017a).

As mentioned in section 2.5.1, moderators of 'Escape Rooms', will provide the players in the game with hints where they find it to be suitable. In the educational breakout games, this has been altered to give the learners control over when to get a hint. How many hints the learners get is up the teacher, but the norm is two hints, and the learners have to agree on when to cash in their hints. Another element added in the educational breakouts which is not the norm in recreational breakout games, is the reflection session facilitated by the teacher after the game is finished (Breakout EDU, 2017b).

Independent teachers from around the world develop games for general topics and subject specific games, and for all levels of proficiency. Before the games are available on the website, they undergo a quality evaluation by the staff to make ensures there are good directories for how to set up and facilitate the game. Once a game is uploaded to the website, it is made available to any registered teacher (https://games.breakoutedu.com). In addition to the physical box-situated games, there are also several digital games. These games do not require props or teacher facilitation, and are available without clues or keys for players and teachers.

As the company distribute ready-made kits for the games, this also gives an indication to how many teachers are using their breakout games. In early 2016, the estimated number of sold kits sold from Breakout EDU was 3000 (Sanders, 2016). However, the numbers are not reliable, as many teachers purchases and assemble own kits, based on a prepared shopping list available on the webpage. What might be the most accurate estimate of active users, is the community that has emerged on Facebook, which is the main platform for sharing experiences and asking other teachers for advice, as well as request support from the Breakout EDU staff. The Breakout EDU Facebook group, launched in July 2015, currently (as of May 2017) has over 20 000 members (https://www.facebook.com/groups/breakoutedu/).

3. Methods

This research study seeks to address the overarching research question *What, if any, are the possible benefits of using breakout games in the EFL classroom?,* by investigating the formulated sub-objectives:

1. Explore the learners' experience and perceived value of the activity
2. Evaluate how skills practiced by the learners in the activity agree with the current and developing national standards
3. Critically assess the relationship between the intended, experienced and observed lesson

Sub-objectives 1 & 2 are addressed through collection of empirical data (see section 3.3). Sub-objective 3 *Critically assess the relationship between the intended, experienced and observed lesson,* is addressed in Chapter 5, 'Analysis'.

This chapter is structured in five sections. Section 3.1 provides an overview of the *context* of which the research is conducted, in addition to information regarding *sampling*. Section 3.2 contains a justification for choice of research strategy, followed by an outline of data collection in section 3.3. Finally, section 3.4 is divided in three sections. 3.4.1 includes a presentation of measures made to ensure data reliability, followed by section 3.4.2 which contains reflections regarding the study's validity. Lastly, section 3.4.3 contains reflections regarding ethical implications of the study.

3.1 Context and sampling

The context of this case study research is an upper secondary EFL classroom in Norway. The location and sampling is not a result of random sampling, but a result of convenience as the researcher of this case study is an employee at the school in question. The 14 participants in the study are upper secondary learners, 3 girls and 11 boys, in one of the schools English classes. 15 learners consented to participate in the study, however one learner was absent from the observed lesson and thus taken out of the study. Out of the 14 participating learners in the study, all consented to answer a post-observation questionnaire, and 8 consented to participate

in a focus group interview. However, due to unforeseen circumstances, only 13 learners were present to answer the questionnaire. After the learners had played the breakout game, the questionnaire was administered two days after the lesson. As for the focus group interview, the eight learners were divided into two groups, not by random sampling, but based on the researcher's understanding of the group dynamics (who would participate in discussion with each other). However, due to unforeseen circumstances, only one focus group interview was administered, three weeks after the observed lesson.

In the lesson observed for this research, the learners were randomly divided into two groups of seven. Since the two groups played the same game, group number two was placed in the adjoining room awaiting their turn to play to avoid interaction as best possible.

The game was planned primarily around one competence aim from the 'International English' curriculum, an English program subject for upper secondary education in Norway. The competence aims for the observed lesson was "Reflect on how cultural differences and dissimilar value systems can affect communication" (The Norwegian Directorate for Education and Training, 2017).

In addition to the competence aim, elements from 'The Framework for Basic skills' (see section 2.3.1) were included as well. 'Oral skills' are a natural part of the lesson, as the nature of the game require the participants to discuss how to interpret the clues and how to go about getting the box open on time. However, one of the rules of the game was that the learners have to speak English, to provide an arena for practical use of the English language. 'Reading skills' are not necessarily a natural part of every breakout game, however in this game, several documents regarding intercultural communication were included, thus requiring the learners to manage quite large amounts of information.

'Numeracy' was included in two specific problems in the game. One problem required the learners to interpret and understand mathematical tables. The other task was a bit more complex, in terms of first requiring the need to think 'in codes' to change letters to numbers, then secondly requiring an understanding of exponentiation. The clue the learners were given from the 'Mission' document was 'linking ethnocentrism and cultural relativism is key', which was underlined with invisible ink. In documents found during the game, one contained the definition of ethnocentrism, in addition to providing the clue 'ec^2'. A second document

containing the definition of cultural relativism provided the clue 'cb^2'. Linking the two and transferring the result to numbers, give away the code for one of the locks.

The learners who participated in this study have one single previous experience with playing a breakout game, approximately six months prior to the lesson being studied. During their first time playing a breakout game, the learners encountered a similar 'numbers to letters' combination. As such, this element was a bit of an experiment; would the learners remember and understand quickly, or would they go through the process all over again?

Other elements from the National Curriculum, the developing new curriculum, and aspects from 21st century skills according to ATC21S are applied, though implicitly as these are argued to be natural 'side effects' of breakout games. However, although the games should include clues and codes that are vary from easy to hard, practical elements, complex elements, which in turn results in the need for collaboration and creativity, these aspects were deliberately included in the planning of the lesson. The amount of information, documents, and elements put in the breakout game, require the learners to work systematically, divide work, collaborate, take initiative and take on leadership.

The observed lesson lasted 1 hour and 45 minutes, with the two groups playing the game for 45 minutes each, with the researcher as a participant observer. The researcher did however address the groups three times each, as each team was provided with three hint-cards. The hints provided in the game gave pupils the opportunity to consult with the teacher if they needed extra help. By unanimous decision the learners could at any stage of the game decide to 'cash in' one of the hints, either with a request for help on a particular puzzle or for one of the locks. The teacher would then give the learners a nudge in the right direction for the puzzle they were trying to solve, or a hint for where to find the clue for the chosen lock.

To gain greater insight into the activity in focus, a short 9-minute video has been created. This video provides an overview of the breakout game activity that was designed and used in this study, including the both the sequential steps of the activity, as well as the physical tools and locks involved. To access to video, please scan the QR-code below, or access the following link: https://drive.google.com/file/d/0B_U2lZHzXioqSHhocW5IMHQtWGs/view?usp=sharing

3.2 Research strategy

As there is little relevant research regarding the use of physical educational breakout games in the context of a Norwegian EFL class, a case study research method has been applied to address the overarching research question *What, if any, are the possible benefits of using breakout games in the EFL classroom?*

Yin (2014) defines the case-study research method as a qualitative empirical inquire that "investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (p. 16). In addition, Yin also distinguishes case study research from other methods;

> An experiment, for instance, deliberately separates a phenomenon from its context, attending only to the phenomenon of interest and only as represented by a few variables…A history, by comparison, does deal with the entangled situation between phenomenon and context but usually studying noncontemporary events. Finally, surveys can try to deal with phenomenon and context, but a survey's ability to investigate the context is extremely limited (Yin, 2014, p. 16).

This study aims to make an educated decision of whether the use breakout games in the EFL context is of substantial value. The research was conducted at the researchers own workplace, with the researchers own students. As such, the case study research method seems both sufficient and appropriate as the boundaries between context and phenomenon evidently will be recognized as fuzzy.

3.3 Data collection

The empirical material that form the basis for analysis in this case study research, is closely related to sub-objective 1 *Identify different skills being practiced during a breakout game*, and sub-objective 2 *Explore the learners' experience and perceived value of the activity*.

This section is divided into three sections, where section 3.3.1 describes how the data is collected and systemized from the observed lesson, section 3.3.2 describes how data is systemized from the learners' questionnaires, and section 3.3.3 describes how the focus group interviews are transcribed and systemized.

3.3.1 Observed lesson

To be able to attain insight and evidence regarding the issue presented in sub-objective 1 *Explore learners' experience and perceived value of the activity*, the researcher observed and videotaped one EFL class in an upper secondary school in Norway. Field notes made by the researcher is made use of when analyzing the learners' perception and experience of the activity. Yin (2014) argues direct observation as a valuable source for attaining data in case study research;

> Because a case study should take place in the real-world setting of the case, you are creating the opportunity for direct observation. Assuming that the phenomena of interest have not been purely historical, some relevant social or environmental conditions will be available for observation. Such observations serve as yet another source of evidence in doing case study research (p. 113).

Since the purpose of observing the learners was to form basis for discussion in relation to the learners' experience and perceived value of the activity, classroom-observation was therefore considered the best method to gather the initial data. Furthermore, Gjøsund and Huseby (2005) argue a systematic non-participative observation to be the best option for being as non-invasive as possible (p. 50).

Both groups, seven learners each, were recorded with both audio and video. However, due to unsatisfactory video quality and the high number of participants speaking at the same time, field notes made by the researcher have been utilized as part of the empirical material gathered about this lesson (see Appendix 3). The systemization of the data from the lesson has been based on the researcher's understanding of 21st century skills, through categorization and interpretation of learners' actions and interactions during the lesson.

In addition to giving the researcher valuable insight in different skills being practiced in a breakout game, the observation data also forms the basis for participants' reflections in a follow-up questionnaire, and thus give insight concerning sub-objective 1 *Explore the learners' experience and perceived value of the activity.*

3.3.2 Questionnaire

Following the observed lesson, a questionnaire was administered. This methodological step was carried out to provide additional data to address both the overarching research question *What, if any, are the possible benefits of using breakout games in the EFL classroom*?, and sub-objective 1 *Explore the learners' experience and perceived value of the activity*, in addition to enable data triangulation (see section 3.4.1).

The questions were divided in two main categories; 1) Questions regarding the learners' experience and perceived value of playing the game, and breakout games in general, and 2) Subject related questions, assessing whether the learners had attained topic related knowledge from the breakout game. The questions for both categories were of an open-ended nature, to attain as much of the learners' perspective as possible. Lastly, a third category 'Final Comments' was included, to give the learners an opportunity to address any possible issues not addressed in the previous questions.

Categorization of the learners' responses was accomplished by applying a bottom-up strategy, conflating categories based on key words and phrases in the learners' responses.

In answers to the 'General questions', key words and phrases recognized as the gist of the response, were identified. After identifying these key words and phrases, these were then categorized according to content – similar key words and phrases making up one category (Appendix 4). Responses to questions addressing the understanding of terms related to the subject competence aim, were categorized in two; if the learner could or could not provide an answer that showed understanding of a term or question based on the content from the lesson.

3.3.3 Focus group interview

Lastly, a focus group interview provides the third source of data to address sub-objective 1 *Explore the learners' experience and perceived value of the activity*, through video recording of the discussion between the participants, and through the collection of physical artifacts created by the participants during the conversation. Physical artifacts (mind maps) were collected as an additional source of data. The participants was asked to create mind maps during the conversation, both to create an opportunity for discussion, but also to form

additional data for discussion in relation to the overarching research question *What, if any, are the possible benefits of using breakout games in the EFL classroom?*.

According to Kvale and Brinkmann (2015), the focus group interview is characterized as being a conversation moderated by the researcher, however not controlled. The researcher facilitates discussion regarding a desired topic, and aims not to gain generalized answers, but to gain insight in the participants' different viewpoints of an issue (p. 179). Focus group interviews give the researcher less control over the development of the conversation, compared to structured or semi-structured interviews. However, facilitating an open discussion regarding the observed lesson and the learners' perspectives of using breakout games in the classroom, favored using this form of interview, in this particular study.

The spoken dialogue in the interview was converted to written text, which is a simplified version of the actual discussion taking place. Kvale & Brinkmann (2015) argues that the form and amount of information to be transcribed, depends on the nature of the material, and the purpose of the interview (p. 206). As such, transcription of the interview was done according to the focus of the study, which is to gain insight in the context, not linguistic features, thus not including linguistic elements not relevant to the study.

3.4 Reliability, validity and ethical considerations

Reliability, validity, and ethical considerations are closely linked together when doing research. This section includes reflections made by the researcher regarding the ethical implications of this study, the reliability of empirical material, and the validity of the study. Section 3.4.1 contains a presentation of measures taken to ensure data reliability. Section 3.4.2 includes reflections made regarding the validity of the study, and section 3.4.3 contains reflections made by the researcher in regards to ethical implications of the study.

3.4.1 Reliability

To ensure that readers of this study can make up their own minds in regards to the study's reliability, the researcher has addressed the issue as best possible, without compromising the participants' anonymity. As such, anonymized field notes from the observed lesson, and transcribed group conversations are included in the appendices.

Data triangulation is an important aspect of attaining an in-depth *reliable* perspective of the phenomena. Yin (2014) explains the value of using multiple sources of evidence "…the most important advantage presented by using multiple sources of evidence is the development of converging lines of inquiry (p.120)". In an attempt to develop these converging lines of inquiry, the researcher uses multiple sources of evidence to increase the study's reliability, and with that hopefully provides a multilayered perspective of the use of breakout games in an EFL upper secondary context. As such, the study will not only rely on data from observation alone, but also collect data from a post-observation questionnaire, and lastly from a focus group interview. The last source for data material, from the focus group interview, physical artifacts in the form of mind-maps created by the participants are used as well (see illustrations 7 & 8 in section 4.1.4).

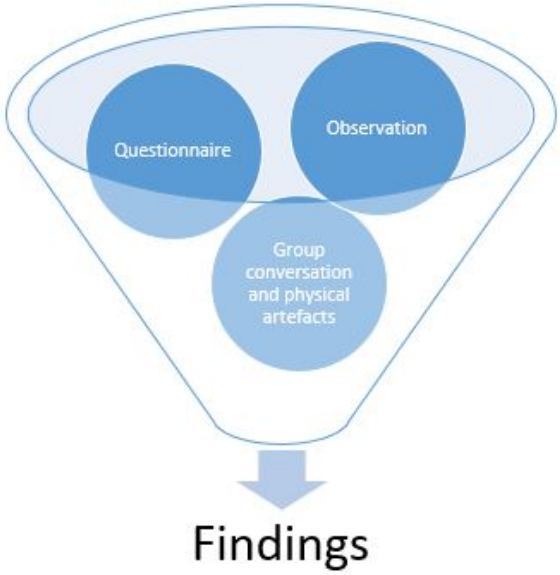


Illustration 6: Data triangulation in the case study research

The additional sources for evidence do not only provide data triangulation, but rather serves as a source of increased insight in the issue presented in sub-objective 1 *Explore the learners' experience and perceived value of the activity*. The findings in this case study is presented in Chapter 4 'Findings', and furthermore analyzed in Chapter 5, 'Analysis'.

3.4.2 Validity

Even though the issue of reliability has been addressed as best possible, the interpretations made from the data collected in this case study research has to be stressed as being the researchers *own interpretations*. This research aims not to generalize whether or not breakout games should be implemented in all EFL classrooms, not in Norway or otherwise, but to make an educated decision concerning its relevance and value in the context of which it exists. Having said that, this study does explore the use of breakout games in relation to relevance seen in theory and literature, and thus hope to be recognized as a valid pilot for further research within the field of didactics.

Consequently, the researcher hopes that by addressing the methodological concerns, data triangulation, and the meticulous efforts to maintain a high ethical standard throughout both the data collection and the interpretation processes, will prove the study both valid and reliable.

3.4.3 Ethical reflections

The first measure made to address the issue of ethics was to issue an information letter regarding the study to possible participants and their parents. In addition to providing information regarding the study, a consent-form requiring signature by participants and parents was enclosed (Appendix 1).

The observed lesson and group conversations were recorded using video recording, approved by the Norwegian Centre for Research Data, under the condition that the participants would not be subject of identification. As such, all participants will be referred to as 'Student 1', Student 2' etc. However, full anonymization is not possible, as some of the participants might recognize their role in the observed lesson, answers given in the questionnaire, and furthermore their contributions in the focus group interviews. It is important to note however, that the learners referred to as 'Student 1', 'Student 2' and so on, are not interrelated in the different empirical data collected.

In addition, as the research is conducted in the context of the researcher's workplace, the group of learners participating in the study can also be recognized. With this in mind, the researcher will take the best possible measures to ensure the best anonymization possible when processing the material.

Even though data triangulation will limit researcher bias, bias is still a valid concern. Yin (2014) argues case study research as "…especially prone to this problem because they must understand the issues beforehand, and this understanding may undesirably sway them toward supportive evidence and away from contrary evidence" (p. 76). Not only does the researcher's knowledge of the topic going into the study call for reflection regarding bias, but also the researcher's presence in the observed lesson and focus interview. Furthermore, the relationship between the learners and teacher calls for reflection regarding researcher bias. The question of bias has however been addressed by carefully planning and applying appropriate methods of data collection, such as having the participants answering open-ended questions in the post-observation questionnaires, and by allowing the participants to have a reasonably free conversation in the focus group interview.

All though researcher bias, and reliability and validity of the empirical material has been addressed as best possible by the researcher, there are still ethical implications when conducting research, particularly when it comes to doing research involving the researchers own students. Herr and Anderson (2005) state the need to clarify the relationship between the observer and the one being observed, as that this is an ethical obligation because it affects the validity of the research (p. 29). Furthermore, Herr and Anderson state; "…researchers occupy multiple positions that intersect and may bring us into conflicting allegiances or alliances within our research sites" (p.44). Being the participants' teacher in the subject, does raise concern of intercepting roles. As such, this issue has been under continuous consideration not only when collecting the empirical material, but also when processing and analyzing the material. That being said, as mentioned in section 3.4.2, this study does not try to generalize, but to gain insight in how breakout games might serve as an alternative to meet the broad and sometimes diffuse elements of the National Curriculum – in the context of which the research is conducted.

4. Findings

This chapter reveals the findings of the case study research described in chapter 3 'Methods'. The case study research was conducted to gain insight in the possible benefits of using breakout games in the context of an upper secondary EFL classroom in Norway.

The main objective with collecting data for this study was to gain insight about sub-objective 1 *Explore the learners' experience and perceived value of the activity*. As such, a breakout lesson was observed, a questionnaire was administered, and a focus group interview was conducted.

The findings in this study are presented in section 4.1. This section is divided into four separate sections. Section 4.1.1 describes findings from the predetermined questions in the questionnaire, section 4.1.2 describes questionnaire findings from questions that emerged from observing the lesson, and section 4.1.3 describes questionnaire findings from the topic related questions. Wherever relevant, findings from the observations and focus group interview are used to enrich the findings from the questionnaire.

In the focus group interview, the learners were asked to discuss a 'breakout lesson' versus a 'regular lesson'. Since this was not addressed in the questionnaire, these findings are presented in a separate section, 4.1.4. Presentation of findings is of a descriptive nature, however, an in depth discussion follows in Chapter 5, 'Analysis'.

For the purpose of upholding the learners' anonymity, the gender of the learners will alternate between female and male.

4.1 Questionnaire and observation findings

4.1.1 Predetermined questions

Questions regarding the learners' experience and perceived value of playing breakout games provided a nuanced picture of both what they liked and disliked, and thus the decision was made to not conflate the learner responses in broad categories to provide an as accurate description as possible. To do so, key words and phrases were used to systemize the answers (see further elaboration in Chapter 3, 'Methods').

What did you like about the game?

In question 1, the learners were asked what they like about playing breakout games. The question asked appealed to the learners' subjective preferences, and thus a wide variety of elements highlighted as positive were to be expected. However, the most frequent element appearing in the participants' responses was 'fun', appearing in 7 out of 13 responses. Other elements appearing in two separate responses were 'challenging', 'creative', 'collaboration', 'different type of lesson', 'learning', and 'problem solving'. Even though the question addressed what learners like about the activity, the responses also provided information regarding elements the learners perceive the activity to contain. One learner answered, "I liked the different clues and how they were interconnected. I also liked the level of difficulty – not too hard and not too easy", while another answered "It was challenging, and at the same time – the tasks were fun. Made you really want to complete the game". The responses identify elements of the game the learners appreciated, and furthermore provide basis for addressing sub-objective 2 ***Evaluating how skills practised by learners during the activity*** *align with the current and developing national standards*. The categorized answers to this question can be found in Table B.

1: *What did you like about the game? Why?*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Fun	x	x					x	x		x	x		x
Exciting	x												
Challenging		x									x		
To be useful			x										
Creative				x				x					
Interconnecting clues					x								
Difficult					x								
Practical						x							
Collaboration							x		x				
Different type of lesson								x					x
Speak English									x				
Learning										x			x
Problem solving												x	x
Competition													x

Table B: Question 1. What did you like about the game? Why?

In regards to what the learners like about the activity, two elements were mentioned by two learners; 'Creativity', and 'Problem solving'. This was addressed in the focus group interview

as well. After being briefly introduced to and explained '21st century skills', the learners were asked if they see any relevance of this related to breakout games. In the excerpt from the focus group interview, one student offers his opinion:

> 123: S1. I think it is very relevant, in these tasks you have to think about all the things you (to interviewer) might have thought of. You could have put letters as numbers, like when you had sort of an equation elevated in numbers and when you solved the equation you got some letters. And you have to know math. We didn't get it though, but to solve it you have to be creative to transfer it to other meanings[1].

During the observation, the researcher noticed this aspect of creativity as well. One example is the discussions and testing of hypotheses of possible solutions to clues. Some ideas proved to be correct, while others were proven wrong and needed to be revised. However, the opposite was also apparent, especially in the second group who spent quite a lot of time *searching* for answers to the clues. Instead of discussing and testing out possible solutions, the group did not interact as much with each other, but rather pursued individual strategies of scanning resources and searching the room for the answers.

However, it was also observed how both groups did well with familiar elements from their single previous experience playing a breakout game. Two examples of this are when the clue involved having to transform letters to numbers, and recognizing directional elements for the direction lock. A third example is how to use the UV-light, where learners commented that the teacher is not allowed to write on furniture and walls. During the groups' first experience playing a breakout game, the UV-light was used on walls, chairs, desks and the whiteboard, losing essential time to work on the clues. Also upon finding the first QR-code – the learners immediately downloaded a QR-scanner and understood what to do with it. On the other side, when given the opportunity to leave the room, this was never considered to be an alternative – even though there have been no indications of this being prohibited. In the previous breakout activity, many of the clues were hidden under chairs and desk – and some of the learners spent a significant amount of time looking for clues under furniture this time around as well. This

[1] All excerpts from the findings are translated from Norwegian. Full transcripts from focus group interview can be found in the appendices

indicates that the learners apply previous knowledge from their previous experience, both to their advantage and disadvantage.

What did you not like about the game?

In addition to being asked what the learners liked about the activity, the next question addressed any aspect the learners dislike. Similar to the previous question, this also generated a wide variety of responses.

One response pointed out what the learner perceived as a flaw in the connection between the content and the target competence-aim, "The competence aims connected to the texts didn't stand out as much, since we found the codes in page numbers and math tasks, and that took away the focus". Another response was directed towards the collaboration in the group, "I felt that when we first found a clue, some participants in the group quickly solved the clue without letting others in on solving the task". Yet another participant's response was related to collaboration, "Not much, maybe a bit too hard. But, if we had worked better as a group it might have been easier". As such, the responses given to this question suggests that the learners' 'dislikes' are predominantly connected to individual and group performances. The categorized answers can be seen in Table C.

2: *What did you not like about the game? Why?*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Didn't manage to "break out"		x										x	
Competence aims could be more in focus				x									
Left out of the collaboration									x				
Not knowing what to do						x							
No prize for winning							x						
Too hard								x					
Hard but … negative / positive answer	x										x		x
'Nothing' / Blank			x		x					x			

Table C. What did you not like about the game? Why?

In some of the responses, there were varieties of frustration linked to not knowing what to do, or that the tasks were hard. However, three of these responses were followed by a positive addition acknowledging the challenge to be a positive attribute. During the breakout lesson, many of the learners expressed their frustration when they struggled, however the mood of the

group remained positive throughout. When they finally did manage to solve some of the harder tasks, the joy and enthusiasm of the group was elevated.

The findings from this question, did not provide clear consistencies to what learners dislike about the activity, however it did provide insight in reflections regarding collaboration and communication. During the focus group interview, the issue of collaboration was discussed as well, and upon receiving information that someone felt left out of collaboration, the aspect of individual and group responsibility developed.

117: S1. You yourself are responsible to participate. No but, you do actually have to engage and show that you want to participate. Like, I didn't work hard to try to include those who wasn't bothered to participate that much. It is a bit like, again compared to sports, if you are bad and you can´t be bothered to go to practice, you can´t rely on the others to nag on you to come to practice.
119: Interviewer. (…) I get what you are trying to say. One of the skills (showing S1 on the piece of paper) is to learn how to take initiative, but also to learn how to include others.
120: S1. Yes, but when you have tried to include the others for the 14th time, you get sick of it eventually.
121: S2. It not like if you are working on a task and someone asks what I am doing, I don't answer "Nooo you can´t look".

In the observation, it was not obvious to the researcher that someone was left out deliberately. The general mood of the group was good, and upon direct questions to each other they were answered. However, anytime other than when being directly addressed, communication and collaboration between the small groups (working on a given task at a given time), was sparse. That being said, the researcher did not observe what is described in the focus group either, that some were invited to participate, only to decline.

Do you think breakout games contribute to learning?

Regarding the issue of the activity's possible learning outcome, the responses were more homogenous. All learners agreed that there is potential learning outcome in playing these games, and 9 out of 13 mentioned 'English' as one or more elements. One participant who mentioned learning English as a potential learning outcome wrote, "Yes, because we speak English with each other", and another similar response was, "Yes, because we speak and

read English". A third learner who addressed the same issue elaborated further, "You are challenged to communicate in English and figure everything out in English, so yes. It works well for learning, and at the same time – it's fun". A different perspective was given by another participant, "Yes, I think so. We learn about the topics in a new way. Also, we learn a lot about communication and collaboration". As such, the responses given suggests that the learners perceive the activity to contribute to learning, mainly referring to the topic of the activity, communication and collaboration. Categorized responses to this question can be seen in Table D.

6: *Do you think breakout games contribute to learning? Explain*	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x	x	x	x	x	x	x	x	x	x	x	x
No													
Key terms													
Communicate in English	x	x					x	x	x	x	x	x	x
Knowledge about the topic				x	x								x
Collaboration					x	x							x
'Really use your brain' 'see connections' 'think clearly'			x	x		x				x			
Fun							x						

Table D. Do you think breakout games contribute to learning? Explain.

The most consistent element in the responses was that they practice communication in English, which was mentioned in nine responses. This relates well to observations of the activity, where the researcher only observed a handful of utterances in Norwegian during the 90minute activity. However, having to speak English was one of the rules of the game, so whether that was the main reason for speaking English, or if it is a product of the activity, is hard to determine.

In the focus group interview, the issue of learning outcome was readdressed, and one of the learners offered her perspective of how the activity facilitates practice of speaking 'authentic English'.

101: S1. And you actually learn in a way how to speak without planning your sentences in advance. Like when you speak in class, have presentations and such, many often have a script to know what to say. But if you are going to

> walk around and be able to speak English, you cannot go around and have everything planned for what to say all the time (....)

This shows that elements within the communication spectrum is argued by learners to be facilitated during the activity. Another element mentioned in three responses was 'Knowledge about the topic', and furthermore discussed in focus group interview, where one learner reflected upon the unintentionally learned subject related terms.

> 83: S4. With for example…when you added the links for us to read about ethnocentrism and cultural relativism. We really didn't need to read those text. S3 and I read those texts so many times, so that after the lesson I was certain what it was (ethnocentrism and cultural relativism). And that isn't for certain that I would have if you had had a lecture. I wouldn't have known it as much then. That was probably the intention, so then it worked.

This 'unintentional studying' suggests that the learners gained subject-related knowledge because they read the documents so many times when trying to figure out the clue. Reflections regarding the context of the activity and how this influences the learning outcome were also made in an interaction between two of the focus group participants.

> 86: S2. With us being in an unusual learning situation, makes us remember it better. It does make it more motivating. So that you remember.
> 87: S1. It being different compared to what you are used to; makes you remember it better.

As such, elements mentioned in the questionnaire-responses and during the focus-group interview, indicate that learners perceive the activity to contribute to learning and that their arguments for *why*, indicate that there is potential within a variety of target areas.

What do you think the point of the game was?

The learners were also asked what they think the point of the game was, in the EFL context. Not surprisingly, many responses were similar to the previous question (learning outcome),

with 10 out of 13 responses mentioning learning 'English', and 7 responses including 'Knowledge about the topic'. One response included both 'Topic' and 'English'; "Learning about 'ethnocentrism' and 'cultural relativism', as well as stimulating our English speaking", while another response mentions 'Collaboration' and 'English'; "I think the point of the game was for us to cooperate, in addition to speaking English with each other". Another response includes 'Communication' and 'Connection between topics', "The point was to strengthen oral communication and to teach us to see connection between different topics from the syllabus". One participant answered, "IDK" ('I don't know'), thus categorized as 'Not Sure'.

Learners' responses to this question included more references to 'knowledge about the topic', compared to the question addressing what the learners perceive as the learning-outcome of the activity. This might indicate that the learners who previously did *not* include this in their response to possible learning outcome, acknowledges the intentions behind the activity – but does not believe this to be the case. However, as will be presented in section 4.1.3, a satisfactory number of correct responses were made in topic related questions, which indicates otherwise. Categorized responses to this question can be found in Table E.

7: *What do you think the point of the game was, in the English language classroom?*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
English (communication, read)	x	x		x		x	x	x		x	x	x	x
Topic				x	x		x		x		x	x	x
Connection between topics in the curriculum				x									
Collaboration						x							x
Fun													x
Not sure			x										

Table E. Purpose of the game

Even though only one learner included connecting knowledge of differing topics in the response, this was elaborated further in the focus group interview.

> 108: S2. (…) if there are good quality tasks, we also learn how to connect knowledge to each other. One thing is learning what ethnocentrism is, another thing is how to connect it to multicultural communication and cultural relativism and all of that. Being able to put the knowledge into practice, not just having memorized and know what it is. Because that is the danger, that you know what everything is, but you can't understand it in a context.

What the learner addresses in the abovementioned example agrees with one of the intentions behind the activity. The lesson should introduce the learners to 'intercultural communication', however the intention was also to provide the learners with a contextual framework of the topic's relevance, not only provide reproducible knowledge of definitions related to the topic.

Final comments

A 'final comments' section was added to the end of the questionnaire to give the participants an opportunity to add any additional comments that may not have been suitable in the previous questions. 7 out of 13 learners did not make use of this section, however those who did, expressed what they liked about the game. However, the responses made were slightly different, as some appeared more directed to the teacher compared to the former responses.

One of responses directed towards the teacher was, "This is something we could do more often! ☺". However, most responses given were elaborations or summaries of the participants' perceptions of the activity. One learner wrote, "I think it works well, even though we have never been able to 'break out' of the game. Always fun to test how much we can actually complete", while another wrote; "Fun, exciting, learning. In other words: a brilliant way to learn English effectively". One learner comments on the particular game, "Nothing other than it was a good, demanding, fun, and challenging game". As such, this final comments section generated a variety of positive responses to the activity, however it does not provide new information. The categorized responses can be seen in Table F.

13: ***If you have any final comments regarding the use of breakout games in 'English as a Foreign Language', feel free to add these here***	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Fun	x	x	x				x				x		
Exciting	x												
Learning	x												
English	X												
Challenging			x				x				x		
Do it again		x			x								
Blank				x		x		x	x	x		x	x

Table F. Final comments

4.1.2 Questions based on the observed lesson

In addition to the questions directed in the previous section, some issues regarding collaboration were noted by the researcher when observing the learners. 'A normal breakout lesson' includes a debriefing session after the game is finished addressing observed and experienced issues (see section 2.5.2), however due to the logistics of conducting the research (learners having to go directly to other classes), this was not possible to organize in this lesson. Thus, to gain additional information regarding how the learners experienced these issues, the questions regarding collaboration were added to the questionnaire.

Explain how your team worked together. What was your role(s)?

In the first question addressing individual and team performance, the learners were asked to explain how the team worked as a group, and furthermore describe the role (or roles) of the individual learner. The responses generated two sections, whereas one is the categorization of learners' perception of their team's collaboration, and the other being the learners' responses regarding their role (or roles) in the group. In terms of teamwork or collaboration, 7 out of 13 provided positive feedback regarding how their team collaborated. 2 learners did not address the collaboration aspect, and the remaining 4 suggested that the teams were not sufficiently systematic, or that there was a management deficiency in terms of dividing work. As for what the learners perceived their role to be, 3 learners did not comment on this aspect, and 3 claimed there to be 'no roles'. One learner also made a general comment in regards to the whole group (indicated as GC in table G).

One response was somewhat contradictory in terms of both praising the team's collaboration *and* pointing out organizational difficulties, "We worked well together, but there were no particular roles, so it was a bit disorganized". One of the responses provided a somewhat ambiguous answer, "We worked OK as a group, but some people take up too much space". A more consistently negative response was, "We didn't really work that well as a group. We were bad at dividing work, so there were no particular roles". A consistently positive response was, "We discussed a lot, and worked for the most time as a group – or divide into groups of two. Some did practical tasks, while others thought of different solutions". This suggests an inconsistency in how collaboration is perceived by the learners. However, the issue of collaboration is further addressed in the question of any possible improvements, where the

common denominator is that learners acknowledge possible improvements in collaboration. The categorized answers can be seen in Table G.

3: *Explain how your team worked together. What was your role(s)?*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Positive	x		x			x	x	x		x			x
Not systematic enough/dividing work					x		x				x	x	
Not collaborating enough											x	x	
Blank				x					x				
Roles													
Solve clues	x	x			x				x				xGC
Do practical tasks			x			x							xGC
No role(s)							x	x			x		
Does not specify role				x						x		x	

Table G. Explain how your team worked together. What was your role(s)?

The lack of collaboration was noticed when observing the groups. The groups primarily lacked effective collaboration. The first group however, did better than the second with *some* actions taken to divide work, although not enough to qualify as effective. Even though responses show that the learners did not recognize clear roles within the group, the researcher noticed some subtle roles within the first group. As the first group started the game, one learner took the lead and read aloud to the group what the task involved, and furthermore handed out the different documents to the other learners. This one learner in particular, emerged as a leader, however probably not as a result of a conscious decision. Nevertheless, the other learners tended to turn to him during the game, and he would help any chance he had, but not delegate and make decisions.

Other than the one learner taking initiative in the beginning of the game, the groups did not divide roles or have any significant discussions of how to maximize group efforts. However, some learners acted as helpers to the leader, and some drifted in-between all tasks. It is possible the learners did not quite understand what the question of ‘roles’ indicated in this question, as it seems ‘roles’ is interpreted to being ‘what did you do’. However, in the observation some roles were recognized by the researcher, such as ‘leader’ and ‘the leader’s helpers’, as well as the lack of roles.

Is there anything you would do differently next time?

In regards to individual and team performance, the learners were asked if there was anything they would do differently the next time they play a breakout game. In response to this, 7 out of 13 suggested the need to collaborate or systemize their work better. As a contrast, only 4 learners responded negatively to their team's collaboration in the previous question. 1 learner responded 'Nothing' to this question, but the remaining 13 had suggestions to possible improvements.

One learner suggests, "Divide the group – different roles". Another two similar responses were, "We should have divided the group better – to work on the different tasks, so that not everyone was stuck on the same task", and "Divide into more groups, so that someone is always working on a task – to make it more effective". One response suggests improvements in the game itself, "I would like smaller groups so that everyone can contribute more". One learner suggests better communication, in addition to a specific strategy be more systematic, "Communicate better. Remove the clues we already finished, to make it easier to focus on those that are left". This suggests that the learners recognize that improvements in communication and collaboration have to be made, in order to advance in the game. Categorized answers can be seen in Table H.

4: *Is there anything you would do differently next time? Explain*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Nothing	x												
More systematic/ communicate /divide work		x		x	x		x				x	x	x
Participate more						x							
Smaller groups (facilitate participation)									x				
Finish the game										x			
Think and execute better			x					x					

Table H. Is there anything you would do differently next time? Explain.

Lack of effective collaboration was discussed and recognized in the focus group interview as well.

258: S2. Share more information.
259: S4. Try to not have all working on…Or, I didn't have control over what others did who was not working on my task.

260: S2. Yes, suddenly a lock was open.
261: S4. Yes, what happened there. But I was glad they got it open. But I kind of think that our group would have made it if we weren't so ineffective and so focused on the wrong things. Everyone was doing their own thing. We worked pretty well in the small groups we were in, but the small groups didn't cooperate that well together.
262: Interviewer: How are you going to solve that?
264: S4. I could have probably contributed more than I did.
265: S3. I could have stuck to one task and tried to understand that one. Not try to understand them all at the same time.
266: S4. I did actually think for a long time that we maybe should try to open the books, but I didn't say it out loud. But no one else even looked at them, so I thought it was probably stupid.
267: S3. I didn't even notice then.

The learners' response to this question matches the general impression from the observation – the lack of effective communication. One example is how a small group that emerged in the first group solved a clue and opened the lock without communicating this to the rest of the group. As such, a second group took on solving the clue again, and this was not noticed before the clue was solved again. Another situation was when the second group asked for a hint to a clue that was already partly solved. Had the small group communicated this, they would not have lost one of their hints. However, the smaller groups that emerged mostly discussed and collaborated well. The problem however was that these groups disintegrated quickly, and failed to share their trials and errors to the rest before they started working on something else. However, a few learners were better at communicating what they already tried, but the gist of it was lack of effective collaboration and communication.

On several occasions, a few learners worked on a clue for a longer period of time, not giving up. On the other hand, the majority drifted from one clue to the next. At the very end when time was running out, a couple of learners kept working – not giving up. On the other hand, some became completely paralyzed at the same time.

In the excerpt from the focus group interview above, the learners' discussions and suggestions on how to address the lack of effective collaboration, correspond with observations made by the researcher. This suggests that at least some of the learners, through their reflections, are practicing the skills they are not yet mastering; strategizing how to be more effective by dividing work, assigning roles, and removing information that have been processed to get better focus.

Did you feel like your ideas were heard?

The last reflection-question regarding collaboration, addresses whether the learners felt the rest of the group acknowledged their ideas. No responses given to this question were negative; however, they did provide some further reflections regarding collaboration and individual efforts to being heard. One learner responded, "Yes, but I didn't have many". Another similar response was, "I didn't have many ideas. There was one idea I had, and that was heard by the others". One learner included issues of collaboration in the response, "Yes and no. The ideas I had confidence in – I was able to get out there. When brainstorming ideas there was too much going on at the same time. Just as much my fault, as the rest". Other responses were briefer, such as "Often", and "Sometimes". One learner also included a self-reflection in the response, "When I told my ideas out loud, yes". The responses indicate that the learners regard communication to be positive in the activity, however it also suggests that the communication was ineffective – both in terms of the initiative of providing ideas to the group, and the group efforts to facilitate an environment where such communication is possible. The categorized answers can be seen in Table I.

5: *Did you feel like your ideas were heard? Explain*	**Student**												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x	x	x	x		x	x				x	
Sometimes/Often/Mostly									x	x	x		x
Positive but vague answer						x							
No													

Table I. Did you feel like your ideas were heard? Explain.

The general impression from the observation was that the groups listened to each other quite well. However, when someone had something on their mind – they didn't persist in getting the message across if it was not heard by the rest, or rejected. The learners would say something they felt was important, but when no one noticed; few attempted to get the others attention when the first attempt didn't go through; or elaborate if it was rejected. However, one learner stood out as having control over the available time, and furthermore suggested when it might be beneficial to use a hint. At one time, when suggesting a hint, this was turned down by some of the other group members. The same learner also suggested using a hint when

it was only nine minutes left – and was challenged again – however, this time around she argued it would be beneficial to split the group in two to maximize efforts. The learner who first challenged the suggestion to using a hint, listen to the argument and agreed to the argumentation. However, even though the group agreed to split up in two smaller groups, this swiftly returned to everyone drifting from one clue to the other.

4.1.3 Topic related questions

One of the issues addressed in the Chapter 1 'Introduction' and in Chapter 3 'Literature Review', is how educators tend to focus on the target subject curriculum – not implement elements from the remaining documents of the National Curriculum. When planning the observed breakout lesson, the intention was to address both. As such, to assess the content learning outcome, topic-related questions were added to the questionnaire. However, it is important to note that the observed lesson served as an introduction to a new topic – 'Intercultural Communication'– thus introducing vocabulary and terms unfamiliar to the learners. As such, the teacher would not expect the same result as if the learners had worked with the topic for an extended period of time.

In questions addressing content comprehension, the participants' answers were categorized according to their ability to provide a sufficient answer. As such, the answers are divided into 'Yes' and 'No' – indicating if the answer indicated understanding of the question or term presented. A summary of the topic related questions are provided after summaries of all question are presented.

Is it important to learn about intercultural communication?

The learners were asked whether it is important to learn about intercultural communication, and furthermore to explain why they believe so. In this question, 3 learners answered only 'Yes', and are therefore placed in the 'No' category as their answers did not show understanding of the content. However, to this question, 10 out of 13 responses showed sufficient comprehension to be categorized as 'Yes'. One learner wrote, "It's important to learn about intercultural communication, because if we end up in a situation where our culture clashes with a foreign culture, we know how best to solve conflicts and coexist peacefully".

Another learner wrote, “Yes, because it is important to be able to communicate regardless of background and the culture you are from”. Categorized responses can be seen in Table J.

8: *Is it important to learn about intercultural communication? Explain*	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x		x		x	x	x	x		x	x	x
No			x		x					x			

Table J. Is it important to learn about intercultural communication? Explain.

Explain ethnocentrism

The responses were categorized according to the same principle as the previous question, in ‘Yes’ or ‘No’, depending on whether the answers provided indicated understanding of the term presented. 5 of the responses categorized as ‘No’ were either blank responses, or varieties of “I don’t know”. 5 out of 13 responses showed understanding of the term presented.

One of the learners who did not provide an answer showing understanding of the term wrote, “Where or what culture we are from”. One of the learners that indicated understanding of the term wrote, “This is when you think that other cultures and religions should not be allowed, or that your religion and culture is the only one that is acceptable”. Two additional responses categorized as ‘Yes’ were, “A belief of one’s culture as superior, and declares all other mindsets wrong and less worth”, and “The conviction of that one’s own belief is better than that of others, and the only correct one”. Categorized responses can be seen in Table K.

9: *Explain ethnocentrism, in your own words.*	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes				x	x					x		x	x
No	x	x	x			x	x	x	x		x		

Table K. Explain ethnocentrism, in your own words.

Explain cultural relativism

When asked to explain the term ‘cultural relativism’, the responses were categorized according to the same terms as the previous questions. 5 out of 13 responses qualified as showing

understanding of the term presented. All 7 responses categorized as 'No' were either blank answers, or varieties of "I don't know".

One of the learners who showed understanding of the term wrote, "Cultural relativism is the opposite of ethnocentrism. It is the belief that all cultures are equally valuable, and when you enter a foreign culture's space, you will respect and honor local customs". Another learner wrote, "This is the opposite of ethnocentrism. You still think that your beliefs are right, but you respect how others believe differently". Categorized responses can be seen in Table L below.

10: *Explain cultural relativism, in your own words*.	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes				x	x			x		x		x	x
No	x	x	x			x	x		x		x		

Table : Explain cultural relativism, in your own words.

Explain what a subculture is

The learners were also asked to explain the term 'subculture', and their answers were categorized according to the same terms as the previous questions. 7 out of 13 responses qualified as showing understanding of the term, and 5 out of the 6 answers categorized as 'No' were either blank responses or varieties of "I don't know".

One of the responses recognized as categorized as 'Yes' was, "A small culture within another culture". Another learner elaborated a bit further, "A culture within a culture. For example, the hockey culture is a subculture of the sports culture in Hamar". Categorized responses can be seen in Table M.

11: *Explain what a subculture is, in your own words.*	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes		x		x				x	x	x	x	x	
No	x		x		x	x	x						x

Table M. Explain what a subculture is, in your own words.

Can you give one/more example(s) of how cultural differences can affect communication?

The final question regarding understanding of the subject topic in the activity did produce quite a few more sufficient answers, compared to the previous questions. The learners were asked to provide examples of how cultural differences can affect communication, which in fact sums up the competence aim the lesson was planned according to. Categorized according to the same principles, 11 out of 13 participants showed understanding of the topic as a whole. The two responses categorized as 'No' were blank answers.

One of the learners wrote, "Cultural differences can cause misunderstandings, if the same action or expression has a different meaning in different cultural contexts. Differences and disagreements can cause conflicts that may sever the communication, and prejudice can be an obstacle when you want to rebuild communication". Another learner wrote, "It is easy to misunderstand each other, in a negative way, if you have different customs". The categorized responses can be seen in Table N.

12: *Can you give one/more example(s) of how cultural differences can affect communication?*	**Student**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x		x	x	x	x	x	x	x		x	x
No			x								x		

Table N. Can you give one/more example(s) of how cultural differences can affect communication?

Summary

The responses addressing comprehension of the activity's topic provided 39 out of 65 possible sufficient answers. Only one of the learners did not provide any satisfactory answers, and many of the answers categorized as showing comprehension were made by the same learners. As such, the only conclusions to be made is that some learners show content comprehension deriving from the activity.

4.1.4 Breakout Lesson vs. Regular Lesson

This sections contains a presentation of findings from issues that were addressed only in the focus group interview: a comparison between 'a regular lesson' and a breakout lesson. Most of the discussions in the focus group interview took their starting point from something written on the 'breakout' mind-map which was created as part of a brainstorming session at the start of the interview, and then added on to throughout the interview. However, the conversation quite rapidly shifted back and forth between topics. This section presents the two mind-maps made by the learners (see illustrations 7 & 8), as well as interaction sequences relevant to shed light on the two maps. After presenting findings relevant to this section, a summary is provided. The aspects seen in the mind-maps below were discussed during the interview, and are addressed throughout this section.

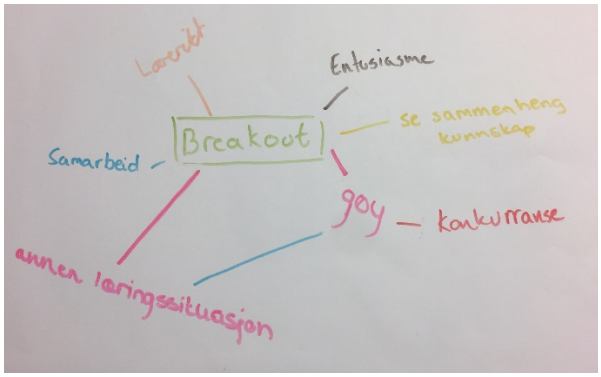


Illustration 7: Mind-map 'breakout game'

Green: Breakout
Brown: Enthusiasm (lack of it)
Orange: Informative [literally "learn-rich"]
Blue: Collaboration
Pink: Different learnings-situation
Pink: Fun
Red: Competition
Yellow: See connections in knowledge

Illustration 8: Mind-map 'regular lesson'

Blue: Regular lesson
Brown: Lack of creativity
Red: Competence aims +/-

As seen in the questionnaire findings, 'fun' was a recurring element mentioned by the learners. This was also the case in the focus group interview, and one of the learners elaborated his perspective of what fun does to a lesson. The interaction sequence below starts with reference to 'a regular lesson':

77: S3: That sometimes it's boring? (laughing)
78: S1: Yes, that (laughing). It' not always fun to sit in class to learn stuff, but when we do things that are okay, there is a lot more enthusiasm, and the motivation to bother trying is a lot higher than when sitting and doing tasks from a book about things that are dead boring.

In the sequence above, the element of fun is connected by the learner to enthusiasm and motivation, and contrasted with a comparison to doing textbook task. Another learner also contrasts and compares playing breakout games to doing textbook tasks, and furthermore compares how the breakout game provides a sense of mastery.

113: S3. At least I get…well we didn't do it but. But you do get a sense of mastery when you make it. Like, I don't get that when I get the control-questions right after each chapter, for the nth time (everyone laughs). "Yes! I did it this time too" (laughs).
114: S4. Yes (laughs). You don't need to finish the game to get a sense of mastery. If you get one lock open, and you are getting there.

That learners experienced a sense of achievement when opening a lock or solving a hard clue (and not when completing post-chapter tasks) might be related to the lesson being different to what they are used to. Such a lesson with playing games provide an element of suspense, and the learners work towards a common goal. When opening a lock, there is an instant response given to the learner as the lock opens and with the other learners' cheer. Most of the locks require the learners to work actively through discussion, pondering, and trying and trying again: When the learners finally manage to open one of them, the mood and motivation instantly rises.

When the learners were asked to create a mind-map in which they were to characterize a 'regular lesson', the discussion primarily revolved around what the learners dislike. In the end, the group eventually came to a consensus of a generalized 'regular lesson'.

176: S2. A regular lesson is going through theory, do tasks, then you get homework for next time, then you continue the next lesson, then a lesson to summarize, then a test. Finished with that chapter.
177: S3. Agree. Agree (pointing at S2)
178: S4. Yes (pointing at S2)
179: S1. And after Christmas, it's all forgotten.
180: S2. Yes.

181: S4. Yes, and then you get everything on the midterm, and you basically have to read up on everything.
182: S2. Yes….one week of stress…then you are done with it.
184: S2. And it's all gone.

What is explained in the sequence above is, something probably many learners and teachers can relate to. Even though this does not reflect *every* lesson, it is still a valid explanation of a traditional approach to a topic. The learners also expressed frustration related to having to read up on 'everything' before mid-term tests. The learners also discussed what they believe to be the reasons for this traditional approach, arguing that this is related to the matter of getting through the syllabus.

191: S3. Everyone has a book they need to get through.
192: S4. Yes.
193: S3. Or…(laughs)
194: S2: Do we really have that (to Interviewer) (laughs).
195: S4. In most subjects (laughs)
196: S3. (To interviewer) We are going through, I am guessing the chapter in the book now is…intercultural communication? Maybe?
197: Interviewer: Yes, there is a chapter called Across Cultures.
198: S1. We can't have exams. Then you get questions from the whole book.
199: Interviewer: No, you'll be fine.
200: S4: Eili [the teacher] decides.
201: Interviewer: Yes, I decide the main task for the oral exam, while the written measure all competence aims. Like the task you have now, is a competence aim. 'Discuss how cultural differences and dissimilar value systems affect communication'. That's the competence aim.

The discussion above reflects that the learners in this specific subject rarely use the subject textbook. Even though they have been informed several times that exams measure competence according to the subject's aims, some still are in doubt. This might suggest that the learners have not been sufficiently informed by the teacher, or that doubt occur as a result of other subjects mainly working according to the subjects' textbooks.

As an aside, the learners began to create their own breakout games based on a chosen competence aim from the subject curriculum after finishing the observed activity and questionnaire. At the time of the interview, these projects were in the start-up phase. As such, this element was decided to be included in the focus group interview to get the learners'

perspective of experiences so far, and furthermore whether they consider whether it is more valuable to make games or play games.

219: S2. Make games.
220: Interviewer: Why?
221: S2. Because if we are going to make good games relevant for the competence aims, then we really have to get into it. We have to read in the book, we have to understand what we are doing on a completely different level. Like, if we have a chapter about a lot different things, we get divided into groups and everyone makes a Power Point presentation. Then you know a lot about <u>your</u> topic, but not much about everything else (…)
223: S1. I think playing. But that is just because…making games ourselves….is hard. And that is….
224: S3. Time consuming? …that we do not like (laughs).
225: S1. No (laughs). That we do not (laughs).
226: S4. It depends how you look at it. Not all topics require you to go in depth. It becomes really specific when you make them yourself. But when you play, you get more width. You get the information a bit more wide. (…)

Although the learners had conflicting opinions regarding this issue, but the discussion offered some insight to the comparison between regular lessons versus breakout lessons, especially with the statement made by 'Student 2' of a typical oral presentation. According to her perception of a 'normal' group presentation, Student 2 argues that it only provides knowledge of a small portion of the group's final product, whilst making a breakout game require an in depth approach and provide understanding at a higher level.

The learners have also tried digital breakout games previous to this case study, and were asked about their opinion regarding the difference between playing physical and digital breakout games, and furthermore which they prefer.

240: S4. The physical, because then you can actually use the room. It's fun, like when we had to go downstairs to find that lock. Get to move around a bit too (everyone laughs).
241: S1. Lack movement in your daily-life (to s4)?
242: S4: No, not like that, but when you are doing something digital, you know that all the information you need is on the page. (…)

Student 4 argues with the observation that the ability to move around is a valued element to the physical breakout activity, compared to playing digital breakout games where all the clues

was connected to the main page of the game. This suggests that the games the learners have played digitally do not create the same level of activity as their experience with physical games, and that Student 4 enjoys the suspense of not knowing what to do.

Summary

When making the two mind-maps, the discussion provided relevant information, which is utilized throughout the findings chapter (see Appendix 6 for full focus-group interview transcription). However, this last section has attempted to draw out the elements which include the comparisons between what the learners perceive to be a 'regular lesson', and what they perceive to be a 'breakout lesson', also including reflections regarding learners making their own physical games, and playing digital games.

The findings show that the learners identify several aspects as positive and valued in playing and making breakout games, contrasted to their understanding of a regular lesson. The learners discussed how breakout games facilitate fun, motivation, in depth knowledge, movement and a sense of achievement. This might be due to the joined efforts towards a common goal, and the response the game provides to their actions. In comparison, a regular lesson is generalized as being a traditional approach to a competence aim, with an introduction to the aim, theory presentation by the teacher, work with tasks related to the topic, summary, and finally a test. The learners also claim that this approach does not provide long-term knowledge, however they do not specify the effect of the researched activity in comparison.

Although the discussion primarily focused on different aspects of the activity researched in this study, illustration 8 (page 59) does not do justice to the amount of time spent discussing the 'so-called' traditional lesson approach. If anything, the illustrations show the learners' associations towards the 'so-called' traditional approach in comparison to the researched activity.

5. Analysis

In this chapter, the findings from the empirical data are discussed and seen in relation to the literature presented in chapter 2 'Literature Review'. The chapter is organized around the study's three sub-objectives:

1. Explore the learners' experience and perceived value of the activity
2. Evaluate how skills practiced by learners during the activity align with the current and developing national standards
3. Critically assess the relationship between the intended, experienced and observed lesson

In section 5.1.1, a summary of the findings is presented to answer the first sub-objective, while section 5.1.2 addresses sub-objective 2. The latter section builds upon the former section, but with an added focus on how the activity aligns with current and developing standards. Section 5.1.3 addresses the third sub-objective. As such, this section brings together the previous two sections about the learners' perceptions and how the skills practiced during the break-out game align with recommended standards. In addition, section 5.1.3 discusses the findings in relation to the literature presented in the literature review in Chapter 2.

5.1.1 Explore the learners' experience and perceived value of the activity

In regards to the learners' perceived learning outcome of the activity, the findings show that the most consistent response was that the activity promotes language learning through facilitating the use of authentic English. Other perceived positive aspects, such as problem-solving, collaboration and knowledge about the topic were also suggested by the learners as results of the activity. 'Knowledge about the topic' is most frequently mentioned as an element learners believe the *purpose* of the activity to be.

In regards to 'likes' and 'dislikes' of the activity, key aspects such as collaboration, challenge, creative, practical, learning and competition were highlighted as positive by the learners. As for what the learners disliked about the activity, the learners mainly addressed issues of individual and group performance. Other elements mentioned as negative were 'no prize for winning', 'left out of collaboration', and varieties of frustration linked to not knowing what to

do. In the latter however, most responses also included an addition of how the challenge was a positive thing.

Comparisons between a so-called 'regular lesson' and the activity, revealed that playing breakout games is associated with creativity and collaboration, communication, problem-solving and connecting knowledge. In addition to adjectives such as exciting, fun and challenging, the findings also revealed that the learners gain a far greater sense of accomplishment than they gain from more traditional activities and approaches to learning.

Comparisons between making and playing breakout games were also made in the focus group interview, and here the opinions were more divided. One learner argued that making games provide a greater learning outcome because of the in-depth work needed to make games. Another learner however felt that the planning of the game had the opposite effect. Some argued playing games are better because it demands less efforts.

In this discussion, one learner contrasted her perception of how the pupils 'normally' work with in depth topics: dividing work between them, and not gaining the same level of insight in their group members work. The learner who argued making games this is more valuable than playing games, argues making games require a higher level of understanding of a topic. However, it is worthwhile noticing that the learners were in the startup phase in making the games at this point. Had the learners finished making the games their responses might have turned out differently since they would then have had the full experience of the process.

Lastly, digital versus physical breakout games were also briefly addressed, and the findings indicate that physical breakout games were preferred. One learner argued that the physical games were better because they can move around to look for clues, and that the digital was not as exciting because they know everything is linked to the main page of the game.

Summary

The study shows that the learners see value in using educational breakout games. Even though both questionnaire responses and focus group discussions painted a nuanced picture, the common denominator was that the learners believe there is a potential learning outcome from playing the games, *and* that they enjoy the sense of accomplishment, frustration, and challenge the game brings. The findings also show that the learners' 'dislikes', are primarily connected to individual and team performance, not to the activity itself.

5.1.2 Evaluate how skills practiced by learners during the activity align with the current and developing national standards

Even though the learners have not yet finished a game within the allotted time, they still express that they like playing the games. The findings showed that the learners appreciate playing breakout games, but as expected in a group of learners, their responses and argumentations for *why* varied. Some value working with practical tasks, some value being able to collaborate with fellow pupils, others enjoy being able to move around the room, and some enjoy the complex 'thinking' tasks. Elements seen in the findings draws clear parallels to 21st century skills.

The inferences made from the findings show that the activity predominantly facilitated collaboration, problem-solving, communication, systems-thinking, and project management. This section evaluates how this relates to the current and developing National Curricula. The literature review (section 2.3.1) indicated how the National Curriculum links with 21st century skills. However, the Education Department recognized a local failure to include all aspects of the curriculum in the daily practice, and are now in the midst of planning a new national curriculum (section 2.3.2). Recommendations for the new curriculum are based on other frameworks of 21st skills, and has led to four areas of competence suggested to be implemented throughout the curriculum:

Box 2.2 Four areas of competence

1. Subject-specific competence in
   - mathematics, natural science and technology
   - languages
   - social studies and ethics
   - practical and aesthetic subjects
2. Being able to learn
   - metacognition and self-regulated learning
3. Being able to communicate, interact and participate
   - competence in reading and writing and, verbal competence
   - collaboration, participation and democratic competence
4. Being able to explore and create
   - creativity and innovation
   - critical thinking and problem-solving

Scientific methods and ways of thinking are dealt with as part of the disciplines in section 1 and section 4. Digital competence is dealt with in section 1, and also in section 3 and section 4.

Illustration 4: Summary of competencies recommended by the Ludvigsen Committee (2015, p. 23).

The skills learners practiced during the activity matches many of the recommendations of the Ludvigsen Committee. Subskills or attributes within 'Being able to learn', 'Being able to communicate, interact, and participate', and 'Being able to explore and create' matches elements found in the practiced lesson. When analyzing the skills learners practiced during the breakout game, this study has made use of ATC21S ('The Assessment and Teaching of 21st century skills') definitions of 21st century skills. These elaborate definitions of each skill are comprised from the main frameworks in which 21st century skills are implemented. Within the different skills, ATC21S has further distinguished specific characteristics which have been divided in to knowledge, skills (sub-skills within each skill), and elements of attitudes, values and ethics. The skills the learners practiced during the breakout game can be found within all four categories 'Ways of thinking', 'Ways of working', 'Tools for working', and 'Living in the world', in ATC21S' definition of 21st century skills.

Ways of thinking

Not only do the skills' titles 'Creativity and innovation' and 'Critical thinking, problem-solving and decision-making' resonate the findings, but distinct features within the skills do as well. Within the skill 'Creativity and innovation', there are several aspects that closely relate with what the activity facilitated. Creative thinking, creative teamwork, communicate new ideas to others effectively, persistence when presenting and promoting new ideas, are examples of features that resonate the findings (Table A, Appendix 2).

The skill 'Critical thinking, Problem Solving, Decision Making' has features that also resemble the findings of this study, such as 'Use systems thinking', 'Solve problems', 'Make reasoned judgments and decisions', and 'Attitudinal disposition' (Table, B, Appendix 2). The skill 'Learning to Learn, Metacognition' does not appear to the same extent as the previous skills within this category, since the activity did not include a reflection session. This could have been implemented in the observed lesson, but since the learners had to go directly to new lessons after the game, this was instead implemented in the questionnaire. However, a feature of the skill is 'ability to concentrate for both short and extended periods', which can be seen as relevant for the activity (Table C, Appendix 2).

Ways of working

Features within the skill 'Communication' and 'Collaboration' (Table D & E, Appendix 2) matches well with the activity. Communication and collaboration were both observed by the teacher and recognized by many of the learners, predominantly to be 'ineffective'. The finding

show that the majority of learners did not communicate their ideas effectively to the group, communicate what they had tried out before leaving a clue, nor inform the group properly of clues that had been solved. 'Communicate better' was also suggested as a possible improvement in playing future games by several of the learners.

'Collaboration' is one of the skills the study proves the activity to facilitate the most. The nature of the game is to collaboratively solve problems, and the definition of the skill include elements such as 'Interact effectively with others', 'Work effectively with others', 'Manage projects', and 'Guide and lead others'. Even though only a few learners responded negatively in regards to group collaboration in the questionnaire, the majority suggested improvement in collaboration to be implemented if playing a game in the future. The findings suggest that collaboration is a relevant aspect in playing breakout games, and thus a facilitator to practice of the skill.

Tools for working

The skills 'Information literacy' and 'ICT literacy' (see Table F & G in Appendix 2) primarily consist of elements linked to accessing, using and evaluating sources, and furthermore how to apply this in analysis and media creation. However, a few elements within the skills matches with the breakout game. Features addressing how to use, assess and manage available information to work both individually and in groups, and furthermore 'ability to use information to support critical thinking, creativity, and innovation in different contexts…' are examples from the skills that links to the activity.

Living in the world

The three skills 'Citizenship, local and global', 'Personal and social responsibility' and 'Life and career' (Table J, K & L, Appendix 2), form the last category of 21st century skills. A few elements match the first two skills, but it is within characteristics of 'Skills' and 'Attitudes/Values/Ethics in 'Life and Career', most links are found. As a whole, the skill links very well with the activity as it addresses collaboration, learner autonomy, adaptability, project management, productivity, and communicative competence. Elements such as 'Adapt to change', Manage goals and time', 'Interact effectively with others', and 'Work effectively in diverse teams' are just a few (see Illustration 10 below).

Skills	Attitudes/Values/Ethics

Adapt to change
• Operate in varied roles, jobs responsibilities, schedules and contexts
Be flexible
• Incorporate feedback effectively
• Negotiate and balance diverse views and beliefs to reach workable solutions
Manage goals and time
• Set goals with tangible and intangible success criteria
• Balance tactical (short-term) and strategic (long-term) goals
• Utilize time and manage workload efficiently
Work independently
• Monitor, define, prioritize and complete tasks without direct oversight
Interact effectively with others
• Know when it is appropriate to listen and when to speak
Work effectively in diverse teams
• Leverage social and cultural differences to create new ideas and increase both innovation and quality of work
Manage projects
• Set and meet goals, prioritize, plan and manage work to achieve the intended result even in the face of obstacles and competing pressures
Guide and lead others
• Use interpersonal and problem-solving skills to influence and guide others toward a goal
• Leverage strengths of others to accomplish a common goal
• Inspire others to reach their very best via example and selflessness
• Demonstrate integrity and ethical behavior in using influence and power
	Adapt to change
	• Be prepared to adapt to varied responsibilities, schedules and contexts, recognize and accept the strengths of others
	• See opportunity ambiguity and changing priorities
	Be flexible
	• Incorporate feedback and deal effectively with praise, setbacks and criticism
	• Be willing to negotiate and balance diverse views to reach workable solutions
	Manage goals and time
	• Accept uncertainty and responsibility and self-manage
	Be self-directed learners
	• Go beyond basic mastery to expand one's own learning
	• Demonstrate initiative to advance to a professional level
	• Demonstrate commitment to learning as a lifelong process
	• Reflect critically on past experiences for progress
	Work effectively in diverse teams
	• Conduct self in a respectable, professional manner
	• Respect cultural differences, work effectively with people from varied backgrounds
	• Respond open-mindedly to different ideas and values
	Produce results
	• Demonstrate ability to:
	  ○ Work positively and ethically
	  ○ Manage time and projects effectively
	  ○ Multi-task
	  ○ Be reliable and punctual
	  ○ Present oneself professionally and with proper etiquette
	  ○ Collaborate and cooperate effectively with teams
	  ○ Be accountable for results
	Be responsible to others
	• Act responsibly with the interest of the larger community in mind

Illustration 9. ATC21S definition of 'Skills', 'Attitudes/Values/Ethics' in 'Life and Career'.

Summary

Elements from all four categories can be found in the skills practiced, but 'Life and career' (Table J, Appendix 2) is by far the skill that aligns with the activity the most. This skill however, includes many aspects found in the definitions of the other skills as well. As such, this indicates that the activity links with many aspects within ATC21S' definition of 21st century skills.

The activity has elements that can be recognized to each of the ten 21st century skills. However, some of the skills' definitions have vague or few links to the activity, as for instance 'Citizenship – local and global', where the only link found is 'willingness to participate in democratic decision-making at all levels'. The illustration does however, show that there are parallels to be found between the activity and the skills. Table A. 'ATC21S 21st century skills' as seen in section 2.2.2 have been reproduced for the sake of convenience to illustrate links found between the different documents in the curriculum and ATC21S' 21st century skills:

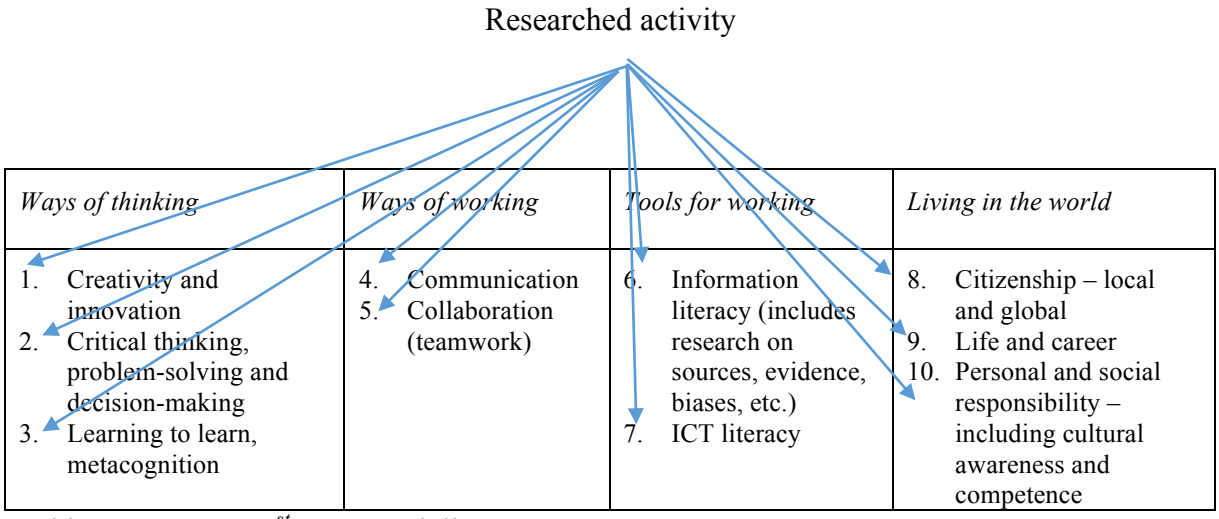


Table A. ATC21S 21st century skills

The study shows that the learners' perceived value and experiences of the activity echo elements within 21st century skills, and furthermore that the activity matches recommendations for the developing curriculum and ATC21S' definitions of different 21st century skills. Chapter 2 'Literature Review' showed that 21st century skills matches elements found in the National Curriculum, and thus indicate that the skills practiced in the activity aligns with the both current and developing standards.

5.1.3 Critically assess the relationship between the intended, experienced and observed lesson

The previous two sections, 5.1.1, and 5.1.2, show that the learners' experience of the activity aligns with elements that the developing curriculum is expected to implement. This section assesses how well the intentions of the lesson matches the learners' experience, and furthermore with 21st century skills.

The intention behind the activity was to introduce a new competence aim from the subject curriculum, and through the 'story' of the game, create a contextual framework for the topic. As such, the activity hopes to provide the learners with learning outcomes relevant to the competence aim – sufficient for an introduction lesson.

The learners have to practice speaking English. Elements such as reading and numeracy from the 'Framework for Basic Skills' were included as individual elements, since these elements are not 'natural side-effects' of playing breakout games. The tasks aimed to require that learners apply knowledge from the previous breakout experience, but other tasks should also

introduce new and unexpected elements. With this, the activity hopefully gives the learners a sense of accomplishment, and the motivation to move on to harder tasks. The difficulty of the tasks should vary from easier to harder, and the nature of the tasks should be both practical and require higher cognitive skills. Some tasks should be separate clues, while other should be interconnected. To be able to finish the game, the overall workload and difficulty should require the learners to participate actively in collaboration, require the need to use hints, divide work according to strengths and weaknesses, and manage time effectively.

Gee argues how multiplayer games can be compared to how modern workplaces assemble teams "…people specialize, but integrate and share, organized around a primary affiliation to their common goals and use their cultural and social differences as strategic recourses, not as barriers" (Gee, 2007, p. 28). Being able to make use of the differences and strengths in the group was one of the intentions behind the activity. The difficulty of the lesson was based on the idea that the learners would have to think about *who did what* – to be able to complete the game within the allotted time; the learners with capacity to solve the hardest tasks, should not have time to finish all the practical and easier tasks *and* solve the more complex tasks. This 'cross-functional affiliation' resembles the intention behind the lesson, however the learners did not utilize their differences, nor did they divide work to maximize their efforts – as recognized by both learners and researcher – and thus did not manage to finish the game within the allotted time.

Gee maintains that learners should be encouraged to take on different identities or roles to explore different domains, with for instance taking on the role as a 'researcher in science'. This is not something that matches well with the activity, but the activity facilitates taking on roles within teamwork – which can be recognized as a feature in the 21st century skill 'Life and Career'; "operate in varied roles, job responsibilities, schedules and contexts" (Table I, Appendix 2). The learners themselves did not experience roles as such, however some unspoken functions were observed such as 'leader' and 'helpers'.

Gee argues agency is created if learners can be 'co-designers' of their own learning. The possibility of using hints in the games provides the learners with the opportunity to take responsibility over when they need additional information. Another aspect which can be seen in relation to this is Gee's argument of how learners should get the information they need 'just in time' or 'on demand' – when they can make use of it. As such, Gee's arguments of learners as 'co-designers' and the principle of getting information 'just in time' or 'on demand', may be related to the use of hints in breakout games. Not only does this provide information to the

learners when they need it enforce agency in the learners, but it also involves the learners having to engage in a democratic decision-making progress which is an element within the 'Living in the world' category of ATC21S' definition of 21st century skills (Table H, Appendix 2). This was one of the intentions behind the activity, and it was furthermore recognized in observation. However, this element does not appear in the findings as something recognized by the learners.

'Levels' as seen in video games, Gee claims to both give learners basic skills to master levels to come, but also provide motivation to keep going. Gee's levels, inspired the planning of the lesson, and was applied through applying both familiar and new elements. The findings showed that the learners did well with the elements they had encountered before, but struggled more with new elements. The findings showed that the learners felt a sense of achievement even though they did not complete the game. Some of the new elements were successfully solved, others were not. This was however, probably mostly due to the groups' lack of project management – both in terms of dividing work and time-management. This is supported by the learners, with the recognition in 'the game was a bit hard, but if we had (…)", indicating acknowledgment and reflection regarding their role in the matter.

Moreover, Dewey argues that learning results from dynamic, active and creative processes – as something we do – by applying knowledge when faced with new challenges (Manger et.al 2011); The activity and interaction the learners were actively engaged in, generates learning. When discussing the physical aspect of the game, one learner addressed how she liked the physical games better than the digital. Being able to 'use the room' and move around was something this learner appreciated compared to playing digital games. In the focus group interview, the learners also argued that the lesson being 'different' made them both more motivated to engage, and furthermore made them remember the content better. The aspect of motivation was also linked to 'fun', which was a reoccurring element throughout the findings. One learner also connected 'fun' with motivation, and another linked 'unusual learning situation' to motivation. As such, this reflects on the context where the learning occurred. This also relates to Gee's argument of how good games can provide *situated meaning*. Gee argues video games to be a good example of how situated meaning develops.

> Even bare adequate games make the meaning of words and concepts clear through experiences the player has and activities the player carries out, not through lectures, talking heads, or generalities. Good games can achieve marvelous effect here, making even philosophical points concrete realized in image and action (Gee, 2007, p. 43).

Even though the learners were not *doing* 'cultural relativism' and 'ethnocentrism', the situation and experience provided a new and contextual layer to the term. The intention with creating a contextual framework for the topic can thus be argued to match the findings in the study.

In the questionnaire, varieties of frustration were mentioned as aspects of the game learners did not like. However, 3 out of 4 of these responses included a positive addition. Frustration linked to when they struggled in the activity, however also acknowledging the challenge to be a positive attribute. This applies to Gee argument of how challenges the learners meet should not be too easy, but what he calls 'pleasantly frustrating'. With tasks being challenging and at the outer edge of – but within – what they are capable of achieving, the learners get a sense of achievement and motivation. The learners did however, as previously mentioned, react differently when faced with obstacles. Some remained focused, while others were paralyzed. As such, the findings show that the intention agree with the learners' experience, and observations made by the researcher. The element of being able to persevere when facing obstacles is an element found within the definition of the 21st century skills 'Life and Career' (Table I, Appendix 2), and 'Collaboration, Teamwork' (Table E, Appendix 2).

In the findings, 'connecting knowledge' was mentioned two separate times. However in the focus group, one of the learners who elaborated upon this issue made a comment of how breakout games of good quality tasks facilitate such connections. The learner points out the possibilities of the games facilitating the learners with a deeper understanding of a topic, rather than only being able to reproduce the definition of a term. Gee also supports the notion of being invested in a given field to give learners "…a deeper understanding, rather than only being able to reproduce information to pass a test" (Gee 2007, p. 33). However, Gee links this to the exploration of identities which does not offer clear parallels to this study. Nonetheless, one of the intention was to introduce a new competence aim while providing relevant terms linked to a 'story' to provide a deeper understanding of the topic. Even though this was recognized by some learners, this was not a consistent argument found in the finding. The topic-related questions in the questionnaire did however indicate that several of the learners could provide sufficient answers showing understanding of the terms presented *and* provide relevant examples of why it is important to learn about intercultural communication. Within the 21st century skill 'Critical thinking, Problem solving, Decision-Making', systems-thinking is an element partly defined as "analyze how parts of a whole interact with each other to produce overall outcomes in complex systems" and "synthesize and make connections

between information and arguments" (Table B, Appendix 2). As such, the finding show that the intention agree with the learners' experience and questionnaire findings.

The most consistent learning outcome perceived by the learners was linked to 'English' or 'Communication'. The main foci of the planned activity were to implement the subject curriculum, and elements within the National Curriculum that echo 21st century skills. Needless to say, speaking English is a fundamental element in EFL, and one of the rules of the game was that the learners had to communicate in English. The findings showed that the activity is recognized by the learners to facilitate the practice of authentic communication, but it also showed that the learners recognized communication to also involve other aspects of interaction. This can be argued to be an aspect of collaboration, but 'Communication' is however a separate 21st century skill (Table G, Appendix 2), and a feature of 'Life and Career' (Table I, Appendix 2). In the latter, this is expressed as 'interact effectively with others' – which was both observed and experienced – as being mainly ineffective.

A comment was made in the focus group interview of how the learner *unintentionally* learned subject related terms from the activity. Even if the learners were not *studying* to gain such knowledge, it was a positive side effect to playing the game. Even though this was *intentionally* included in the game, it can be argued to apply to Dewey's argument of the potential of unintentional learning during play and casual conversations between learners. This contrasts the intentions of the teacher and the perceptions of the learners, but this is one of Dewey's main arguments – the teacher should facilitate learning – not manage. The quote introducing this thesis (section 1.1), is very relevant to this 'unintentional' learning:

> Kids often say it doesn't feel like learning when they are gaming – they're much to focused on playing. If kids were to say that about a science lesson, our country's education problems would be solved (Gee, 2003)

Even though this is a bold statement to associate to the activity, it is still a pertinent comparison. The learners were too preoccupied with the game to realize they were learning subject terms. However, this activity will not be argued to solve any education problems – but is does appear to be a relevant approach to be included as *an addition* in this researchers practice.

6. Conclusions

The main purpose of this study was to explore a possible approach to addressing both the EFL subject curriculum, as well as the rest of the National Curriculum. However, the current national curriculum from 2006 is in the process of being replaced, and a new curriculum is expected to be implemented within the next few years. This researcher has thus made an effort to plan ahead while still considering the standards of today. An educational breakout games platform 'Breakout EDU', claims to both facilitate subject content knowledge and foster 21st century skills (see section 2.5.2). This claim provided the seed to the overarching research question: *What, if any, are the possible benefits of using breakout games in the EFL classroom?*

To address this issue, the three specific sub-objectives within the context of one EFL classroom, were to:

1. *Explore the learners' experience and perceived value of the activity*.
2. *Evaluate how skills practiced by learners during the activity align with the current and developing standards*
3. *Critically assess the relationship between the intended, experienced and observed lesson*.

This chapter revisits the sub-objectives, summarizes the case study findings, and offers final conclusions based on these discoveries. Section 6.1 summarizes and concludes about learner experiences and perceptions of the activity, followed in section 6.2 by an evaluation of how well the skills practiced in the activity link to 21st century skills. Section 6.3 concludes about and assesses the relationship between the intended, experienced and observed lesson. Finally, section 6.4 rounds up this study by offering final conclusions and reflections. This final section also addresses limitations of the study, before recommendations for further research are made.

6.1 Explore the learners' experience and percieved value of the activity

Section 5.1.1 in Chapter 5 'Analysis' addressed sub-objective 1 *Explore the learners' experience and perceived value of the activity*. The findings from the case study research show that the learners perceive the activity to be relevant, challenging, informative, fun and motivating. The main conclusion to be drawn from the learners' reflections is that the approach

is not only valued as 'fun', but also recognized as relevant for the learners' development within a range of target areas (arguably more important from a pedagogical perspective). A few examples are listed below to illustrate some of the basis for this conclusion:

1. *You are challenged to communicate in English and figure everything out in English, so Yes. It works well for learning, and at the same time – it's fun.*
2. *(...) We learn about the topics in a new way. Also, we learn a lot about communication and collaboration.*
3. *(...) in these tasks you have to think about all the things you (to interviewer) might have thought of. You could have put letters as numbers, like when you had sort of an equation elevated in numbers and when you solved the equation you got some letters. And you have to know math. We didn´t get it though, but to solve it you have to be creative to transfer it to other meanings.*
4. *The point was to strengthen oral communication and to teach us to see connections between different topics from the syllabus.*

In (1) we see that the learner enjoyed the activity, even though he also regarded it to be challenging. Forcing learners to interact solely in the target language enables more focused practice of authentic communication. Furthermore, in (2) we see that the learner argues the activity to facilitate learning outcomes in subject content, collaboration and communication. The activity's combined focus on subject-specific material in a complex context require the learners to actively communicate and collaborate to be able to finish the game. In (3) the learner describes how systems-thinking and numeracy is needed to solve some of the complex elements in the game. Lastly, in (4) we see that the learner regards the activity to strengthen communicative skills and furthermore provide a context where transferring knowledge from differing topics is possible. By building the game around a 'storyline', there are endless opportunities to add elements from previous topics, focus areas and experiences.

These statements, among many others found in the empirical data, suggest that the learners see the activity as a facilitator for practice of not only subject content, but also for a range of general areas for development, such as numeracy, literacy and communicative competence.

6.2 Evaluate how skills practiced by learners during the activity align with the current and developing standards

Section 5.1.2, addressed sub-objective 2 *Evaluate how skills practiced by learners during the activity align with the current and developing standards*. The literature review indicates that elements found in both the current and the developing national standards link to 21st century skills, and furthermore that the activity links to both the current and developing standards.

As described in section 2.3.1, The National Curriculum includes several documents describing learners' rights, educators' responsibilities, and curricula content. The 'Core Curriculum' describes how education should facilitate growth and development of the 'whole' human being. In the seven areas of focus, elements such as collaboration, self-assessment and project-management are included, however, more implicitly through descriptions of how teachers and various learning environments facilitate such development.

'The Quality Framework', includes more explicit elements and requirements of educators, such as "… school…shall ensure that pupils are trained in various types of interaction and problem and conflict solving…", and "The education shall help to develop…mastering of various roles in society, working life and leisure actives" (The Royal Ministry of Education and Research, 2006a, p3). Communicative competence, problem-solving and the undertaking of different roles are elements recognized as practiced by the learners when playing breakout games.

Lastly, 'Framework for Basic Skills' include focus on specific focus areas argued to be essential elements in every subject. Digital skills, oral and written communication competence, reading skills and numeracy, are included in every subject curriculum, and furthermore link to 21st century skills. All but 'digital skills' were present in the activity.

All of these documents *combined* links the National Curriculum to 21st century skills. Suggestions for the new curriculum echo 21st century skills with elements such as 'being able to communicate, interact and participate', 'being able to learn' and 'being able to explore and create'. Looking at both the current and the developing national standards, there are clear links to 21st century skills, and this study's findings indicate that breakout games have a great deal of potential in terms of matching closely with many features found within ATC21S' definitions of 21st century skills. The activity's often vague clues require learners to analyze and apply systems thinking. To be able to complete the game within the allotted time, all

learners had to participate, collaborate and communicate, *and* utilize the group's diversity and strengths. A main conclusion is thus that the activity can be argued to be a valuable addition in the EFL classroom. However, the results also show that there is unutilized potential in the activity, compared to what the learners actually practiced.

6.3 Critically assess the relationship between the intended, experienced and observed lesson

Section 5.1.3 addressed sub-objective 3 *Critically assess the relationship between the intended, experienced and observed lesson*. Discussion in this section was seen in the light of inferences made from the previous sections and the literature presented in Chapter 2. The two main objectives with the breakout lesson were that the learners should practice various 21st century skills, and acquire subject-specific knowledge about the field 'intercultural communication'.

One of the intentions with the breakout game was that the learners had to make conscious decisions in terms of 'project management' to be able to finish the game within the given timeframe. The fact that the learners did not manage to complete in time arguably validates the need to practice this skill further. The empirical data as a whole clearly links with ATC21S' definition of 21st century skills, which in turn relates to Dewey's perspective of education. Dewey values the active participant learner and regards learning to be a result of 'dynamic active and creative processes' (Manger, et.al, 2011). Moreover, Dewey maintains that education (during his lifetime) did not foster liberal and autonomous learners, but primarily focused on reproducible knowledge. He argued that one potential solution was through the facilitation of collaboration and problem-solving. What Dewey promotes is recognized in inferences made from observing the learners, the learners' responses, and the focus group interview. Moreover, the activity is recognized by the learners and the researcher to facilitate active learners collaborating in solving problems with subject-content placed in a context.

Dewey's argument of the potential in unintentional learning that occur in casual conversations and through play (Manger, et.al, 2011), is supported in the findings. However, the findings show that there is a contrast between this particular intention and learners' perceptions. One of the intentions with the lesson was to introduce topical terms in the resources of the game, and thus expose the learners to the material in a meaningful context and thereby promote a

subject content learning outcome. Post-activity responses indicated that this goal was successfully reached by many learners, who were able to explain the concepts of intercultural communication introduced through the breakout game. Even though this had been a conscious intention underlying the design of the activity, the learners perceived such learning to be unintentional, almost as a side effect of the game. This contrast links to Dewey's argument of potential learning outcome through play and casual conversation.

Gee has as similar argument with respect to how video games have the same 'unintentional' effect; players do not perceive that they are learning while playing the games, because they are focused on *playing*. In addition to the 'bonus' learning outcome of playing games, other elements found in Gee's principles for learning are supported by the findings. Gee developed his principles for learning from inferences made from his study of what he refers to as 'good video games'. Gee argues education should facilitate activities that enable learner agency, and furthermore that educational activities should be constructed in a way that challenges the learners and provides motivation.

According to Gee, one highlighted feature of education should be problem-solving, which he argues is a fundamental element to becoming a productive member of society. Furthermore, through education, learners should explore different identities and roles connected to different target domains, in a risk-free environment. The learners should be actively engaged in tasks, and consciously aware of the learning strategies that best suit them. Furthermore, Gee maintains that learners' actions and accomplishments should resonate further focus in their training. Gee's 'principles for learning' match well with 21st century skills, and also with many of elements found in the study.

6.4 Final conclusions, reflections and recommendations for futher research

The motivation for this study was the desire to explore a possible approach to address both subject content and the rest of the National Curriculum in my daily practice as an EFL teacher. The literature review showed that both the current and developing National Curriculum links to 21st century skills, and thus the focus became to explore an approach that facilitates the acquisition of subject content and 21st century skills. The company behind an online educational breakout games platform, 'Breakout EDU', claims breakout games enable such

twofold focus. The main objective of conducting this case study was thus to explore the approach, and furthermore come to an educated decision in regards to the use of breakout games in the EFL classroom. To reach this objective, this study has cast some light on the study's overarching research-question *What, if any, are the possible benefits of using breakout games in the EFL classroom?* To explore this question, a case study research method was applied to find how the learners perceived and experienced the activity, and furthermore investigate which skills the learners practiced in the activity.

Gee found in this study of video-games, that players did not feel like they were learning when playing:

> Kids often say it doesn't feel like learning when they're gaming – they're much too focused on playing. If kids were to say that about a science lesson, our country's education problems would be solved (Gee, 2003).

This claim is supported by the findings of the present study. Learners attain subject knowledge and practice 21st century skills without recognizing it when playing. Gee maintains that there is a need to reconsider how to approach teaching, however there is no single answer of *how*. This study provides a partial answer to 'how': learners experience the breakout activity promoted learning and increased their motivation, and they specifically linked the game to 'fun', and the fact that it created a 'different learning situation'. While fun should not be 'the' goal of a lesson, it may stimulate learning.

As recognized by the wide focus of implementing 21st century skills in frameworks around the world, today's learners are expected to be persistent, creative and flexible to meet tomorrow's demands. They need to be able to communicate and collaborate well with people from different backgrounds. Gee supports this perspective, and maintains that the learners of today will not become effective resources in society without the ability to solve complex problems, and that time spent in school should develop life strategies in the learners (Gee, 2007). Nevertheless, current learning outcomes in Norwegian schools are almost exclusively linked to the level at which learners have gained knowledge of a particular topic or competence aim. This is however suggested to change in the developing curriculum, but to what extent is not yet clear.

There are few significantly negative learner experiences or perceptions presented in this study. However, some learners perceived the task to be too hard, some suggested improvements and others whished there was a prize for winning the games, but not more than to what is expected

of a teacher. Even though few disadvantages are mentioned in this thesis, the activity is somewhat time-consuming and require teachers to alter their practice to some extent. The primary limitation of this case study is that it only researched *one* group of learners in *one* breakout lesson. The findings about the potential benefits of breakout games in the English classroom should therefore not be generalized to a wider population.

In the focus group interview, making games versus playing games was discussed. The learners were at this point in the planning and starting phase of making their own games, and the discussion led to divided opinions regarding which was most valuable. However, at the time of the conclusion of this thesis (as of May 2017), the learners have finished making their games and furthermore facilitated breakout-lessons to other learners with no previous experience with the approach. Some of the comments made by learners participating in this case study research when watching other learners playing their games were:

- *So this is how we look when we are playing*
- *Why are they just standing around doing nothing?*
- *It was so frustrating to watch how 'she' read one of right answer out loud but nothing happened. 'She' had it right there.*
- *Do we really look like this when playing?*

In addition to the smaller comments made during and right after the games, some of the learners also suggested that they would have been able to answer questions in this study better if it had been conducted after they were finished making the games, because making the games made them see the activity in a different light. On that note, the recommendation for future research in this field is to conduct a longitude research study to measure possible development of 21st century skills from both *making* and *playing* breakout games.

So what will the future bring? This researcher can only speculate, but virtual breakout games enabling learners to 'take part' in the story in the desired 'context' is a possible development. Learners exploring and solving mysteries from an historical or futuristic perspective? Joining Columbus on one of his quests, or trying to free Nelson Mandela from Robben Island? What about walking around the White House trying find the presidents missing diary? The possibilities with technology are endless, and this researcher is looking forward to finding out.

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Appendix 1: Information and consent form

Information regarding participation in research project

The effects of breakout games in the EFL classroom

Background and purpose

This study is part of a master's study at Hedmark University College. The intention with this study is to observe interaction in a given lesson activity. All consenting participants will contribute in creating the foundation of the study.

What does participation in the study involve?

By consenting to participate in the study, you are consenting to a lesson being videotaped, and furthermore answer a questionnaire linked to this lesson. Some will also be asked to participate in a focus group interview at a later point. This is optional, and you are free to accept or decline this invitation.

Upon request, parents are welcome to see questionnaire, and the interview-guide for the focus group interview.

What will happen to your personal information?

All personal information is confidential, and will be treated as such. Only the researcher and the project supervisor will be given access to personal information, and all identifiable material will be anonymized and properly deleted. When video and audio from the lesson is transcribed (speech transformed to written text), material from questionnaire and focus group interview is processed, all material will be permanently deleted. When the study is published as part of the master's thesis, the participants will not be subject for identification. The project is scheduled to be conducted in February and March 2017.

Voluntary participation

Participation in the study is voluntary, and you are free to withdraw you consent at any time – without providing explanation for your withdrawal. If you do decide to withdraw from the study, all information will be anonymized.

If you wish to participate or have any questions regarding the study, please contact Eili Korntorp Paulsen: eili.pauslen@wang.no or 91181448. Questions regarding the study can also be directed to the project supervisor Susan Nacey, Pro Dean Research at Hedmark University College: susan.nacey@hihm.no or 625 17 628.

The research project is reported to the NSD (Norwegian Social Science Data Services).

Participation in study – consent form

I have received information regarding the study, and wish to participate in:

I consent to participate in recorded (video and audio) lesson ☐

I consent to answer a questionnaire regarding the recorded lesson ☐

I consent to participate in focus group interview following to the recorded lesson ☐

(Signature - study participant, date)

(Signature – parent of study participant, date)

Appendix 2: ATC21S Defining 21st century skills tables

Knowledge	Skills	Attitudes/Values/Ethics
Think and work creatively and with others • Know a wide range of idea creation techniques (such as brainstorming) • Be aware of invention, creativity, and innovation from the past within and across national boundaries and cultures • Know the real-world limits to adopting new ideas and how to present them in more acceptable forms • Know how to recognize failures and differentiate between terminal failure and difficulties to overcome **Implement Innovations** • Be aware of and understand where and how innovation will impact and the field in which the innovation will occur • Be aware of the historical and cultural barriers to innovation and creativity	**Think creatively** • Create new and worthwhile ideas (both incremental and radical concepts) • Be able to elaborate, refine, analyze and evaluate one's own ideas in order to improve and maximize creative efforts **Work creatively with others** • Develop, implement and communicate new ideas to others effectively • Be sensitive to the historical and cultural barriers to innovation and creativity **Implement Innovations** • Develop innovative and creative ideas into form that have impact and be adopted	**Think creatively** • Be open to new and worthwhile ideas (both incremental and radical concepts) **Work creatively with others** • Be open and responsive to new and diverse perspectives; incorporate group input and feedback into the work • View failure as an opportunity to learn; understand that creativity and innovation is a long-term, cyclical process of small successes and frequent mistakes **Implement innovations** • Show persistence in presenting and promoting new ideas

Table A. Ways of thinking – creativity and innovation

Knowledge	Skills	Attitudes/Values/Ethics
Reason effectively, use systems thinking and evaluate evidence • Understand systems and strategies for tackling unfamiliar problems • Understand the importance of evidence in belief formation. Reevaluate beliefs when presented with conflicting evidence **Solve problems** • Identify gaps in knowledge • Ask significant questions that clarify various points of view and lead to better solutions **Articulation** • Clearly articulate the results of one's inquiry	**Reason effectively** • Use various types of reasoning (inductive, deductive, etc.) as appropriate to the situation **Use systems thinking** • Analyze how parts of a whole interact with each other to produce overall outcomes in complex systems. Examine ideas, identify, and analyze arguments. • Synthesize and make connections between information and arguments • Interpret information and draw conclusions based on the best analysis. Categorize, decode and clarify information • Effectively analyze and evaluate evidence, arguments, claims and beliefs • Analyze and evaluate major alternative points of view • Evaluate. Assess claims and arguments • Infer. Query evidence, conjecture alternatives and draw conclusions • Explain. Stating results, justifying procedures and presenting arguments • Self-regulate, self-examine and self-correct	**Make reasoned judgements and decisions** • Consider and evaluate major alternative points of view • Reflect critically on learning experiences and processes • Incorporate these reflections into the decision-making process. **Solve problems** • Be open to non-familiar, unconventional and innovative solutions to problems and to ways to solve problems • Ask meaningful questions that clarify various points of view and lead to better solutions **Attitudinal disposition** • Trustful of reason • Inquisitive and concerned to be well informed • Open and fair minded • Flexible and honest • Inquisitiveness and concern to be well informed • Alert to opportunities to use ICT • Trustful of and confident in reason • Open and fair minded, flexible in considering alternative opinions • Honest assessment of one's own biases • Willingness to reconsider or revise one's views where warranted

Table B. Ways of thinking – critical thinking, problem solving, decision making

Knowledge	Skills	Attitudes/Values/Ethics
• Knowledge and understanding of one's preferred learning methods, the strength and weaknesses of one's skills and qualifications • Knowledge of available education and training opportunities and how different decisions during the course of education and training lead to different careers	• Effective self-management of learning and careers in general. Ability to dedicate time to learning, autonomy, discipline, perseverance and information management in the learning process • Ability to concentrate for extended as well as short periods of time • Ability to reflect critically on the object and purpose of learning • Ability to communicate as part of the learning process by using appropriate means (intonation, gesture, mimicry, etc.) to support oral communication as well as by understanding and producing various multimedia messages (written or spoken language, sound, music, etc.)	• A self-concept that supports a willingness to change and further develop skills as well as self-motivation and confidence in one's capability to succeed • Positive appreciation of learning as a life-enriching activity and a sense of initiative to learn • Adaptability and flexibility • Identification of personal biases

Table C. Ways of thinking – learning to learn, metacognition

Knowledge	Skills	Attitudes/Values/Ethics
Competency in language in mother tongue • Sound knowledge of basic vocabulary, functional grammar and style, functions of language • Awareness of various types of verbal interaction (conversations, interviews, debates, etc.), and the main features of different styles and registers in spoken language • Understanding the main features of written language (formal, informal, scientific, journalistic, colloquial, etc.) **Competence in additional language** • Sound knowledge of basic vocabulary, functional grammar and style, functions of language • Understanding the paralinguistic features of communication (voice-quality features, facial expressions, postural and gesture systems) • Awareness of societal conventions and cultural aspects and the variability of language in different geographical, social and communication environments	**Competency in language in mother tongue and additional language/s** • Ability to communicate, in written or oral form, and understand, or make others understand, various messages in a variety of situations and for different purposes • Communication includes the ability to listen to and understand various spoken messages in a variety of communicative situations and to speak concisely and clearly • Ability to read and understand different texts, adopting strategies appropriate to various reading purposes (reading for information, for study, or for pleasure) and to various text types • Ability to write different types of texts for various purposes, and monitor the writing process (from drafting to proofreading) • Ability to formulate one's arguments, in speaking or writing, in a convincing manner and take full account of other viewpoints, whether expressed in written or oral form • Skills needed to use aids (such as notes, schemes, maps) to produce, present or understand complex texts in written or oral form (speeches, conversations, instructions, interviews, debates)	**Competency in language in mother tongue** • Development of a positive attitude to the mother tongue, recognizing it as a potential source of personal and cultural enrichment • Disposition to approach the opinions and arguments of others with an open mind and engage in constructive and critical dialogue • Confidence when speaking in public • Willingness to strive for aesthetic quality in expression beyond the technical correctness of a word/phrase • Development of a love of literature • Development of a positive attitude to intercultural communication **Competency in additional language/s** • Sensitivity to cultural differences and resistance to stereotyping

Table D. Ways of working – communication

Knowledge	Skills	Attitudes/Values/Ethics
Interact effectively with others • Know when it is appropriate to listen and when to speak **Work effectively in diverse teams**	**Interact effectively with others** • Speak with clarity and awareness of audience and purpose. Listen with care, patience and honesty • Conduct themselves in a respectable, professional manner **Work effectively in diverse teams**	**Interact effectively with others** • Know when it is appropriate to listen and when to speak • Conduct themselves in a respectable, professional manner **Work effectively in diverse teams** • Show respect for cultural differences and be prepared to

• Know and recognize the individual roles of a successful team and know own strengths and weaknesses, and recognizing and accepting them in others **Manage projects** • Know how to plan, set and meet goals and to monitor and re-plan in the light of unforeseen developments	• Leverage social and cultural differences to create new ideas and increase both innovation and quality of work **Manage projects** • Prioritize, plan and manage work to achieve the intended group result **Guide and lead other** • Use interpersonal and problem-solving skills to influence and guide others toward a goal • Leverage strengths of others to accomplish a common goal • Inspire other to reach their very best via example and selflessness • Demonstrate integrity and ethical behavior in using influence and power	work effectively with people from a range of social and cultural backgrounds • Respond open-mindedly to different ideas and values **Manage projects** • Persevere to achieve goals, even in the face of obstacles and competing pressures **Be responsible to others** • Act responsibly with the interests of the larger community in mind

Table E. Ways of working – collaboration, teamwork

Knowledge	Skills	Attitudes/Values/Ethics
Assess and evaluate information • Access information efficiently (time) and effectively (sources) • Evaluate information critically and competently **Use and manage information** • Use information accurately and creatively for the issue or problem at hand • Mange the flow of information from a wide variety of sources • Apply a fundamental understanding of the ethical/legal issues surrounding the access use of information • Basic understanding of the reliability and validity of the information available (accessibility/acceptability) and awareness of the need to respect ethical principles in the interactive use IST **Apply technology effectively** • Use technology as a tool to research, organize, evaluate and communicate information • Use digital technologies (computers, PDAs, media players, GPS etc.) communication/networking tools and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy	**Access and evaluate information** • Ability to search, collect and process (create, organize, distinguish relevant from irrelevant, subjective from objective, real from virtual) electronic information, data and concepts and to use them in a systematic way **Use and manage information** • Ability to use appropriate aids, presentations, graphs, charts and maps to produce, present or understand complex information • Ability to access and search a range of information media including the printed word, video and websites and to use internet-based services such as discussion fora and e-mail • Ability to use information to support critical thinking, creativity, and innovation in different contexts at home, leisure and work • Ability to search, collect, and process written information, data, and concepts in order to use them in study and to organize knowledge in a systematic way; Ability to distinguish, in listening, speaking, reading and writing, relevant information	**Information** • Propensity to use information to work autonomously and in teams; critical and reflective attitude in the assessment of available information **Use and manage information** • Positive attitude and sensitivity to safe and responsible use of the Internet, including privacy issues and cultural differences • Interest in using information to broaden horizons by taking part in communities and networks for cultural, social and professional purposes

Table F. Tools for working – information literacy

Knowledge	Skills	Attitudes/Values/Ethics
Access an evaluate information and communication technology • Understanding the main computer applications, including word processing, spreadsheets, databases, information storage and management	**Access and evaluate information and communication technology** • Access ICT efficiently (time) and effectively (sources) • Evaluate information and ICT tools critically and competently **Use and manage information**	**Access and evaluate information and communication technology** • Be open to new ideas, information, tools and ways of working, but evaluate information critically and competently

• Awareness of the opportunities given by the use of Internet and communication via electronic media (e-mail, videoconferencing, other network tools) and the difference between the real and virtual world **Analyze media** • Understand both how and why media messages are constructed, and for what purposes • Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors • Understand the ethical/legal issues surrounding the access and use of media **Create media products** • Understand and know how to effectively utilize the most appropriate media creation tools, characteristics and conventions • Understand and know how to effectively utilize the most appropriate expressions and interpretations in diverse, multi-cultural environments	• Use ICT accurately and creatively for the issue or problem at hand • Manage the flow of information from a wide variety of sources • Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of ICT and media • Employ knowledge and skills in the application of ICT an media to communicate, interrogate, present and model **Create media products** • Utilize the most appropriate media creation tools, characteristics and conventions, expressions and interpretations in diverse, multi-cultural environments **Apply technology effectively** • Use technology as a tool to research, organize, evaluate and communicate information • Use digital technologies (computers, PDAs, media players, GPS, etc.) communication/networking tools, and social networks appropriately to access, manage, integrate, evaluate and create information to successfully function in a knowledge economy • Apply a fundamental understanding of the ethical/legal issues surrounding the access and use information technologies	**Use and manage information** • Use information accurately and creatively for the issue or problem at hand respecting confidentiality, privacy and intellectual rights • Manage the flow of information from a wide variety of sources with sensitivity and openness to cultural and social differences • Examine how individuals interpret messages differently, how values and point of view are included or excluded, and how media can influence beliefs and behaviors **Apply and employ technology with honesty and integrity** • Use technology as a tool to research, organize, evaluate, communicate information accurately and honestly with respect for sources and audience • Apply a fundamental understanding of the ethical/legal issues surrounding the access and use of information technologies

Table G. Tools for working – ICT literacy

Knowledge	Skills	Attitudes/Values/Ethics
• Knowledge of civil rights and the constitution of the home country, the scope of its government • Understand the roles and responsibilities of institutions relevant to the policy-making process at local, reginal, national, and international level • Knowledge of key figures in local and national governments; political parties and their policies • Understand concepts such as democracy, citizenship, and the international declarations expressing them • Knowledge of the main events, trends and agents of change in national and world history • Knowledge of the movements of peoples and cultures over time around the world	• Participation in community/neighborhood activities as well as in decision-making at national and international levels; voting in elections • Ability to display solidarity by showing an interest in and helping to solve problems affecting the local or the wider community • Ability to interface effectively with institutions in the public domain • Ability to profit from the opportunities given by the home country and international programs	• Sense of belonging to one's locality, country, and (one's part of) the world • Willingness to participate in democratic decision-making at all levels • Disposition to volunteer and to participate in civic activities, support for social diversity and social cohesion • Readiness to respect values and privacy of others with a propensity to react against anti-social behavior • Acceptance of the concept of human rights and equality; acceptance of equality between man and women • Appreciation and understanding of differences between value systems of different religious or ethnic groups • Critical reception of information from mass media

Table H. Living in the world - Citizenship, local and global

Knowledge	Skills	Attitudes/Values/Ethics
Adapt to change • Be aware that the 21st century is a period changing priorities in employment, opportunity and expectations • Understand diverse views and beliefs particularly in multicultural environments **Manage goals and time** • Understand models for long, medium and short term planning and balance tactical (short-term) and strategic (long-term) goals **Be self-directed learners** • Identify and plan for personal and professional development over time and in response to change and opportunity **Manage projects** • Set and meet goals, even in the face of obstacles and competing pressures • Prioritize, plan and manage work to achieve the intended result	**Adapt to change** • Operate in varied roles, jobs responsibilities, schedules, and contexts **Be flexible** • Incorporate feedback effectively • Negotiate and balance diverse views and beliefs to reach workable solutions **Manage goals and time** • Set goals with tangible and intangible success criteria • Balance tactical (short-term) and strategic (long-term) goals • Utilize time and manage workload efficiently **Work independently** • Monitor, define, prioritize, and complete tasks without direct oversight **Interact effectively with others** • Know when it is appropriate to listen and when to speak **Work effectively in diverse teams** • Leverage social and cultural differences to create new ideas and increase both innovation and quality of work **Manage projects** • Set and meet goals, prioritize, plan and manage work to achieve the intended result even in the face of obstacles and competing pressures **Guide and lead others** • Use interpersonal and problem-solving skills to influence and guide others toward a goal • Leverage strengths of others to accomplish a common goal • Inspire others to reach their very best via example and selflessness • Demonstrate integrity and ethical behavior in using influence and power	**Adapt to change** • Be prepared to adapt to varied responsibilities, schedules and contexts; recognize and accept the strengths of others • See opportunity ambiguity and changing priorities **Be flexible** • Incorporate feedback and deal effectively with praise, setbacks and criticism • Be willing to negotiate and balance diverse views to reach workable solutions **Manage goals and time** • Accept uncertainty and responsibility and self-manage **Be self-directed learners** • Go beyond basic mastery to expand one's own learning • Demonstrate initiative to advance to a professional level • Demonstrate commitment to learning as a lifelong process • Reflect critically on past experiences for progress **Work effectively in diverse teams** • Conduct self in a respectable, professional manner • Respect cultural differences, work effectively with people from varied backgrounds • Respond open-mindedly to different ideas and values **Produce results** • Demonstrate ability to: ○ Work positively and ethically ○ Manage time and projects effectively ○ Multi-task ○ Be reliable and punctual ○ Present oneself professionally and with proper etiquette ○ Collaborate and cooperate effectively with teams ○ Be accountable for results • Be responsible to others ○ Act responsibly with the interest of the larger community in mind

Table I: Living in the world – life and career

Knowledge	Skills	Attitudes/Values/Ethics
• Know the codes of conduct and manners generally accepted or promoted in different societies • Awareness of concepts of individual, group, society and culture and the historical evolution of these concepts • Knowledge of how to maintain good health, hygiene and nutrition for oneself and one's family • Knowledge of the intercultural dimensions in their own and other societies	• Ability to communicate constructively in different social situations (tolerating the views and behavior of others; awareness of individual and collective responsibility) • Ability to create confidence and empathy in other individuals • Ability to express one's frustration in a constructive way (control of aggression and violence or self-destructive patterns of behavior) • Ability to maintain a degree of separation between the professional and personal spheres of life, and to resist the transfer of professional conflict into personal domains • Awareness and understanding of national cultural identity in interaction with the cultural identity of the rest of the world; ability to see and understand the different viewpoints caused by diversity and contribute one's own views constructively • Ability to negotiate	• Showing interest in and respect for others • Willingness to overcome stereotypes and prejudices • Disposition to compromise • Integrity • Assertiveness

Table J. Living in the world – personal and social responsibility

Appendix 3: Field notes observation

GROUP 1

Group is given their hint cards, and information about how the 3 hints can be submitted when the group decides they need it

1: Time 45 minutes: S10 takes initiative and reads the 'task' aloud, and starts handing out sheets of paper from the folder. Starts off as a group locating clues to solve. Everyone is speaking English, trying to get an overview of the 'situation'. S13 starts with a document, and S9 joins in. The rest is looking at the 'snote clue' as group, trying to make logic from it.

2: Time 41 minutes: Finds the numbers, and S14 is at it trying different versions of the numbers on the 4-digit lock on the big box. S8, S10, S11, S13 is trying to understand the 'red clue'.

3: Time 39 minutes: S10 starts working on the small box while holding the red marker in his/her hands (doesn't seem to notice it). S14 is still at it on the big box.

4: Time 37 minutes: S13, S11, S9, S12 is at the 'red clue' and manages to read the message, and shares this with the group.

5: Time 36 minutes: S10 opens the 4-digit lock, which opens the small box. The group cheers. Gets the UV-light, QR code and a key. S12 takes the key and announces that this is his/her responsibility from now on (to watch the key).

6: Time 35 minutes: S10 starts using the flashlight on the documents, and finds the maze. S9, S11, S10 gets the maze and quickly understands that this is directions, and opens the directional lock. At the same time S10 and S8 looks at the QR code and starts downloading a QR scanner.

7: Time 34 Minutes: S10, S14, S8 tries to understand what the QR documents means. While this is happening, S9, S12 is trying to figure out the 'snote clue' (which is already solved). Solves the clue and shares with the group. S10 says that the 'snote clue' gave away the code for the small box. Laughter.

8: Time 32 minutes: Everyone is engaged in discussion. S14 notices the books, but moves on without touching them. S10 still working on the QR code and the task document.

9: Time 31 minutes: S11, S9, S13 trying the flashlight on the red clue. S9 finds the clue hidden in the 'red clue' and reads it aloud to the group who is working on it. When passing this clue to the rest of the group, the word 'locker' is left out. All participants still engaged. S10 joins in on the red clue and asks what is says. Gets the clue again without 'locker'

10: Time 29 minutes: S13 testing different (random?) options on the locks. S8 reading a document. S10 looking at the culture document. S11 suggests using a hint card, but the response given to this is 'we have enough' time by S9. S12 thinks a hint would be smart. Not all participating in this conversation. S13 asks about the QR code 'Have we done anything with this?'. S10 explains the content in the QR document and how he/she thinks it is linked to the tasks document 'linking ethnocentrism and cultural relativism is key'. S9 joins in and suggests this is linked to the key from the small box which would then go to the lock with the heart sticker. S9 is asking where the 'cultural relativism' part is (says to link ethnocentrism and cultural relativism together), but the group has only found one QR code with ethnocentrism.

11: Time 26 minutes: Someone suggests using a hint card, group agrees, and asks for hint regarding the 'key' from the small box. Gets the hint 'find the locker' – S10 'aaaah downstairs'. S8, S10, S14 heads down to the lockers. S9, S11, S12, S13 stays behind and for a short while does nothing but joke around (in English though) – and asks why did THEY go downstairs? S9 and S11 starts looking at the different documents. S13 searches the room, and uses the flashlight on the walls. S11 and S9 tells him/her that the teacher is not allowed to write on the walls. S13 continues looking elsewhere. They seem to be waiting for the others though.

12: Time 22 minutes: S8, S10, S14 comes back with a 'table of conflicts', and a QR code. S10 reads aloud from the table. S14 and S8 starts working on the second QR code. S12 is trying random codes on the locks. S13 skims through the different documents, however moving from one to the next quickly. S10 still working on the table and ask the group to try 550.

13: Time 19 minutes: Still a good mood in the group and everyone is participating. S10 reasoned that 'it' increased by 225 each year, so it should be…'NO try 225' the linear growth. S13 got the lock open and fist bumps with S12. Group cheer. As this is happening, S9, S14, S8 are working on different clues, but turns to S10 for assistance.

14: Time 17 minutes: S14 and S8 working on different documents trying to see a link, and S9 joins in. S13 is looking at the culture document, and suggests trying 'world' backwards. This was tested, but it didn't work.

15: Time 15 minutes: S11 and S9 working on the culture document, and S10 proclaims the need to remove solved clues and anything related to them. After the documents that had been solved are removed, S11 hands the culture document to S10. Group as a whole starts discussing the culture document.

16: Time 13 minutes: S11 and S8 discussing a document. S11 suggests using another hint. Group decides to use the 3rd hint for the QR codes. Got the hint 'look closer at the documents – search the documents better'. Small effort on the QR codes before most turn to culture document again. S13 and S12 passive at this point, but watching the others. Someone suggests using the colors for a code of sorts. Does not work.

17: Time 9 minutes: S9 tells the teacher he/she did not get the hint the teacher provided and the hint is repeated. S10, S8 and S14 keeps working, but S9, S11, S12, S13 are more passive at this point. S10, S8 and S14 abandons the QR codes, and moves on to the culture document. S11 suggest using the last hint. S10 argues this to be bad idea since they still haven't found out anything from the previous hint. S11 argues that they should split the group in two, S10 agrees, and the group decides to get the final hint for the culture document. Gets the hint 'last line provides one code and one clue'. S10 tries putting in the year of the source and opens a 4-digit lock, then goes back to the document.

18: Time 7 minutes: S14, S10 and S8 working on the QR codes. S11, S12 and S13 more passive at this point.

19: Time 5 minutes: The stress level increases. S8, S10, S14 finds 'EC^{2}' and 'CB^{2}' from the QR codes. S10 starts working on the clues and abandons the culture document. S8, S14 joins in and S13 tries the lock based on their suggestions. S9, S12, S11 watching the others.

20: Time 2 minutes: S11 goes back to the culture document again. Attention given to the timer, and all starts working on different solutions, accept S9 and S12. S10 is still not giving up and in deep concentration.

21: Time 40 seconds: Everyone starts laughing. S10 and S11 still not giving up on trying.

22: Time is up – did not manage to break out, but good mood. Several comments of 'no wonder we didn't breakout' because of their choices and organization.

Final comments:

23: Spoke English the whole lesson, apart from S12 and S13 uttered a couple of sentences in Norwegian each.

24: The learners mainly grouped together based on 'friendships', however less than in a regular lesson.

GROUP 2

Group is given their hint cards, and information about how the 3 hints can be submitted when the group decides they need it.

25: Time 45 minutes: The group gets to work, while speaking English. Starts by working on 2 clues in 2 groups

26: Time 41 minutes: After working on the 'snote' puzzle for 4 minutes, the S1 gets the first lock open

27: Time 40 minutes: Some discussion regarding the 'red clue' where they seem to overlook 'the locker' in the clue

28: Time 38 minutes: The group finds the maze by using the flashlight. No trouble connecting the maze to the directional lock, and S2 opens the second lock

29: Time 37 minutes: Another group is looking at the QR code from the small box, downloads a QR scanner and starts discussing the definition of 'Ethnocentrism'. Quickly finds 'EC^{2}' and 'CB^{2}'. S3 asks S4: did you find out anything from the QR code? S4 answers that it included the definition of 'Ethnocentrism' and explains the definition to S3. Continues to inform S3 about 'EC^{2}'and 'CB^{2}' found at the bottom of the document. A third group forms around the 'red clue' again, and are discussing what it means. Having trouble understanding what to make of it.

30: Time 30 minutes: Several are reading in the different books which are placed on the table beside the boxes. No discussion – only 'searching'. Goes on for a couple of minutes.

31: Time 29 minutes: The group asks for a hint, but they chose a hint they really didn't need (already one group sort of solved it).

32: Time 28 minutes: S5 realizes there is a red marker, and suggests using it on the 'picture' on the 'red clue'. Idea rejected by S6 and S7. S5 leaves the idea without any discussion

33: Time 25 minutes: A group is working on the culture document, and finds the 'page number' for the 3digit lock

34: Time 24 minutes: S3 is trying to the rest of the groups' attention with "the key must lead to something'. Not getting the rests attention – deeply engaged in working on different clues. The only one who responds is S5.

35: Time 22 minutes: The group asks for a second hint for the 'letter lock'. Gets the hint to follow the source, and heads for the books. S6 is passive in the game, and walks around doing nothing in particular – smiles at the teacher and the teacher smiles back – and S6 joins the group in looking at the page number from the culture document, and uses the UV-flash light.

36: Time 19 minutes: The group as a whole seems to 'look' for the codes. Not work to find them

37: Time 17 minutes: S6 stares at the teacher, and says that she/he is trying to 'read the teacher' for clues. S7 asks the teacher if they had located all the clues. Teacher responds for the first time 'No'. All of the group members is picking up the pace 'looking for clues and codes' around the room. Searching under tables, chairs, using the flashlight on the walls.

38: Time 16 minutes: A couple of the members are at it with searching 'every page' in the books. The rest is back trying to understand the 'red clue'.

39: Time 15 minutes: The group asks for the last hint for 'the key'. Gets the hint 'find the locker'. S4, S3 and S1 heads downstairs immediately. S2, S5, S6 and S7 stays behind. As the 3 are downstairs, the rest starts joking around, before starting to try anything and everything to get the locks open. Not systematic, just trying different combination hoping to stumble upon the right combination.

40: Time 10 minutes: The group that went down is back with the content from the locker. Starts looking at the 'table clue', and are discussing and trying the obvious alternatives – all numbers written on the table.

41: Time 6 minutes: Trying to put in 550 (the missing number from the table). S3, S6 and S7 are trying to 'read the teacher' to see if they have the right answer.

42: Time 4 minutes: The group as a whole is getting a bit frustrated as time is ticking.

43: Time 2 minutes and 30 seconds: S4 and S1 seems to be randomly putting in suggestions on the locks, while the rest is standing around watching them.

44: Time 30 seconds: S3 is staring at the timer for about 15 seconds

45: Time is up

Final comments:

46: This group communicated substantially less than the other group. Not nearly as much testing, trying and discussing as Group 1

47: Spoke English the whole lesson, apart from a sentence or two.

48: Compared to Group 1, Group 2 did not group together AS MUCH based on friendships – more diverse group.

Appendix 4: Questions and Categorized Answers Questionnaire

Questions

General questions

1. What did you like about the game? Why?
2. What did you not like about the game? Why?
3. Explain how your team worked together. What was your role(s)?
4. Is there anything you would do differently next time? Explain
5. Did you feel like your ideas were heard? Explain
6. Do you think Breakout games contribute to learning? Explain
7. What do you think the point of the game was, in the English language classroom?

Subject related questions (categorized in whether or not the students could explain/understood)

8. Is it important to learn about intercultural communication? Explain
9. Explain ethnocentrism, in your own words.
10. Explain cultural relativism, in your own words.
11. Explain what a subculture is, in your own words.
12. Can you give one/more example(s) of how cultural differences can affect communication?

Final comments

13. If you have any final comments regarding the use of Breakout games in 'English as a Foreign Language', feel free to add these here:

GC = general comment regarding the whole group (not specific to the student him/her self)

1: *What did you like about the game? Why?*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Fun	x	x					x	x		x	x		x
Exciting	x												
Challenging		x									x		
To be useful			x										
Creative				x				x					
Interconnecting clues					x								
Difficult					x								
Practical						x							
Collaboration							x		x				
Different type of lesson								x					x
Speak English									x				
Learning										x			x
Problem solving												x	x
Competition													x

2: *What did you <u>not</u> like about the game? Why?*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Didn't manage to "break out"		x										x	
Competence aims could be more in focus				x									
Left out of the collaboration									x				
Not knowing what to do						x							
No prize for winning							x						
Too hard								x					
Hard but … negative / positive answer	x										x		x
'Nothing' / Blank			x		x					x			

3: *Explain how your team worked together. What was your role(s)?*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Positive	x		x			x	x	x		x			x
Not systematic enough/dividing work					x		x				x	x	
Not collaborating enough											x	x	
Blank				x									
Roles													
Solve clues	x	x			x				x				xgc
Do practical tasks			x			x							xgc
No role(s)							x	x			x		
Does not specify role				x						x		x	

4: *Is there anything you would do differently next time? Explain*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Nothing	x												
More systematic/ communicate /divide work		x		x	x	x					x	x	x
Participate more							x						
Smaller groups (facilitate participation)									x				
Finish the game										x			
Think and execute better			x					x					

5: *Did you feel like your ideas were heard? Explain*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x	x	x	x		x	x				x	
Some times/Often/Mostly									x	x	x		x
Positive but vague answer						x							
No													

6: *Do you think Breakout games contribute to learning? Explain*	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x	x	x	x	x	x	x	x	x	x	x	x
No													
HOW													
Communicate in English	x	x					x	x	x	x	x	x	x
Knowledge about the topic				x	x								x
Collaboration					x	x							x
'Really use your brain' 'see connections' 'think clearly'			x	x		x				x			
Fun							x						

7: *What do you think the point of the game was, in the English language classroom?*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
English (communication, read)	x	x		x		x	x	x		x	x	x	x
Topic				x	x		x		x		x	x	x
Connection between topics in the curriculum				x									
Collaboration						x							x
Fun													x
Not sure			x										

8: *Is it important to learn about intercultural communication? Explain*	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x		x		x	x	x	x		x	x	x
No / Not sure etc			x		x					x			

9: *Explain ethnocentrism, in your own words.*	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes				x	x					x		x	x
No	x	x	x			x	x	x	x		x		

10: *Explain cultural relativism, in your own words*.	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes				x	x			x		x		x	x
No	x	x	X			x	x		x		x		

11: *Explain what a subculture is, in your own words.*	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes		x		x				x	x	x	x	x	
No	x		x		x	x	x						x

12: *Can you give one/more example(s) of how cultural differences can affect communication?*	Student												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Yes	x	x		x	x	x	x	x	x	x		x	x
No			x								x		

13: *If you have any final comments regarding the use of Breakout games in 'English as a Foreign Language', feel free to add these here:*	Student												
Key terms	1	2	3	4	5	6	7	8	9	10	11	12	13
Fun	x	x	x				x				x		
Exciting	x												
Learning	x												
English	X												
Challenging			x				x				x		
Do it again		x			x								
Blank				x		x		x	x	x		x	x

Appendix 5: Focus group interview guide

Steps in the conversation:

Follow-up questionnaire answers

1. Ask the learners to create a 'Breakout' mindmap
2. Highlight the aspects they find the most valuable. If the discussion is not moving along, I will ask them to elaborate.
3. Ask the learners to create a mindmap of what they consider to be a 'normal learning situation', and furthermore ask them to compare the two.
4. Ask the learners to reflect around negative/challenges/what they don't like about breakout games

Differences between digital and physical breakout games

5. You have tried both digital and physical breakout games. What are the differences/similarities between the physical and digital?

Play breakout games vs make breakout games

6. You have just started to make your own breakout games. In your opinion: what is more valuable? Make your own games, or play games that others made?

21st century skills

7. Where this focus comes from (industry and researchers – needs in the future – society needs, industrial needs, learners' needs to have a good life AND get the necessary competence needed in the future work market).
8. Show the skills "everyone" agrees on. Have the learners reflect how/if breakout games can be related to any of these skills

Appendix 6: Transcripton focus group interview

Bold: Interviewer

S1: Student 1

S2: Student 2

S3: Student 3

S4: Student 4

***** : anonymized

1: **Jeg ønsker at dere skal lage dere et felles tankekart om hva dere tenker dere lærer, eller hva dere synes er bra med breakout spill. Det er ikke nødvendigvis bare det dere skiver som er viktig, men også hvordan dere resonerer dere fram til de ulike punktene.**

2: S3. Da er det vel bare å ta en penn da. Skal man være maskulin, eller skal man ta oransje? (Ler). Da blir det oransje da.

3: S1. Skal vi skrive breakout games i midten da?

4: S1. Så nå skal vi bare skrive på det vi tenker (til I)?

5: **Ja, også hvis det er negativt, så kan dere skrive det på der også.**

6: S3. Da er den brun da (Ler).

7: S4. Ja for det er en kje farge (Ler).

8: S1. Ja, men da begynner vi med å skrive da rett og slett at det var jo ikke noen tvil om at det var noen som hadde litt manglende interesse for å delta. Så jeg vet ikke hva vi kan skrive, kort oppsummert?

9: S2. Entusiasme. Lav.

10: S4. Hos enkelte

11: S1. Men igjen, så kommer det helt ann på den enkelte. Jeg føler jeg fikk en del utav å være med. Det er ikke sikkert alle fikk så mye utav det. Men nå tror jeg ikke at alle får så mye utav undervisningen ellers heller.

12: S2. Men hvis man har bestemt seg for at det er bare kjedelig, så. De må kanskje ha mer motivasjon.

13: S3. Men jeg tro de (***) synes det er gøy, men de deltar bare ikke.

14: S4. Ja nettopp det. De synes det er gøy, men de deltar ikke så mye .

15: S3. Ja det er jo et spill. Det er gøy. Det er en morsom måte å lære på.

16: S1. Men ikke sant, det har jo litt med sånn som når vi hadde om intercultural communication. For mange er kanskje begrepet vanskelig, og derfor gidder de ikke helt å gjøre forsøket.

17: S3. Ja, tar igjen rullgardina allerede på «Intercultural Communication»

18: S1. Det er det samme som når man hører ordet Pytagoras i matten. Nei det her har jeg ikke sjans til å skjønne, så jeg bare ser på Netflix i stedet.

19: S4. Ja, det blir samme greia.

20: S2. Ja de har bestemt seg på forhånd at det ikke går.

21: S1. Jeg satt jo igjen etter timen og visste forskjellen på hva ethnocentrism og cultural relativism var for noe.

22: **Visste du det på forhånd?**

23: S1. Nei

24: S2. Nei

25: S3. Nei

26: S4. Nei

27: S1. Nei, men når du leste de to sidene som definisjonene sto på så mange ganger som vi gjorde, så kunne du det til slutt, ikke sant. Men det er jo noen vanskelige ord som ikke alle kanskje vet betydningen av, så når de leser teksten så, dette her skjønner jeg ikke noe av, så gir de opp. Det er jo kanskje haken med det her. Men igjen, som jeg så i stad, så må man jo det på… jeg regner med at det du prøver å finne ut, eller bevise, om dette er en god måte å lære på, kontra vanlig undervisning?

28: Ja, eller. Vi kommer litt mer tilbake til det senere, men dette er på en måte knyttet mer til hvilke ferdigheter som forskere innenfor utdanning mener at dere vil trenge for å klare dere i den fremtiden som kommer. For at dere skal ha et sett med ferdigheter som skal gjøre dere mer allsidige.

29: S3. Jeg tror at hvis vi hadde hatt færre folk på hver gruppe, så hadde det gjort at flere hadde bidratt. For da må du bidra på en måte. Du kan ikke sitte der i 45 minutter og bare…

30: S4. Ja, for da blir du tvingt til å bidra på en måte. Det kan bli litt for lett å gjemme seg bak andre når det er flere.

31: S1. Nå tror jo jeg også at, det er jo en oppfatning jeg har av mange ting da… (alle ler)…at noen ganger så trengs det å deles etter nivå. Hvis man er ressurssterk nok, så hadde nivåbestemte breakout games, sånn at for de som ikke er så flinke i engelsk og litt sånn halvveis gidder ikke, så bør man kanskje ha en lettere forståelig breakout. Også at man burde dele opp etter nivå sånn. For hvis det sitter en som bidrar mye og tre som ikke bidrar så mye på samme gruppe så er det klart at de tre blir tvunget til å gjøre noe.

32: Tror dere at det har noe med relasjonene mellom dere i gruppa å gjøre?

33: S4. Ja det tror jeg har mye å si

34: S2. Ja

35: S3. Ja

36: S1. Ja, det kan også ha noe å si.

37: S2. Jeg samarbeidet ikke så godt med de på gruppa mi. Jeg gjorde én ting, så gjorde de noe annet, også plutselig var det noen som hadde løst noe.

38: Hvorfor det, tror du?

39: S2. Jeg vet ikke helt, men jeg var ikke veldig flink til å dele det jeg fant, og vi var ikke flinke til å dele med hverandre.

40: S1. Jeg tror det har noe med relasjoner å gjøre, men det er jo litt sånn. Med nivå å gjøre også. Jeg vet jo at du (S2) var den flinkeste på gruppa di. Og det er jo litt sånn at de 11 beste er de som starter på fotball også (alle ler). Det er en grunn til at de 11 er med fra start. Ofte.

41: Så når det står entusiasme (peker på det brune punktet på tankekartet), så er det egentlig ikke <u>bare</u> det dere mener?

42: S2. Nei, det var bare en starter på en måte. Vi kunne jo skrevet relasjoner. (Alle leker med pennene som kan viske).

43: Men den brune som står entusiasme, betyr det da egentlig..

44: S1. Vi var overraskende dårlige på det her. (alle ler)

45: S4. Ja fy søren (ler)

46: Men det er jo dette som er fordelen….det er <u>diskusjonen</u> som er relevant, ikke hva ordet er.

47: S4. Ja, men det blir jo litt forskjell på hvor entusiastiske de på gruppa var. Eller hvor mye de var villige til å bidra, det var vel på en måte det som vi…

48: S2. Ja

49: S3. Ja

50: S1. Kan vi si at samarbeid er veldig relevant? (alle ler) Ellers så går det veldig dårlig.

51: S2. Ja (ler)

52: S3. Ja (ler)

53: S4. Ja (ler)

54: S2. Samarbeid (skriver på tankekartet)

55: Så er da samarbeid noe dere lærer eller øver på?

56: S3. Skal øve på hvertfall, men… (ler)

57: S1. Cooperation is key to access…hva var det? (referanse fra spillet)

58: For dere klarte ikke å fullføre spillet, og på spørreundersøkelsen var alle enige om hvorfor. Da må dere vel samarbeide bedre for å klare det neste gang? Eller? (alle ler)

59: S3. Ja (ler)

60: S4. Ja (ler)

61: S1. Ja, men det hadde jo vært morsomt å se da, neste gang vi lager det om du deler det etter relasjoner, om det…

62: S4. Ja om det funker bedre

63: Jeg hadde tenkt til å vise dette til dere litt senere, men vi ser på det litt nå. Dette her (viser 21st skills ark), er de ferdighetene som forskere innen utdanning mener at man må jobbe med i skolen, og mener at dere kommer til å trenge. Først ble mange av de store selskapene i verden spurt om hva de mener at de vil trenge i arbeidere i framtiden, så har forskere i samarbeid med de sett på hva dagens elever vil trenge i fremtiden for å få et ålreit liv; for å få en jobb; bidra i samfunnet også videre. Disse tingene her skal også inn i den nye læreplanen. Her for eksempel står det litt om (Forklarer dokumentet) Se på disse litt om dere ser om det er relevant i forhold til å spille spillet, hvis det hjelper dere i diskusjonen?

64: S1. Vi kan vel med en gang være enige i noen ting her. Communication det øver vi på når du spiller, for du må jo prate med folk. Du må jo faktisk snakke sammen og kommunisere for å komme videre. Du skal være bra smart om du løser det helt på egenhånd, mens resten av gruppa står å ser på.

65: S2. Men det kan jo fort bli sånn at noen tar den låsen, så tar noen den og den og den, så løser man de individuelt. Det var egentlig litt det som skjedde med oss.

66: Men dere klarte det ikke?

67: S2. (ler) Ja.

68: S1. Hva står det på Character? Jeg ser ikke.

69: Der står det om personlige egenskaper som for eksempel at man har evnen til ikke å gi seg i møte med vanskelige oppgaver. At man har et growth mindset, som for eksempel beskriver at men ser verdien i den vanskelige veien. At man lærer seg at – dette er vanskelig, men vanskelig lærer jeg av, derfor møter jeg læring og ser verdien i den vanskelige veien…på en måte.

70: S1. Det er vel ikke slik at jeg har tenkt over at dette (breakout) er vanskelig, så dette skal jeg få til, men jeg jeg har lyst til å få det til fordi det suger å ikke få til ting. Man spiller jo egentlig spill for å vinne.

71: S4. Vi var helt sikre på at den andre gruppa hadde løst den (spillet) skikkelig fort og var skikkelig oppgitt over oss (ler)

72: Dere skrev mye forskjellig på spørreskjemaene, så se om dere kan sette på noe dere kanskje husker?

73: S4. Det er gøy

74: S2. ja skriv det (4)

75: S4. ja det er gøy (Skriver på tankekartet). Det er en morsom måte å lære på.

76: S1. Og det som er med det man ikke strever for, men det er noe at problemet man møter med vanlige læringsmetoder kan du si. Det. Ja f***… åssen skal jeg si det a?

77: S3. At det hender at det er kjedelig? (ler)

78: S1. Ja, det (ler). Det er ikke alltid gøy å lære og sitte i timen å skulle lære ting, men når vi gjør ting som er ålreit, så er entusiasmen mye større, og motivasjonen for å gidde å prøve er større enn hvis du skal sitte å gjøre oppgaver fra en bok om ting som er møkk kjedelig.

79: S2. mm

80: S4. mm

81: S1. Og det at man skal oppnå noe innen den og den tida, at det er konkurranse, du vil få til å oppnå det som er meningen. Du har jo ingen form for mål (viser gåsetegn) å oppnå, føler jeg da, når man sitter og gjør spørsmål. Så er det ikke sånn der at når jeg er ferdig, så får jeg noe, ikke at vi får noe, men man får jo på en måte til. Herregud. (ler). (alle ler). Det var dårlig formulert. (alle ler)

82: Neida, det er ikke nødvendigvis det (formulert)

83: S4. Det med at man for eksempel…at når du hadde lagt til de linkene til å lese om ethnocentrisme og kultur relativisme. Egentlig så hadde vi jo ikke trengt å lese de tekstene engang. S3 og jeg, vi leste de tekstene så mange ganger, så jeg var helt sikker etter den timen på hva det var (etnosentrisme og kulturrelativisme). Og det er ikke sikkert jeg hadde, hvis du hadde hatt en forelesning. Jeg hadde ikke visst det like godt da. Det var vel kanskje hensikten, så da funka jo det.

84: S2. Ja

85: Ler

86: S2. Det at vi var satt i en uvanlig læringssituasjon gjør jo at man husker det bedre. Det gjør det jo mer motiverende. At man husker det.

87: S1. Det med at det var annerledes enn hva man er vant med gjør at man husker det bedre.

88: Okei, nå har dere snakket om flere ting dere mener er bra. Kan dere sette på noe mer?

89: S1. Skal vi skrive det liksom? 3 (signaliserer at 3 skal skrive)

90: S3. Har vi noen ord? (avventer)

91: S4. Det er jo lærrerikt og da. Skriv at det er lærerikt da, for man får mye utav det. (alle mumler litt om at tusjene er bra)

92: Da konkluderte dere med at det som var negativt, var i hovedsak at noen ikke deltar?

93: S3. Ja. Men jeg tror det er måter for å unngå det.

94: S1. mm

95: S4. mm

96: Forhåpentligvis har jeg det på tape, hva den lange utgreiingen om den negative der var. (alle ler), så kan jeg prøve å sammenfatte det noe.(alle ler). Er det noe mer dere vil legge til?

97: S4. Jeg husker ikke hva jeg skrev på arket mitt. Men jeg mener sikkert fortsatt det samme (ler)

98: S1. Det er litt lenge siden.

99: Ja, det begynner å bli litt lenge siden (3-4 uker). På spørsmålet om hva du likte med spillet, svarte alle gøy og noe mer. På hva man lærte, svarte nesten alle forskjellige ting. Nå husker jeg ikke helt hva de ulike svarte på det spørsmålet, men noen skrev at man snakker engelsk osv. Men hvis dere skulle fortalt til noen andre hva dere lærer av breakout spill så?

100: S4. Jeg tenker at man samarbeider jo bare ikke, man lærer jo på en måte mer om samarbeid også fordet du ser jo ganske mange aspekter ved det som ikke funker (ler). I tillegg til at du også kanskje finner ut hva som funker. Ja

101: S1. Også lærer du jo faktisk på en måte, å prate uten å ha planlagt setningene dine på forhånd. Sånn som når man prater i timen, har presentasjoner og sånn, så har mange ofte manus så de vet hva de skal si. Men hvis du skal gå rundt å snakke og skal kunne å snakke engelsk, så kan man ikke gå rundt å ha planlagt hva man skal si hele tida. Slik som her, du kan jo ikke gå rundt å skrive ned hva du skal si til de andre før du snakker til de, før du leser opp til resten (alle ler). Som så må sette seg ned å skrive et svar, eller en kommentar til det. Du får praktisert engelsken, og det sies jo at øvelse gjør mester og trening gjør deg bedre og (tuller, alle ler).

102: S4. Det er en god øvingssituasjon ja

103: Du (S4) skrev vel annerledes læringssituasjon på ditt spørreskjema?

104: S4. Ja det gjorde jeg.

105: Du kan jo sette på din om du vil det? (4. begynner å skrive). Men, nå antok jeg at dere andre var enige... (alle ler).

106: S1. Det jo annerledes da. Ingen kan si at det er vanlig (alle ler)

107: Ja, men om det er en positiv eller negativ ting? For om det er negativt, skal det vel stå i brun (ref tidligere)? (alle ler)

108: S2. En ting jeg tenker på er at hvis det er kvalitet på oppgavene, så lærer vi oss også til å koble kunnskap til hverandre. En ting er å lære hva etnosentrisme er, en annen ting er å klare å koble det opp til multikulturell kommunikasjon og kulturrelativisme og alt sånn. At du kan bruke kunnskapen i praksis, at du ikke bare har pugga og vet hva det er. For det er jo faren, at du vet hva alt er, men du kan ikke forstå det i en sammenheng.

109: S3. Enig

110: S2. Hva skal vi kalle det? (ler)

111: S4. Ja hva skal vi kalle det? (ler). Ser sammenhenger

112: S1. Se sammenhengen i kunnskap eller noe sånn.

113: S3. Jeg får hvertfall…eller nå klarte vi det ikke da men. Men man får jo en mestringsfølelse når man klarer det. Asså jeg får jo ikke det når jeg klarer kontrollspørsmålene etter hvert kapittel, for ente gang (alle ler). Yes, nå klarte jeg det denne gangen også (ler).

114: S4. Ja (ler). Du trenger jo ikke klare hele spillet for å få mestringsfølelsen, klare du å få opp én lås så er du jo i gang.

115: Jeg prøvde egentlig å telle hvor mange ganger det var sånne småjubler igjennom spillet, og det var jo noen.

116: Husker dere noe mer negativt dere tenkte om spillet, annet enn at ikke alle deltok? Noen skrev at de følte at de ikke ble inkludert i spillet. Hva tenker dere om det?

117: S1. Man har selv ansvar for å delta. Neida, men du må jo faktisk engasjere deg og vise at du vil delta. Altså, jeg gjorde ikke noe hardt forsøk i å prøve å inkludere de som ikke gadd å være med så veldig. Det er jo litt sånn, for igjen trekke en sammenheng til idrett, hvis du er dårlig og ikke gidder å komme på trening. Så kan du ikke belage deg på at de andre skal mase på at du skal komme på trening.

118: S2. Nå blir dette fullt av sportsmetaforer (alle ler)

119: Det er helt greit (ler). Jeg skjønner hva du mener. Det er jo en av ferdighetene (viser på arket), at man skal lære seg å ta initiativ, samtidig som man skal inkludere andre.

120: S1. Ja men når man har prøvd å inkludere andre for 14 gang, blir du lei det til slutt.

121: S2. Det er jo ikke sånn at hvis jeg driver på en oppgave, og noen spør hva jeg driver med, så sier jeg neeei du får ikke se.

122: I forhold til disse her (viser på arket), Kreativitet er en av fokusområdene fremover. Ikke at dere nødvendigvis skal lage noe hele tiden, men at dere skal tenke kreativt også for å finne løsninger på oppgaver. Hvordan tenker dere om det er relevant for dette (breakout)?

123: S1. Jeg synes det er veldig relevant, i forhold til at du må jo i sånne oppgaver tenke gjennom alle sånne ting som du (I) kan ha tenkt. Blant annet at du kan ha satt bokstaver som tall, når du hadde lagd en slags ligning opphøyd i tall, og når du løste ligningen så fikk du noen bokstaver. Så du må jo kunne matte og da. Nå fikk ikke vi det til da men, for å få det til så må du være kreativ for å overføre det til andre betydninger.

124: S4. Det synes jeg også.

125: Dere (S2) tok vel den ganske raskt?

126: S2. Jo, den var egentlig feil, den matten. Indeksen var feil.

127: S3. Vi brukte lang tid på å finne den vi.

128: S4. Vi fant jo de riktige tallene men.

129: S3. Jeg lurer på hva vi drev på med da.

130: S4. I ettertid (til 3) er det jo lett å si det da men. Men vi hadde igjen 2 minutter da, og endelig skjønte vi at det hadde noe med de tallene å gjøre.

131: Kan dere prøve å lage et tankekart om hva dere tenker er vanlig undervisning…

132: S1. Da er det bare å begynne med brun da (alle ler)

133: S2. (staver ut) kjedelig

134: S1. Hva mener du med vanlig undervisning (til I)

135: Det dere, hver og en, tenker er vanlig undervisning.

136: S4. Det er powerpointer, forelesning…

137: S3. Ja men ikke på alle (lærerne)

138: S1. Ja men det kommer helt ann på…

139: S4. Jo men på *** sine timer er det alltid det.

140: S2. Men *** (ref forrige) er god til å engasjere

141: S1. Det kommer helt ann på. Det er mye det kommer ann på egentlig. For meg personlig kommer det også ann på hvordan dagen min er (alle ler) før forelesningen kommer og hvor fokuset ligger. I utgangspunktet synes jeg at forelesninger er en god måte å lære på, men det kommer ann på hvor god forelesningen er.

142: S4. Ja jeg synes det er nettopp hvordan det blir gjort. Men det er selvfølgelig hva det om også. Er det et fag du er interessert i så vil du automatisk ja…

143: S1. Men i vanlig undervisning, er det hverfall mangel på kreativitet i mange tilfeller synes jeg (begynner å skrive).
144: S3. Ja. Eller til en viss grad. Men det er jo ikke alle som mangler kreativitet.
145: S4. Ja det jo fra lærer til lærer
146: S1. Slik jeg tenker på vanlig undervisning, så er det forelesning først så oppgaver. At det er standard undervisning.
147: At det er det dere har mest av?
148: S3. Ikke nå lenger.
149: S4. Hva er det vi føler at vi har mest av nå da?
150: S3. Det har endret seg fra ungdomskolen liksom. Starta med PowerPoint som sikkert hva lagd for 6 år siden. Og i fjor også egentlig (gamle powerpointer)….
151: S4. Ja
152: S3. Og oppgaver siste delen
153: S2. Alt var likt (på ungdomsskolen)
154: S2. Det kommer veldig ann på læreren. Alle leder timer forskjellig.
155: S3. **** er jo veldig opptatt av at det ikke skal gjøres (ikke lede timen)
156: S1. *** har ikke mangel på kreativitet i hvert fall (alle ler). Men nå vil jeg ikke si at *** har vanlig undervisning heller da
157: S4. Nei (ler)
158: S1. Der er det spill, dans og massasje og….
159: S2. Det eneste som er konstant er massasje (alle ler)
160: S4. Ja det er faktisk helt sant
161: S1. Ikke les kapittel *****, vi skal høre på denne sangen her (alle ler)
162: S2. Der er det veldig mye rart vi gjør i stedet for å gå igjennom *****
163: S4. Det var faktisk veldig gøy da (ler)
164: S2. Men ikke relevant for undervisning. Eller kanskje relevant for 2 sider i boka.
165: S4. Ja (ler). Det var relevant for noe
166: Det er veldig vanskelig å definere vanlig undervisning, for alle har veldig forskjellig oppfatning av det.
167: S4. Og kanskje at balansegangen mellom for kreativt og ikke prøve i det heletatt. Det er et veldig vidt spekter
168: S2. Jeg følte litt på at når vi får alt vi vil så var ikke det så bra likevel.
169: S1. Nei (ler) (alle ler)
170: S4. Ja det er litt sånn at man sitter der å tenker at, jeg hadde fått så mye mer utav å gjøre oppgaver liksom (alle ler). Men når man kommer i en time når man faktisk gjør det, så er det kjedelig.
171: Tenker dere at spill også kan være å kaste bort tida?
172: S1. Jeg tenker at breakout spill ikke er å kaste bort tida. For da gjør du faktisk noe som er relevant.
173: S4. mm
174: S1. Men det å *** (ref annen time) er ikke så relevant. Du skal være jævli sterk for å gjøre det relevant. Men du (Interviewer) hadde vel klart å finne relevans i det på et vis (ler)
175: Hva er vanlig undervisning for deg (S2)?
176: S2. Vanlig undervisning er teorigjennomgang, så gjør man oppgaver, så får man lekser til neste gang, så går man videre neste time, så oppsummeringstime, så prøve. Ferdig med det kapittelet.
177: S3. Enig. Enig (peker på S2).

178: S4. Ja (peker på S2).
179: S1. Også har du glemt det etter jul
180: S2. Ja
181: S4. Ja, også får du om alt på tentamen, også må du egentlig lese deg opp på alt.
182: S2. Ja…så er det stressuke…så er du ferdig med det.
183: S4. Ja. Også … (uforståelig)
184: S2. Også er alt borte
185: Hvis vi skal koke det ned til noe, så er dere enige i at teorigjennomgang, oppgaver, oppsummering, prøve kan kalles vanlig undervisning?....
186: S1. Ja
187: S2. Ja
188: S3. Ja
189: S4. Ja
190: … selv om jeg skjønner at det er vanskelig å definere da det (undervisningen) gjøres forskjellig av alle, og forskjellig fra gang til gang.
191: S3. Alle har jo en bok de skal gjennom
192: S4. Ja
193: S3. Eller…(ler)
194: S2. Har vi det egentlig (til I) (ler)
195: S4. I de fleste fag (ler)
196: S3. Vi går jo (til Interviewer) igjennom, jeg tipper kapittelet i boka er nå… intercultural communication? Kanskje?
197: Ja, det er et kapittel som heter Accross Cultures
198: S1. Vi kan jo ikke ha eksamen vi. For da får man jo spørsmål fra hele boka.
199: Neida. Det går fint.
200: S4. Eili bestemmer
201: Ja, jeg bestemmer hovedoppgaven på muntlig. Skriftlig er det alle kompetansemålene som dere vurderes på. Sånn som oppgaven dere har nå. Det er et kompetansemål. Discuss how cultural differences and dissimilar value systems affect communication. Det er kompetansemålet. Hvordan ulike kulturer og verdisyn kan påvirke kommunikasjon.
202: S3. Men alle fagene har altså kompetansemål vi skal igjennom da
203: S4. Ja (peker på tankekartet). Kompetansemål
204: S3. Er den brun eller? (ler). For jeg hater kompetansemål
205: S4. Den er litt sånn oransje for vi må liksom. Men oransje er ikke en så fin farge.
206: S3. Det er jeg for så vidt enig i.
207: S2. Men den derre geniale ideen en eller annen fikk om at vi skal skrive kompetansemålet på tavla så vi skal bli obs på det. Vi får det jo ikke med oss.
208: S3. Nei. Hakke peiling.
209: S4. Det føles ofte ikke veldig relevant for hva vi driver med i timen en gang.
210: S3. Nei.
211: S2. Det har ikke funka.
212: S3. *** prøvde jo å skrive **** på tavla, så skulle vi gjøre det.
213: S4. Ja for det var jo veldig vellykket (ler)
214: S2. (Skriver) Pluss minus på kompetansemål
215: S2. Men når vi har gjort sånn som vi har gjort på breakout spillene vi lager da…som vi skal relatere til kompetansemålene…da føler jeg at vi har skjønt hva de er.
216: S4. Ja. Men da jobber vi med de da.

217: S2. Ja, får da må vi definere hva som er innafor der (kompetansemålene)

218: Ja litt videre på den…så lurer jeg da på. Dere har nå begynt å lage spill selv. Hva synes dere er mest verdifullt mener dere? Spille spill (breakout) som jeg har med til dere, eller lage dem selv?

219: S2. Lage spill

220: Hvorfor?

221: S2. Fordi at hvis vi skal lage gode spill som er relevant for kompetansemålene, så må vi virkelig gå inn i det. Vi må lese i boka, vi må forstå hva vi driver med på et helt annet nivå. Akkurat som hvis vi har et kapittel som handler om masse forskjellig ting, så blir vi delt i grupper, og alle lager en PowerPoint presentasjon. Så kan du veldig mye om ditt tema, men ikke så mye om alt annet. Men hvis vi har det da, kompetansemål, å må gjøre det 5 ganger i løpet av året. 5 kompetansemål. Da er vi jo egentlig gjennom alt. (1 spill per kompetansemål = 5 spill)

222: Hva tenker dere andre? Spille eller lage selv? Hva er mest verdifullt?

223: S1. Jeg synes å spille. Men det er bare for…å lage selv er….det er vanskelig. Og det er…

224: S3. tidkrevende?...det liker vi ikke (ler).

225: S1. Nei (ler). Det liker vi ikke (ler).

226: S4. Det spørs helt hvordan man ser på det det. Det er jo ikke alle temaer man trenger å gå så i dybden. Det blir jo veldig spesifikt, når du lager det selv. Mens når du spiller det så får du litt bredere. Du får informasjon litt bredere. Sånn som når du sitter med det…slik som jeg nå har sittet med kart.

227: S2. Men det var du ikke så veldig flink til da (ler)

228: S4. Hæ? (alle ler). Men det er jo det jeg har drevet med en helt time i engelsken liksom.

229: Hvis dere prøver å se i krystallkula, når dere er ferdige med å lage spillene. Hva tror dere at dere sitter igjen med da?

230: S1. Hva man sitter igjen med etter man har spilt?

231: Nei…

232: S3. Lagd spilla

233: S1. Å ja (ler)

234: S1. Jeg husker ihvertfall når *** ble lagd, for det har jeg sittet med. Men jeg husker egentlig ikke det en gang (alle ler). Men sånn er det med alt da liksom. Alt jeg føler at jeg lærer, som for eksempel i samfunnsfag, hvor det eneste jeg husker er hvor mange som sitter på Stortinget. Men så husker jeg egentlig ikke det heller da (ler).

235: Men du husker hva etnosentrisme og kulturrelativisme er? (ler)

236: S1. Ja (ler)

237: S2. Spør om 2 uker (ler)

238: S1. Det er faktisk noe som man er interessant å vite, i forhold til hvor mange som sitter på Stortinget. Det er hvem som sitter der som er interessant.

239: Dere har jo også prøvd de digitale spillene. Hva er forskjellen mellom digitalt og fysisk? Hva synes dere er best eller morsomst?

240: S4. Morsomst med fysiske, for da kan man faktisk bruke rommet. Det er liksom litt morsommere da vi måtte ned for å finne den låsen. Får beveget deg litt å. (alle ler). Alt er liksom ikke på pcn da.

241: S1. Er det mangel på bevegelse i hverdagen din(S4)?

242: S4. Nei det var ikke helt sånn ment, men når man driver med noe digitalt, så vet du at all informasjon du trenger finner du inne på sida. Det er ikke sånn at man må bla

opp i boka (ref spillet). Men det skjønte jo ikke gruppa mi da (ler). Men man kan bruke litt mer forskjellig.

243: Var det noen av dere andre som likte de digitale spillene?

244: S3. Ja.

245: S2. Men de spilla vi spilte var ikke så gode synes jeg da.

246: S1. Jeg tror ikke jeg prøvde de jeg

247: S3. Nja. Jo

248: Gikk ikke dere to inn for at du (S1) skulle få prøve det timen etter?

249: S3. (ler). Jo men det var vel egentlig jeg som husket alle svarerne så. (ler)

250: S4. Er det veldig forskjell på å lage digitale spill mot de fysiske. Altså læringsutbyttet? Jeg skjønner jo at det forskjell men.

251: Der blir det mer fokus på koding

252: S2. Det er mer bra for den der datalinja.

253: Nå har jeg egentlig fått spurt om at jeg ville… (Noe prat om faglige-tematiske utbyttet)

254: S2. Var det mange som klarte det?

255: S3. Jeg tror ikke så mange leste det

256: Jo. Nesten alle klarte det (etnosentrisme og kulturrelativisme).

257: Men ja…Et spørsmål var hva ville du gjort annerledes neste gang. Hva skal dere gjøre neste gang?

258: S2. Dele mer informasjon

259: S4. Prøve at ikke alle jobber med....Eller jeg hadde ikke kontroll på hva andre jobbet med som ikke jobbet med min oppgave.

260: S2. Ja plutselig var en lås oppe liksom

261: S4. Ja hva skjedde der liksom. Men jeg var jo glad for at de låste den opp. Men jeg tror nesten at gruppa vår hadde klart det om vi ikke var så ueffektive og hengte oss opp i litt feil ting. Alle drev med hvert sitt. Vi samarbeidet ganske godt i de små gruppene vi var i, men de små gruppene samarbeidet ikke så godt sammen.

262: Hvordan skal dere løse det?

263: S3. Jeg gikk jo på en måte litt rundt, og så hva andre drev med og så om jeg kunne klare det liksom.

264: S4. Jeg kunne sikkert bidratt mye mer enn jeg gjorde.

265: S3. Jeg kunne holdt meg til en oppgave og prøvd å skjønne den. Ikke prøvd å skjønne alle samtidig.

266: S4. Jeg sto jo og tenkte kjempe-lenge at vi kanskje burde åpne bøkene (som lå der i spillet), men det sa jo ikke jeg høyt. Men ingen andre så på de en gang, så jeg tenkte det var sikkert dumt

267: S3. Jeg la ikke merke til de en gang.
(Masse prat om spillets gang, deltakere, hva de klarte og ikke klarte)

268: Men jeg hører jo at når dere snakker om spillet igjen så blir dere veldig engasjert og lever det om igjen (alle ler). Så for å konkludere helt til slutt da (alle ler) så synes dere da at det er noe å bruke tiden på (alle ler). Dere ville gjort det 'igjen?

269: S1. Ja

270: S2. Ja

271: S3. Ja

272: S4. Ja

273: S2. Vi kunne ha reist (med klassen) til et ordentlig escape room.

274: Avslutter intervjuet.