

# **The internal communication study for using digital tools in inquiry-based learning**

Case: Haaga-Helia, Porvoo campus

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<p>In January 2017 all degree courses at Haaga-Helia Porvoo campus began to use inquiry-based learning methods within the module components. Many of the modules are project based and interlink with the learning competences from other modules studied each semester. In addition to the change many staff use digital tools from external companies to support inquiry-based learning with their classes, at times mostly on a limited trial period.</p> <p>This study investigates how the use of digital tools is communicated internally within the case organisation, Haaga-Helia Porvoo campus. The main goal of the study is to find suggestions and solutions how to enhance the communication for teachers, who wish to experiment and use digital tools in inquiry-based learning.</p> <p>The first part of this study looks two theoretical frameworks, with the first in change communication and the second in people's willingness to accept new technology such as the Technology Acceptance Models TAM and TAM 2. The purpose of researching different theoretical frameworks is to better align the thesis with up to date frameworks that can be used in backing up any research findings and conclusions later in the thesis.</p> <p>The next stages of the study focus on the research and data collection. The study uses Action Research process at each stage of the data collection to diagnose, plan action, take action and evaluate action. The first part of the research used an electronic survey and test of a digital tool suited for inquiry-based learning. The electronic survey was used to investigate the digital tools currently being used by staff and students. The inquiry-based learning tool Seppo, identified by a teaching group, was used to test with two sample classes.</p> <p>The next action research cycle steps used interviews with staff identified to be key decision makers and investigative inquiry of the current internal communication guidance for digital pedagogy. These research findings and common characteristics were collated and discussed with the Haaga-Helia's DigiPeda teams and staff discussions for feedback, so communication guideline suggestions could be created for the final section and conclusions.</p>	
<b>Keywords</b> Digital tools, Inquiry-based learning, IBL, EBL, TAM, TAM2, Digital tools, Porvoo campus, Action Research, Strategic Employee Communication, Seppo, DigiPeda teams	

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# 1 Introduction

The use of digital technologies within education is an essential part of any modern curriculum and there are many digital tools available on the market. Haaga-Helia has a big focus on digitalization (Haaga-Helia 2018a.) and at Porvoo campus directors are keen to encourage staff to include digitalization in their module implementation planning. In addition to a more comprehensive digitalization plan, Porvoo campus specialise in using inquiry-based learning (IBL).

The increasing number of digital tools and hardware available continues to dramatically change the teaching environment, making it challenging for some educators in adapting their teaching methods for use in the classroom. On top of these issues' organizations and their management struggle to cope and properly manage the high multitude of digital options. According to a global survey by Deloitte Digital in 2015 which interviewed experts from over 70 countries, 70% of those operating in the public sector felt their digital capabilities falls behind the private sector. The report also highlighted key decision-makers were reluctant to take important steps towards digital transformation (Deloitte Digital 2015).

In my observations and discussions with staff at Porvoo campus any good recommendations of digital tools suited for IBL are rarely shared or communicated, so staff often attempt to find their own solutions. This situation has often led to digital tools being randomly selected causing time and resources to be wasted. These external digital tools are often not compatible with Haaga-Helia's two main learning environments Moodle and SharePoint and the Windows 10 operating system installed on all campus desktops and staff laptops.

The thesis has six chapters and begins by introducing the context, objectives and research questions. Chapter three introduces the methodology and theoretical frameworks for technology improvement models such as SAMR, TAM, TAM 2 and internal organization change communication models. Chapter four focuses on the methods used to conduct the research. The findings and results are presented and analysed in chapter five followed by chapter six that discusses suggestions and possible solutions the main thesis objective.

## **2 Context of the study**

In this chapter the main objective of the research is presented as is also the organization and the current digital strategy. An outline of inquiry-based learning is also presented as this concept forms much of the foundation with teaching in the degree modules at Porvoo campus.

### **2.1 Porvoo campus, Haaga-Helia**

Haaga-Helia University of Applied Sciences, Porvoo campus has approximately 1,100 students. Students complete degree programmes in English and Finnish and degree programmes include Business, International Sales and Marketing, Tourism, and Aviation. On the Porvoo campus website (Haaga-Helia 2018c.) the Finnish and English degree are arranged as follows:

- Degree Programme in Business (in Finnish).
- Degree Programme in Business, part-time studies (in Finnish).
- Degree Programme in Tourism (in Finnish).
- Degree Programme in International Sales and Marketing (in English).
- Degree Programme in Tourism and Event Management (in English).
- Degree Programme in Aviation Business (in English).

Porvoo campus is a modern campus having opened in January 2011 and the building is shared with Laurea University of Applied Sciences. The teaching is characterised by co-learning and involvement in projects with a focus on working life. The campus is also open daily to the public giving people access to the restaurant and library.

Studies are completed in modules and learning is promoted in many different ways but with the main focus centred around the use of IBL. Other teaching methods include the use of reading literature, lectures, participating external lecturers, seminars, workshops and finding solution models independently and in groups. The use of IBL is an important pedagogical approach used by many of the teaching staff.

There are two technology learning environments in use at Haaga-Helia. The first can be considered as Learning Management Systems (LMS) and is called Moodle. Haaga-Helia currently use Moodle version 3.1 which was installed and updated last in July 2016 (Haaga-Helia 2018b). The second is based on a Microsoft Office environment and called SharePoint Online, which was updated in July 2018.

## 2.2 Haaga-Helia Digital Strategy

How digital tools are used by the teachers at Haaga-Helia plays an important factor in ensuring the IBL pedagogical environment is delivered effectively. To reinforce the importance of digital technology pedagogy in all teaching at Haaga-Helia there is a focus of the term “digital services” on the strategic infographic as can be seen in figure 1 below and on the public and internal website (Haaga-Helia 2018c).



Figure 1. Haaga-Helia strategy (Haaga-Helia 2018c.)

To support the digitalization strategy a digital pedagogical support group named DigiPeda, made up of six staff members, coordinates a group of 19 digital pedagogical training mentors (appendix 7). However, despite these efforts there is still very little internal communication guidance for staff to access when they need further support.

## 2.3 Inquiry-based learning (IBL)

At Porvoo campus IBL is used in all teaching and embedded in the modules that make up the main degree courses in Finnish and English. Therefore, it is important the pedagogy of IBL is further examined. This thesis will use the American term of inquiry-based learning rather than the British term enquiry-based learning (EBL), as the American term is more often used in educational sources and research papers. One description of IBL focuses on the self-learning of the student as a method of instruction. IBL places the student, the subject, and their interaction at the centre of the learning experience, as described by E. Lee May from Salisbury State University (Ernst 2018). There are many definitions of IBL but one definition that seems to perfectly define IBL is by Dr W Hutchings who has focused his research in this field at Manchester University, United Kingdom.

In this way, it may be said that the process of enquiry is in the ownership of the students, so that Enquiry-Based Learning is fundamentally concerned with

establishing the context, the space, the environment within which enquiry may best be stimulated and students can take charge of their learning.  
(University of Manchester 2007, 13.)

In IBL students are responsible for their own learning and work to reach their own conclusions through trial and error, so the teacher encourages the learner to take a centred approach. The positive outcomes of students being responsible for their own learning is backed up in many respected online education publications and research articles for example, in adult students it was found they are fairly good evaluators of their own learning. (Chief Learning Officer Magazine 2006.) IBL can take a number of forms and at Porvoo campus most of these forms are analysis, problem solving, discovery and creative activities, both in the classroom and the community.

The process of students understanding their strengths and weaknesses, is an important first step in understanding as a self-learner and crucial principal in IBL. Howard Gardner's multiple intelligences highlight that interpersonal, intrapersonal, musical, naturalist, bodily kinaesthetic, logical-mathematical, verbal-linguistic and visual-spatial (Tecweb.org 2018).

## **2.4 Main objective and research questions**

The main aim of this study is to investigate how the use of digital tools is communicated internally within the case organisation, Haaga-Helia Porvoo campus. The study hopes to find suggestions for supporting the communication of digital tools for teachers, who wish to experiment and use digital tools in inquiry-based learning. It is hoped the findings will be used by the Haaga-Helia digital strategy decision makers to better communicate support guidance for staff that wish to use digital tools or purchase of digital tool licences. By having clearer digital tool internal communications support for teachers, the hope is teachers will be more stimulated to suggest how digital tools can be used, rather than focusing on how to use the specific digital tool features. This will help encourage staff to experiment with using digital tools to facilitate inquiry-based learning with their students.

To help support the main aim of this study two investigative research questions were created. The consultation and discussion with work colleagues specializing in IBL helped formulated the questions. The two investigative research questions were:

1. Which digital tools are currently being used at Haaga-Helia Porvoo campus for supporting IBL?
2. What internal communication guidance is provided for teachers using digital tools for IBL?

The answers for these two investigative research questions will come from the information collected from the research surveys, interview data collected, feedback, discussions and investigative research of internal communications.

### **3 Theoretical framework**

As this thesis focuses on how to support staff that use digital tools in IBL, two theoretical approach categories will be discussed. The first one concerns with change communication and second one describes models on people's willingness to accept new technologies. It is important these theoretical frameworks are examined and outlined in this study as they may offer ideas and tested models that can be used in any possible future digital tool communication framework for a Haaga-Helia, Porvoo campus.

#### **3.1 Communication in organizations**

Before looking into communication in change situations, the concept of communication in organizations in general will be discussed.

##### **3.1.1 Types of communication**

The three most widespread communication models are the Transmission, Social construction and Dialogic models (Jabri 2012, 241). The transmission model was developed by Shannon and Weaver from 1948. In the early stages of their research telephone technology was investigated and the communication process split into four primary parts sender, message, channel and receiver. Any interference between these parts was termed as background noise (figure 2). The transmission model was an advancement on their early work in attempting to explain basic language communication. In the transmission model the process starts from a sender known as information source who transmits their message by the process of encoding. The receiver then receives the encoded message signals and has to reconstruct the encoded message by decoding it to give meaning. The transmission flows between the sender and receiver in a uni-directional way, so the sender and receiver roles are switched around. Although the Shannon-Weaver transmission model can be used to explain very simple language communication, it is suited for explaining how humans make sense of their complex world such multi person conversation.

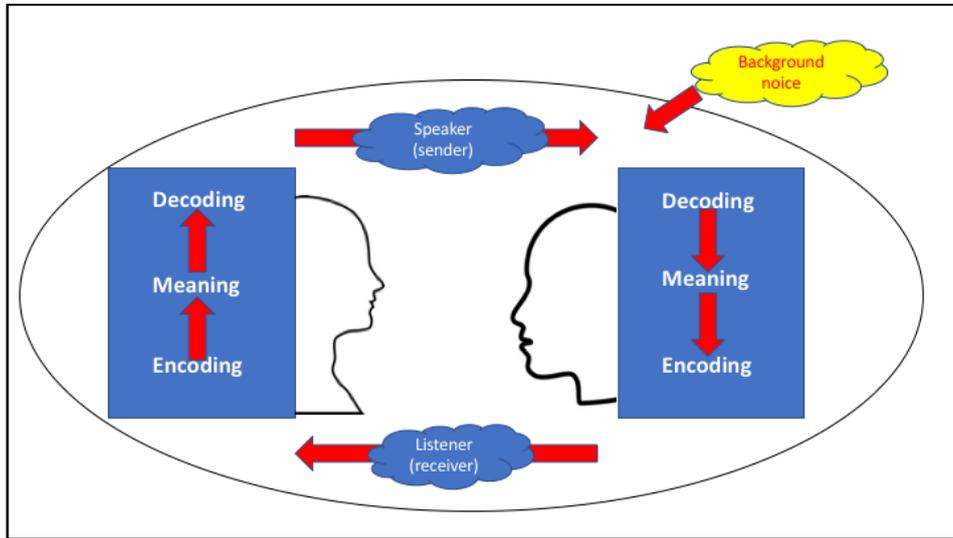


Figure 2. Representation of the transmission model (adapted from Jabri 2012, 242).

Social construction is based on the principles of understanding and sense making through social interactions. Humans need the input of others to help develop ideas, place them in context and make them relevant to their world. Humans construct their understanding of the world through relationships and partnerships, so Social construction gets to the heart of how people make meaning together collaboratively (Jabri 2012, 242-244). The concept of co-creation and collectivism is a continual theme in defining the meaning of Social construction and is regarded as an emergent process in which people communicate to co-create (Tsoukas & Chia, 2002, 567-582).

This basic outline of Dialogic model theory emphasizes that the communication focus is on the needs and relationship building between the change agent and the change recipient. Both the change agent and the change recipient come to the relationship without preconditions and are fully accepting of each other. The Dialogic model is about the relationship that develops and emerges between the change agent and the change recipient through trust and time, rather than an attempt in controlling communication (Jabri 2012, 244-246).

### 3.1.2 Corporate communication

As this research focuses on the communication in a specific case company, Haaga-Helia Porvoo campus, it is important to define the meaning of corporate communication. Cornelissen identifies seven areas of corporate communications Media relations, investor relations, public relations, environmental communications, internal communications, corporate advertisements and issues (Cornelissen 2014, 5).

Internal communication can be thought of as a strategic management tool to interact between the different employees of an organization through different channels such as

intranet, internal newsletters and internal emails (Wahlroos 2017). External communication is when the organization employees or management communicate with stakeholders outside the organization for example a social media posts or information posted on a public website. The minute internal communication becomes external communication is when an email is forwarded to the media or a newsletter taken home (Welch and Jackson, 2007, 180). One could also argue that the division to internal and external stopped making sense after the introduction of social media: whatever is published “inside,” will be shared with the “outside.”

Cornelissen (2014, 279) defines internal communication as all methods, such as internal newsletter and intranet, used by a firm to communicate with its employees. However, Cornelissen definition does not mention any linkage to strategic management as Welch and Jackson’s definition suggests.

As this research aims to find solutions for internal communication, it is relevant to examine in more depth about internal communication. Researchers use many terms to describe internal staff communication such as employee communication, employee relations, industrial relations, change management and leadership communication (Cornelissen 2014, 28-29). To help solve this dilemma Welch and Jackson (2007) introduced a framework of internal communication (figure 3) which at the same time differentiates stakeholder groups and provides tools to focus on all employees.

Dimension	Level	Direction	Participants	Content
1. Internal line management communication	Line managers/supervisors	Predominantly two-way	Line managers-employees	Employees' roles Personal impact, e.g. appraisal discussions, team briefings
2. Internal team peer communication	Team colleagues	Two-way	Employee-employee	Team information, e.g. team task discussions
3. Internal project peer communication	Project group colleagues	Two-way	Employee-employee	Project information, e.g. project issues
4. Internal corporate communication	Strategic managers/top management	Predominantly one-way	Strategic managers-all employees	Organisational/corporate issues, e.g. goals, objectives, new developments, activities and achievements

Figure 3. Internal communication matrix (Welch & Jackson 2007, 185).

This framework suggests a number of interrelated aspects of internal communication and underlines Welch’s and Jackson’s point of internal communication as strategic management of interactions and relationships between stakeholders including internal line management communication, internal team peer communication, internal project peer communication and internal corporate communication (Welch & Jackson 2007, 183-185).

### 3.2 Organizational Change

The strategic communication employee model developed by Deborah Barrett (2002) is a model designed to help support management understand the strategic role of employee communication. The model was developed by researching the communication processes in high performing companies (Barrett 2002, 220). The importance of employee communications is of high importance when there has been any important change such as a new processing models, mergers and acquisitions. The employee communication contains a number of components that link all the company's strategy and operations together. Supportive management, targeted messages, effective media/forums, well-positioned staff, ongoing assessment and integrated processes (Barrett 2002, 221-222). These individual parts allow the whole communication change process to be broken down into smaller manageable parts. Although these parts are separate on the model each part is interconnected and intertwined as can be seen in figure 4.

When an organization uses the strategic communication employee model realistic communication targets can be created for employee communication improvement and the change strategy.

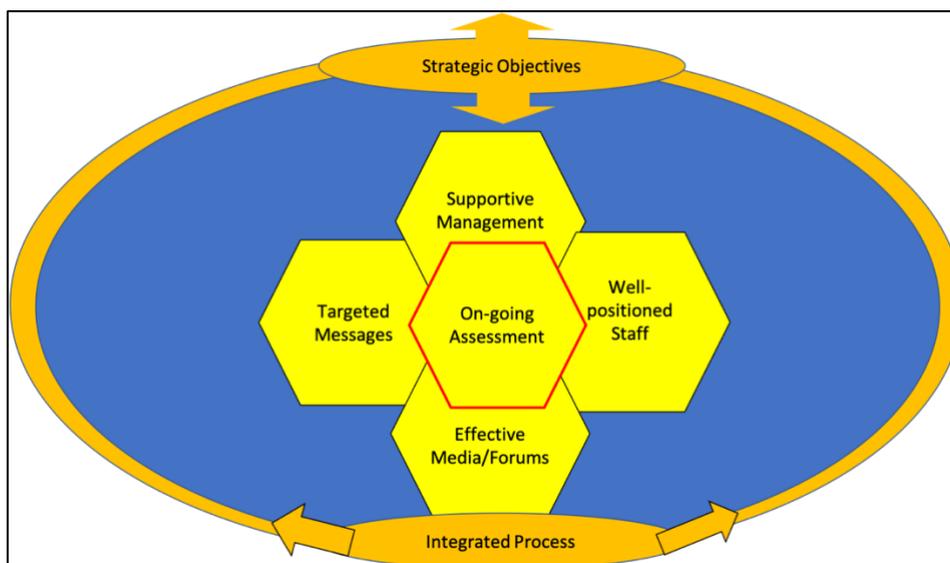


Figure 4. Strategic Employee Communication Model (adapted Barrett 2002).

The strategic employee communication model outlines the individual parts for communication, but Barrett goes on to recommend that an action plan be created first. In the action plan four essential actions need to be considered; 1) strategic communication team (SCT) is setup, 2) assess the current communication practices, 3) creation of a vision of the new strategy and redefinition of jobs and workshops and 4) monitoring and analysis of the results (Barrett 2002. 223.). The SCT can also use an assessment scorecard to quickly assess a company's current communication practices.

The scorecard system also allows for the assessment data collected to start the process in educating managers and teams about improvement targets for communication.

The communication models developed by Barrett (2002) and Welch & Jackson (2007) provide good theoretical examples to develop employee communications. These models have been used for developing models of internal communication with others such as with the work by Sher Holtz (2018). Sher Holtz works as a researcher and is owner of Holtz Communication + Technology (Communication + Technology 2018.). Sher Holtz developed their model of internal communication based on many of the concepts outlines by Barrett (2002) and Welch & Jackson (2007) but decided to not use the term internal in the wording of the model and use the word employee, to create a model called Employee Communication Model (figure 5). The reason for removing the work internal was because he felt the term is not appropriate when dealing with people. The naming of the model was also influenced by Peter Vogt who used to run employee communications at big organizations at Microsoft, eBay, and BBVA (Holtz 2017).

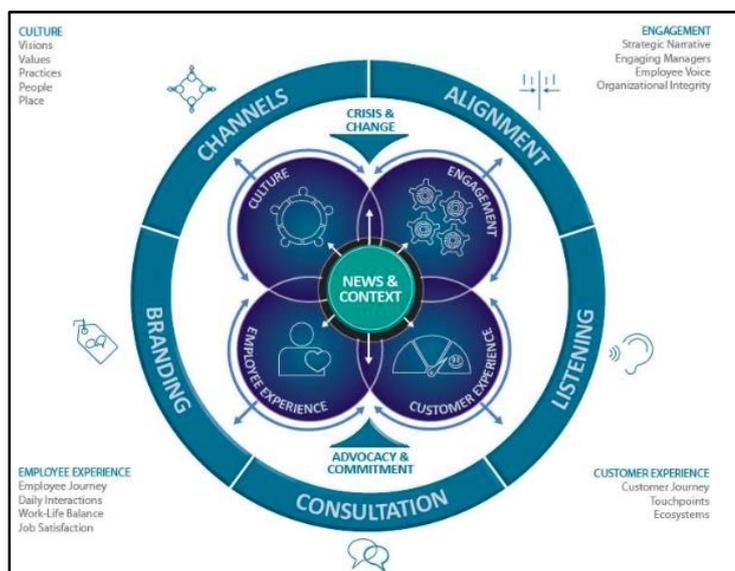


Figure 5. A new model for employee communication (Holtz 2017.)

The Kotter's 8-Step Model is a well-known model used for implementing organizational change. The model lists eight steps of change: 1) establishing a sense of urgency, 2) creating the guiding coalition, 3) developing a vision and strategy, 4) communicating the change vision, 5) empowering broad-based action 6) generating short-term wins, 7) consolidating gains and producing more change, and 8) anchoring new approaches in the culture. Kotter's model is an easy step-by-step model for organizations to follow, hence its popularity. The different steps need to be followed in sequence and do not allow for them to be skipped (Kotter 1996, 20-23). In one of Kotter articles "Leading Change (2007) Kotter attempted to explain one of the main reasons he believed change efforts do not succeed:

Why? Kotter maintains that too many managers don't realize transformation is a process, not an event. It advances through stages that build on each other. And it takes years. Pressured to accelerate the process, managers skip stages. But shortcuts never work.  
(Kotter 2007, 1.)

In much of Kotter's research, the emphasis on involvement and engagement is used heavily and without effective employee communication the process of change becomes much more difficult and doomed for failure. Another view for implementing effective organizational change is with Muayyad Jabri who introduces a different approach to Kotter's 8-Step model, by insisting that all parts are intimately interconnected between process, social construction and dialogue. Change is the process of learning, change is communication, and the other way around. Jabri argues that effective change requires a change programme and change agents to plan and sustain the efforts. Jabri strongly believes that language and communication have a crucial role in driving the change (Jabri 2012, 238-253).

### **3.3 Technology Acceptance Model (TAM & TAM 2)**

The technology acceptance model (TAM) is a theoretical model designed to explain how users come to accept technology in terms of their perceived usefulness and usage intentions. In studies for organizations that implement a new technology system the theoretical frameworks most often mentioned tend to be TAM, TAM 2 and UTAUT.

TAM was developed by Fred Davis in 1989 (Davis, Bagozzi & Warshaw, 1989, 982-1003) and modelled on the TRA (theory of reasoned action) by Aizen and Fishnein's work in 1967. In 2000 Venkatesh & Davis adapted the TAM model further, referred to as TAM2 (Venkatesh & Davis 2000, 186-204) by adding more external variables into the model. The TAM2 model was developed by testing in organizations who were implementing new technology systems either voluntary or in mandatory environments.

TAM and TAM 2 are both modelled on the "perceived usefulness" and "perceived ease of use" when an organization begins using a new technology system. In TAM 2 a further six external variables are included and put into two categories "Social influence processes" and Cognitive instrumental processes. The key differences between TAM and TAM 2 are illustrated in (figure 6).

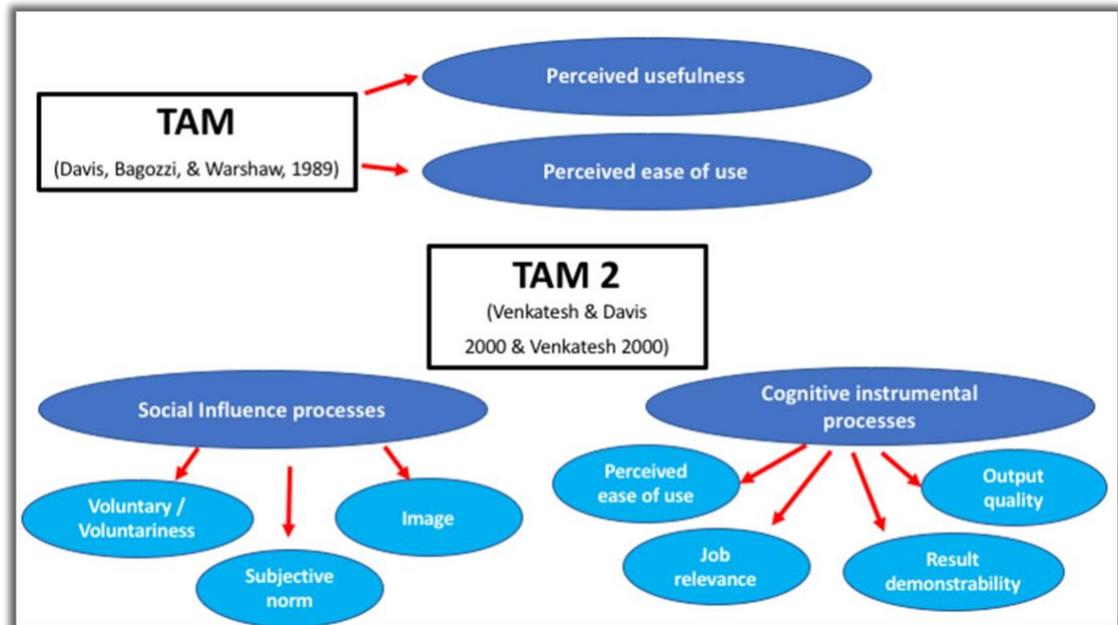


Figure 6. Differences between TAM & TAM 2 Models (adapted from Vistwanath Venkatesh & al 2000, 186-204).

The first key part of TAM 2 is called social influence processes, which is made up of subjective norm, voluntary and compliance and Image and social. In subjective norm persons perception that most people who are important to him think he should or not perform the behaviour in question (Fishbein & Ajzen 1975). In voluntary and compliance research work developed by Barki & Hartwick in 1994 separated respondents into mandatory and voluntary settings when implementing a new technology system. Barki & Hartwick found there to be a “compliance effect” when the settings were mandatory, but not in voluntary settings. In the last part of social influence processes, is the image and social process. When the use of a new system or innovation is seen to enhance a person’s standing in the social system (Moore & Benbaset 1991, 195). It was also found that over time with an increase in user experience the subjective norm begins to decrease (Barki & Hartwick, 1994, 59-82).

The second key part of TAM 2 is called cognitive instrumental processes, which is made up of perceived ease of use, job relevance, output quality and result demonstrability. These processes are very similar to the research in participation in decision-making (PDM), for how decisions are made by individual and small groups (Miller 2015, 148-149). In cognitive models the idea is based on that individuals who participate in decisions will be better able to implement the decisions, resulting in productivity and greater employee satisfaction as seen in figure 7.

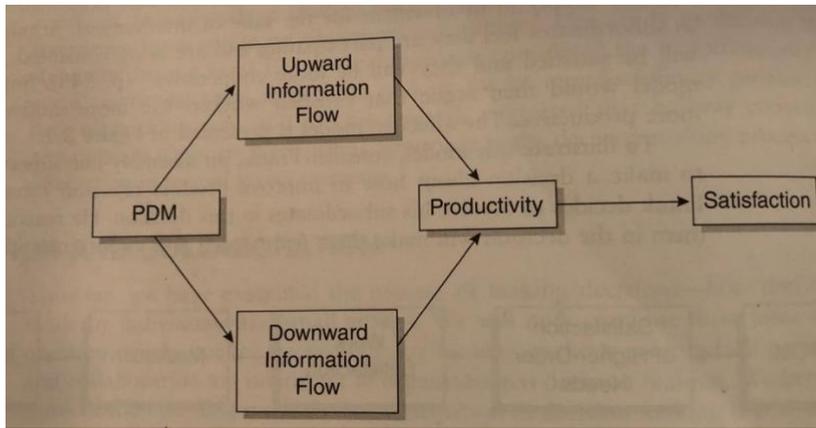


Figure 7. The Cognitive Model of Participative Decision Making (Miller 2015, 148).

Follow up models have been developed on TAM2 such as the Unified Theory of Acceptance and Use of Technology UTAUT. This is an adapted model of TAM 2 that attempts to explain user intentions when using an information system and the subsequent usage behaviour. There are four key parts of the UTAUT theory model performance expectancy, performance expectancy, effort expectancy, social influence and facilitating conditions (Venkatesh, Thong, J. & Xu 2003, 328-376).

### 3.4 Summary of theoretical frameworks

In summary Jabri's social construction communication (see Jabri 2012, 241) is the most aligned with the theme of this study, as the interactions, collectivism and the input of others (Jabri.M 2012, 241.) shares the key principles and foundations as IBL. Welch and Jackson (2007) framework of internal communication (figure 3) differentiates stakeholder groups and provides tools to focus on all employees (Welch & Jackson 2007, 183-185). This model may prove useful when analysing who the key decision makers are in the action research cycles.

The TAM and TAM2 models focus much on how users come to accept technology in terms of their perceived usefulness and usage intentions and offers some useful insights that could be used to explain results from the research, but it is very theoretical. The PDM model (Miller 2015, 148-149) offers a much more simplified approach similar TAM and TAM2. However, the study is not looking to explain how decisions are made by individuals and small groups.

The Kotter's 8-Step Model for implementing organizational change provides a simplified model for implementing general change but doesn't provide in depth guidance theory for communication. The most suitable model for communication change is the model proposed by Deborah Barrett (2002) strategic communication employee model (see figure 5). This model is quite likely to become the key model approach to use for this study

as it specifically focuses on communication change. The strategic communication employee model also provides clear guidance on individual parts that allow the communication change process to be broken down into smaller manageable parts.

## 4 Conducting the research

This chapter describes how the research and development work was conducted. First, the methodology of Action Research is discussed in general. Then the focus is on how action research was implemented.

### 4.1 Action Research

This study will use action research as it uses the iterative process of inquiry to develop solutions for real organisations. Action research also encourages participants in the research to collaborate using their different forms of knowledge, so as the research develops, the focus objectives may change (Saunders, Lewis & Thornhill 2016, 189-192).

In cycle 1 the main issues are identified for the study, cycle 2 develops the understanding of the stakeholders and project and cycle 3 acts on the knowledge gained from the previous cycles. Each cycle goes through four stages: diagnosing, planning action, taking action and evaluating action. On the first cycle the context and purpose have to be first identified before moving onto diagnosing (figure 8).

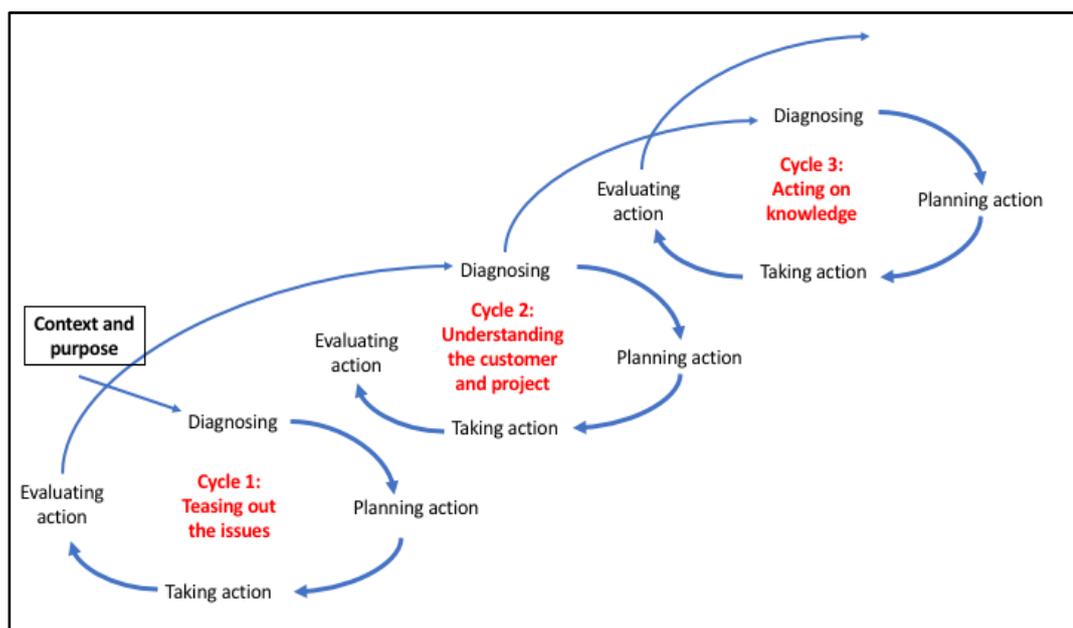


Figure 8. The three cycles of the Action Research spiral (adapted from Saunders & el 2016, 191).

As action research is an iterative process with four stages in each cycle (diagnose, planning action, taking action and evaluating action) I will be careful to not over plan the complexity in each cycle stage, so flexibility is maintained in each cycle before moving onto the next cycle stage.

## 4.2 Action Research plan process for this study

In this thesis study, I as the researcher will use three action research cycle spirals to help guide the research process, with each cycle spiral going through diagnose, planning action, taking action and evaluating action. As the action research progresses through each cycle phase, the start of each cycle will be adjusted in diagnosis stage. Therefore, this plan of action research is only a draft plan as it is entirely dependent on the result and outcomes in the cycles beforehand. An outline of each spiral step with a breakdown of descriptions for each cycle can be seen in table 1.

Table 1. Action research process model steps

<p style="text-align: center;"><b>Cycle 1</b> <b>Teasing out the issues</b></p>	<ul style="list-style-type: none"> <li>• <b>Diagnosis</b>-identifying the target groups for the research</li> <li>• <b>Planning</b>-designing the electronic surveys/interview questions for staff and students</li> <li>• <b>Action</b>-sending out the student and staff surveys, doing staff interviews</li> <li>• <b>Evaluate</b>-evaluating the results surveys and interviews</li> </ul>
<p style="text-align: center;"><b>Cycle 2 (part 1)</b> <b>Understanding the customer and project</b></p>	<ul style="list-style-type: none"> <li>• <b>Diagnosis</b>- identify any staff for further interview, identification of current internal communication for using digital tools</li> <li>• <b>Planning</b>- design interview questions, find the content for identified internal communication</li> <li>• <b>Action</b>- do the interview questions, research identified internal communication</li> <li>• <b>Evaluate</b>-analyse the results</li> </ul>
<p style="text-align: center;"><b>Cycle 2 (part 2)</b> <b>Understanding the customer and project</b></p>	<ul style="list-style-type: none"> <li>• <b>Diagnosis</b>- identify any staff and student groups for Seppo digital tool test</li> <li>• <b>Planning</b>- design the test (teacher group)</li> <li>• <b>Action</b>- do the test</li> <li>• <b>Evaluate</b>-analyse the results</li> </ul>
<p style="text-align: center;"><b>Cycle 3</b> <b>Acting on knowledge</b></p>	<ul style="list-style-type: none"> <li>• <b>Diagnosis</b>- identify any key staff decision makers that can be used for feedback on the cycle 2 results</li> <li>• <b>Planning</b>- create overview of results of findings, arrange meetings</li> <li>• <b>Action</b>- Meet identified staff and present cycle 2 findings, feedback/discuss results with key staff members/decision makers</li> <li>• <b>Evaluate</b>-analyse the effect</li> </ul>

#### **4.2.1 Cycle 1: Teasing out the issues**

The first step of the study is to find insights into which digital tools are being used for IBL at HH Porvoo campus and to test a digital tool called Seppo with two sample classes. This will be done with electronic survey and interviews. This information is important to collect as it allows the common dominators of the digital tools at the campus to be analysed for how they support IBL. The cycle 1 research outcomes support the investigative questions outlined in section 2.1 of this study.

1. Which digital tools are currently being used at Haaga-Helia Porvoo campus for supporting IBL?
2. What internal communication guidance is provided for teachers using digital tools for IBL?

I as the researcher of this study will conduct the investigation of internal support materials.

#### **4.2.2 Cycle 2: Understanding the customer and project**

There will be two parts to the cycle 2 process part 1 and part 2.

The part 1 of the cycle 2 action research will identify any staff for further interview from the outcomes of the cycle 2 and the investigative research the current internal communication for using digital tools at Haaga-Helia, Porvoo campus. The results will help to identify who are the decision makers that make purchasing digital tool licenses. Key staff are identified based on the following criteria 1) staff that volunteered to be part of the study with Seppo, 2) research findings of internal HH staff guidelines on the intranet, 3) planning documents and 4) discussion with work colleagues. Examples of key staff that could be selected for interview include the key decision makers who make the purchasing decisions for digital tools at Porvoo campus or for the whole of Haaga-Helia, ICT technical staff and campus directors at Porvoo campus.

In part 2 of the cycle 2 process two staff members offered their two student classes as test groups for testing Seppo. There two classes are SAMPO18 Degree Programme in International Sales and Marketing in English and LIPPO16 Degree Programme in Business in Finnish.

The discovery of the Seppo IBL tool came about from a staff group who were considering testing a digital tool designed for IBL called Seppo. The awareness of Seppo by this

group came about from a previous semester project undertaken by students at Porvoo campus.

According to the Seppo pedagogy section of their website the digital tool solution is classified as a gamification tool that inspires and motivates students and is highly suited for teamwork (Seppo 2018c.). Gamification can be defined as a game application that incorporates game-design and game principles for encouraging learning in a non-game context (Wikipedia 2018.). Seppo's routes started in the Finnish education as a digital tool designed to enhance education and learning and one of their missions has been to help teachers engage and motivate every student to learn (figure 9).

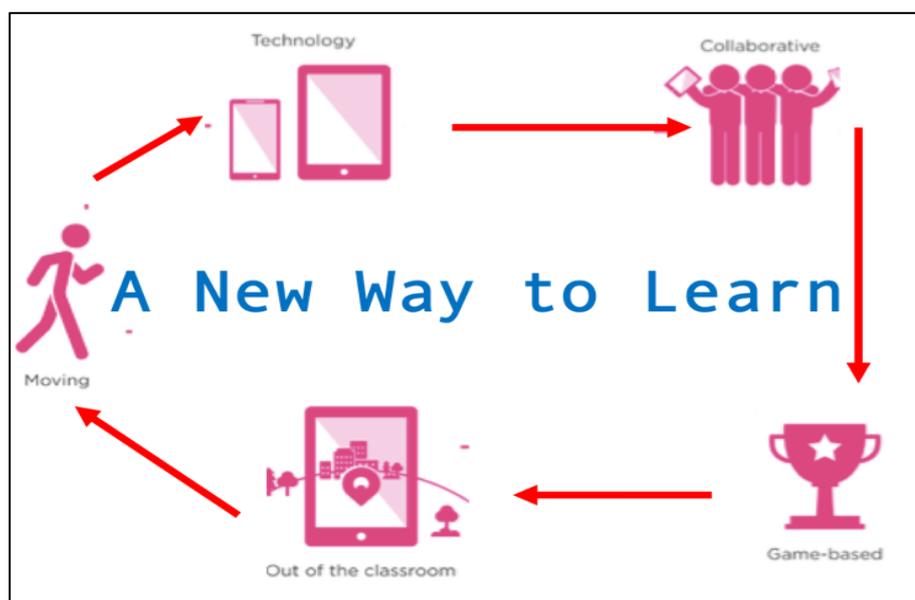


Figure 9. Overview of the key ways to learn with Seppo (adapted from Seppo 2018b).

On analysis of the Seppo website and agreement with the teacher group, it was agreed Seppo was potentially an ideal IBL digital tool to use for the study. As this thesis uses the action research process for each stage of the research cycle, I decided to act on behalf of the teacher team and contacted Seppo.

After contacting Seppo, they were keen to meet, so were invited to Porvoo campus to meet with the teacher test group and I as the researcher for this study. This opportunity would be used for Seppo to explain in more detail about the digital tool's suitability for use with IBL, before proceeding any further. At the information session Seppo conducted a thorough overview demonstration and offered to setup free accounts for a 6-month trial for any staff members involved with this research. Therefore, it was agreed to use Seppo as primary digital tool for this thesis research. On the Seppo website it reads "We're creating a new kind of pedagogy that combines social learning and versatile ways of using mobile technology" (Seppo 2018c).

Both teachers from the test group will plan and create their Seppo tests two weeks prior to the test period in April 2018 by using guidance materials from the Seppo website (Seppo 2018d). Before both student classes start to use Seppo, they will be provided with the purpose of this research and given a training session on the basic features of the tool, by both teachers. Copies of the presentation used can be viewed in appendix 8.

On completion of the test period the student sample groups would complete an electronic survey to analyse the effectiveness of the digital tool with IBL. Depending on the survey result analysis some interviews would then be conducted with the teacher participants for further analysis.

The outcomes of the Seppo test analysis in the cycle 2 action research phase will be used to analyse the effectiveness of the digital tool with IBL. Depending on the survey result analysis some interviews would then be conducted with the teacher participants for further analysis. The interviews with the teachers that participated in these tests helps to analyse the internal communication processes staff make, if Seppo proves to be a suitable digital for IBL. What internal communication guidance is provided for teachers using digital tools for IBL? The cycle 2 research outcomes support the second investigative questions outlined in section 2.1 of this study-What internal communication guidance is provided for teachers using digital tools for IBL?

#### **4.2.3 Cycle 3 Acting on knowledge:**

On analysis of the research from the cycle 2 results, these will be used to start creating suggestions and proposals for internal communications at Haaga-Helia, Porvoo campus. As outlined in section 2.1 of this study the main aim is to investigate how digital tools support is communicated internally within the case organisation. The main goal of the study is to find suggestions and solutions how to enhance the communication for teachers, who wish to experiment and use digital tools in IBL.

One of the objectives of this thesis is identifying the key processes required to undertake when experimenting with a digital tool to help judge if its suitable in IBL. The internal communication suggestions aim to identify the correct steps required for staff members to follow at Haaga-Helia Porvoo campus, but also possibly for all Haaga-Helia campuses to implement. Lastly, the communication plan guidelines will be analysed for feedback with discussion with key staff members, decision makers and members from the digital learning support group.

The outcomes from the feedback discussions with key staff members, decision makers and members from the digital learning support group will then be used to link with the communication theoretical frameworks discussed in section 3 of this study.

### 4.3 Collecting and analysing the data & collection methods

The data will be collected using qualitative and quantitative methods. Most of the data gathered will be through the results of electronic surveys, interviews and discussions with colleagues. Internal data, such guideline documents and the staff intranet system will also be analysed. An overview of the data collection methods is presented in table 2.

Table 2. Data Collection Methods

<b>Method</b>	<b>Objective</b>	<b>Participants</b>	<b>Time frame</b>
Electronic survey	<ul style="list-style-type: none"> <li>Gain insights into which digital tools used for IBL at HH Porvoo campus</li> <li>Identify digital tool common dominators used for IBL.</li> </ul>	Students & Staff	December 2017
Electronic survey, interviews	To analyse the effectiveness of the IBL digital tool Seppo	Student test groups	April 2018
Interviews of key staff	To investigate the current internal communication processes at HH for digital tool purchases	ICT staff at Porvoo and Pasila, Porvoo campus directors,	June 2018, September 2018
Internal data	HH staff guidelines on intranet and plans, learning from colleagues and gaining insight.	Researcher, work colleagues	During research

## **5 Findings**

This chapter describes the results of each action research cycle 1, cycle part 1 & 2 and cycle 3. Each of the action research cycle results data is analysed and at the end of the results a small summary for next steps to take for each stage.

### **5.1 Cycle 1: Teasing out the issues**

The cycle 1 was the first stage of the action research process, in which students and teachers at Haaga-Helia Porvoo campus were electronically surveyed. Below the findings of the research and analysis are presented.

In December 2017 two electronic surveys were conducted using qualitative methods in the form of an electronic survey, created using the digital software tool Webropol. The surveys were sent via email to all students studying degree courses in Aviation Business, International Sales and Marketing and Tourism & Event Management, who had started their degree courses between September 2015 - September 2017. The staff survey was sent by email to all Haaga-Helia Porvoo campus teachers excluding myself and a URL link communicated via the internal Porvoo campus communication system called Yammer. The purpose of both surveys was to gain insights into which digital tools were preferred for using with inquiry-based learning and to identify; 1) insights into which digital tools are being used for IBL at HH Porvoo campus and 2) test a digital tool called Seppo with sample classes. This will be done with electronic survey and interviews. The student and teacher survey questions can be found on Appendix 1 and 2.

#### **5.1.1 Student survey results and analysis**

The response rate for students was satisfactory: 98 responses out of 300 (33.6%) (from an approximate total of 300 students. There are a few possible reasons for the low response rates, but one could be the small completion window of 19 days (Monday 4<sup>th</sup> December 2017 to Friday 22<sup>nd</sup> December 2017). Other factors may include the Christmas break starting on Wednesday 20<sup>th</sup> December, as many students tend to be extremely busy around this period finishing their projects and assignments before starting their Christmas break, so may have been reluctant to participate in an electronic survey. The student survey results can be found on Appendix 3.

For the student survey a total of 98 respondents completed the survey, with the biggest age category completing the survey from the ages 22yrs-25yrs (41 students in total or 41.8%). The nationality of the respondents was heavily dominated by EU students as 70 out of the 98 students that answered were from the EU countries with the highest number

of students totalling 56 coming from Finland (57.1%). 46 students (46.9%) were in the first year of their studies and 26 students (26.5%) in the second year. There were three separate degree program categories who took part in the survey. These were 71 students from Tourism and Event Management (72.4%), 22 International Sales and Marketing (22.4%) and 5 students from Aviation Business (5.1%).

The results made it very evident that IBL was being used in studies at Haaga-Helia, as only one student selected the never option. There were two options for how well inquiry-based learning were being used; classroom and Projects. For the classroom 59.1% selected IBL was sometimes used in the classroom compared to a lower percentage of 39.7% for frequently. For projects 66.3% selected frequently compared to 33.6% for sometimes (Table 3).

Table 3. How often are inquiry-based learning methods used in studies or projects

	<b>Never</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Total</b>
<b>Classroom</b>	1 (0.01%)	58 (59.1%)	39 (39.7%)	98 (100%)
<b>Project</b>	0 (0%)	33 (33.6%)	65 (66.3%)	98 (100%)

The table 2 results indicate students feel inquiry-based learning is used more with their projects than in the classroom.

Question 8 on the survey respondents were asked to rate on a scale of never, sometimes, frequently, very often and not sure, about the communication platforms used and how they their learning at Porvoo campus. The communication platforms listed were; HH Public Website, MyNet Website, HH Social Media, HH Finna-Online Library and SharePoint/Leap. There was a total of 490 selections, so to better understand these answers I combined the positive total categories (frequently and very often) and the negative total categories (never and sometimes). I deducted the not sure total of 20 selections from the 490 totals as there wasn't anything to analyse for the data from the category option. The results are in table 4.

Table 4. How well do the following communication platforms support your learning at Porvoo campus?

	<b>Never &amp; Sometimes</b>	<b>Frequently &amp; Very Often</b>
<b>HH Public Website</b>	62 (28.5%)	31 (12.2%)
<b>MyNet Website</b>	20 (9.2%)	75 (29.6%)
<b>HH Social Media</b>	60 (27.6%)	33 (13.0%)
<b>HH Finna-online library</b>	61 (28.1%)	34 (13.4%)

<b>SharePoint/Leap</b>	14 (6.4%)	80 (31.6%)
<b>Total out of 470</b>	217 (46.1%)	253 (58.3%)
<i>*Note "sure" total of 20 deducted</i>		

The three biggest selections under the positive category (frequent & very often) were for SharePoint/Leap (31.6%), MyNet Website (29.6%), HHFinna-online library (13.4%). The three biggest selections under the negative category (never & sometimes) category were; HH Public Website (28.5%), HHFinna-online library (28.1%) and HH Social Media (27.6%). The result findings indicate that SharePoint followed by MyNet is the preferred communication platform students prefer to use with their learning and the HH public website followed closely with HHFinna are the least preferred.

Question 10 asked students about the digital tools most often used with learning, by providing the most common digital tools in a list (12 in total). There were a wide range of answers, so to better analyse the results I combined the totals frequent and very often (total 686 selections for the digital tool choices) out of 98 responses (figure 10).

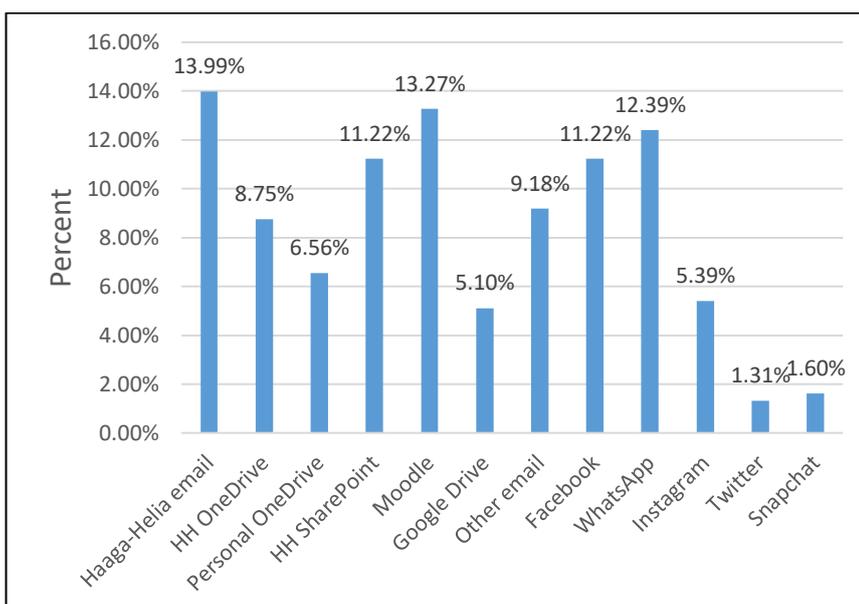


Figure 10. Most often digital tools used with learning (n = 98)

Of the total twelve digital tools students could select from five achieved scores percentages above 10% with the remaining seven with scores below 10%. The score above 10% were:

- Haaga-Helia email (13.99%)
- Moodle (13.27%)
- WhatsApp (12.39%)
- HH SharePoint & Facebook (joint 4th) on 11.22%

The results in this question made it clear that students digital tool preference for learning was with using Haaga-Helia's email followed closely by Moodle.

In question 13 students were asked if they use any digital tools with their studies that had not been mentioned in the survey. There were many digital tools suggested and the results can be seen in figure 11. There were a wide variety of digital suggestions and many answers were categories and not digital tool names and some may not all be suitable for IBL, but they will be useful for comparing against the teacher results.

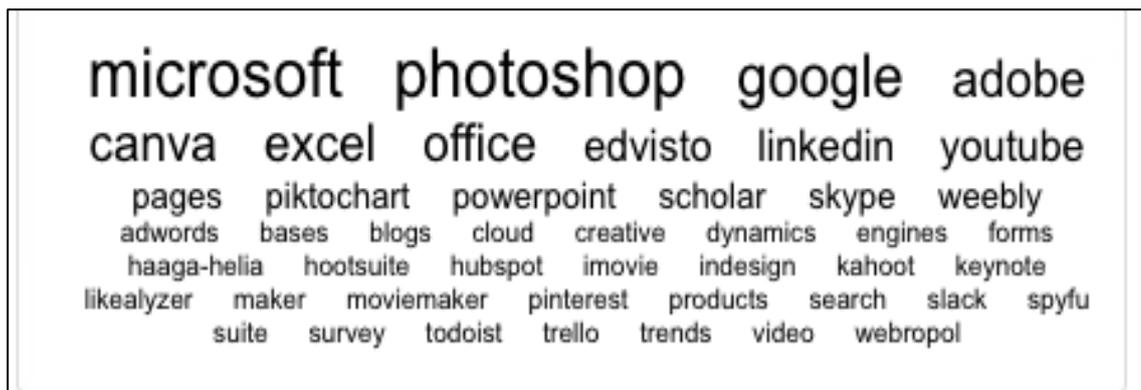


Figure 11. Word cloud for student results question 13

### 5.1.2 Teacher survey results and analysis

The response rate for the teacher survey was poor: 9 out of 42 teachers responded. As with the student survey the small completion window of 19 days and the last few weeks before the Christmas break tend to be extremely busy for staff finishing grading and projects with their students. I was personally very disappointed by the low staff response, despite offering an extra incentive for staff to enter into an optional prize raffle at the end of the survey. As pointed out in the abstract the shift from traditional lecture-based classes to a more IBL environment has been a big change to adapt to for many staff. In my opinion these changes with the new curriculum and creation of new teacher teams created a unsettled working environment near the end of 2017 academic year. I see this also affecting the response rate as staff may have felt a survey was extra work on their already busy schedule. The teacher survey results can be found on appendix 4.

The biggest age category completing the survey was between the ages of 46yrs-54yrs (five of the total 9 respondents). The nationality of the teachers was heavily dominated by EU nationals with eight teachers selecting their nationality as Finnish and one staff member outside Finland. The most common number of years worked at Haaga-Helia was the option of 6-10yrs in which 5 staff selected the option.

The results made it very evident that inquiry based was being used by teachers at Haaga-Helia, as nobody selected the never option. There were two options for how where IBL learning was being used; classroom and Projects. For the classroom eight selected IBL was sometimes used in the classroom. For projects four chose frequently and very often (table 5).

Table 5. How often are inquiry-based learning methods used with your classes?

	<b>Never</b>	<b>Sometimes</b>	<b>Frequently</b>	<b>Very Often</b>	<b>Total</b>
<b>Classroom</b>	0	8	1	0	9
<b>Project</b>	0	1	4	4	9

These project results indicate that most of the responses from teachers use IBL in their classes, which also corresponds well to the findings of student answers on the same question. Although it must be highlighted that the very low response rate of teachers makes it difficult to accurately compare to the student results and findings.

When asked about How much pedagogical support and training does Porvoo campus provide for IBL methods in lessons (question 8) four teachers answered sometimes, one teacher for both frequent and very often, two not sure and one selected never.

As in the student survey questions, teachers were asked to rate on a scale of never, sometimes, frequently, very often and not sure, about the communication platforms used and how they support IBL learning at Porvoo campus (table 6).

Table 6. How well do the following communication platforms support your planning at Porvoo campus?

	<b>Never &amp; Sometimes</b>	<b>Frequently &amp; Very Often</b>
<b>HH Public Website</b>	7	2
<b>Intra Website</b>	4	5
<b>HH Social Media</b>	5	4
<b>HH Finna-online library</b>	7	2
<b>SharePoint/Leap</b>	2	7
<b>Total out of 45</b>	25	20

Question 12 asked teachers about the digital tools most often used with learning, by providing the most common digital tools in a list (12 in total). There were a wide range of answers, so to better analyse the results I combined the totals frequent and very often (total 64 selections for the digital tool choices) out of 9 responses (figure 12).

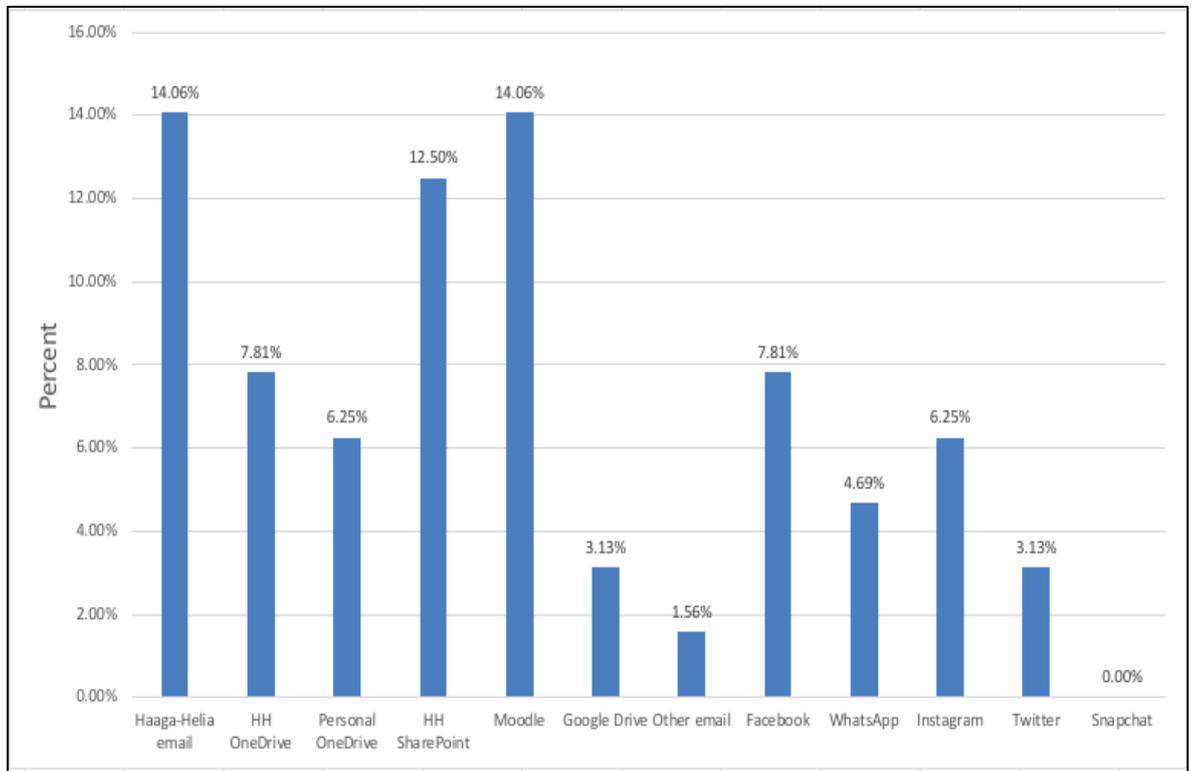


Figure 12. Most often digital tools used with learning (n = 9)

Of the total twelve digital tools staff could select from three achieved scores percentages above 10% with the remaining seven with scores below 10%. The score above 10% were:

- Haaga-Helia email & Moodle (joint 1<sup>st</sup> 13.99%)
- HH SharePoint & Facebook (joint 4<sup>th</sup>) on 12.50%

The results in this question made it clear that the staff digital tool preference for using with students was Moodle & E-mail, followed by SharePoint.

In question 13 teachers were asked if they use any digital tools with their work that had not been mentioned in the survey. Six respondents replied with digital tool suggestions such as Viber, Edvisto, Padlet, Kahoot, Today'smeet, Wordpress, Lyyti event registration software, Feedback fruits, Qridi and Winha (figure 13).



Figure 13. Teacher digital tool answers for question 13

The last question asked colleagues if they were willing to join a research group for the study. The purpose of the teacher research group would be to join the Seppo digital tool IBL test group. The results were a total of five colleagues interested in joining (two yes and three maybe's) and a total of four colleagues not wishing to be part of any research group (figure 14).

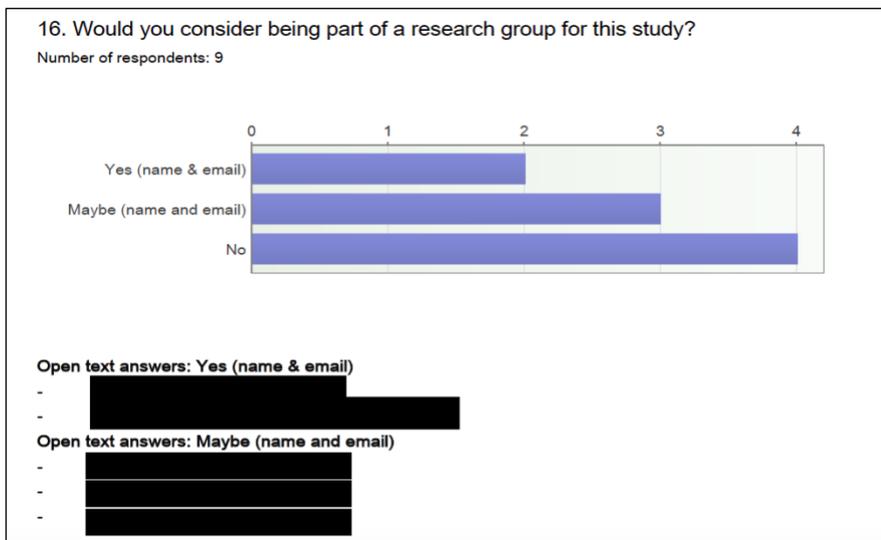


Figure 14. Results of questionnaire for teacher test group participants Summary of cycle 1 and next key steps?

The students made it very evident that IBL was being used in studies at Haaga-Helia. Students indicated IBL is most often used in projects than the classroom. Similar results were reflected in the teacher survey as projects was selected as the main use of IBL and classroom as the second choice. The communication platform most favoured was SharePoint with a percentage score of 31.6%. Teachers also chose SharePoint as their preferred communication platform with an even higher score percentage of 35.0%. Students chose the digital email tool as the one they use most often for their learning with a score percentage of 13.99%. Teachers also chose email, but this was shared with the VLE system Moodle.

On the comparison of teacher and students' digital tools being used it was very interesting in comparing the variety of digital tools being used (figure 15). However, it is very difficult to determine which tools are suited for IBL without further investigations and research.

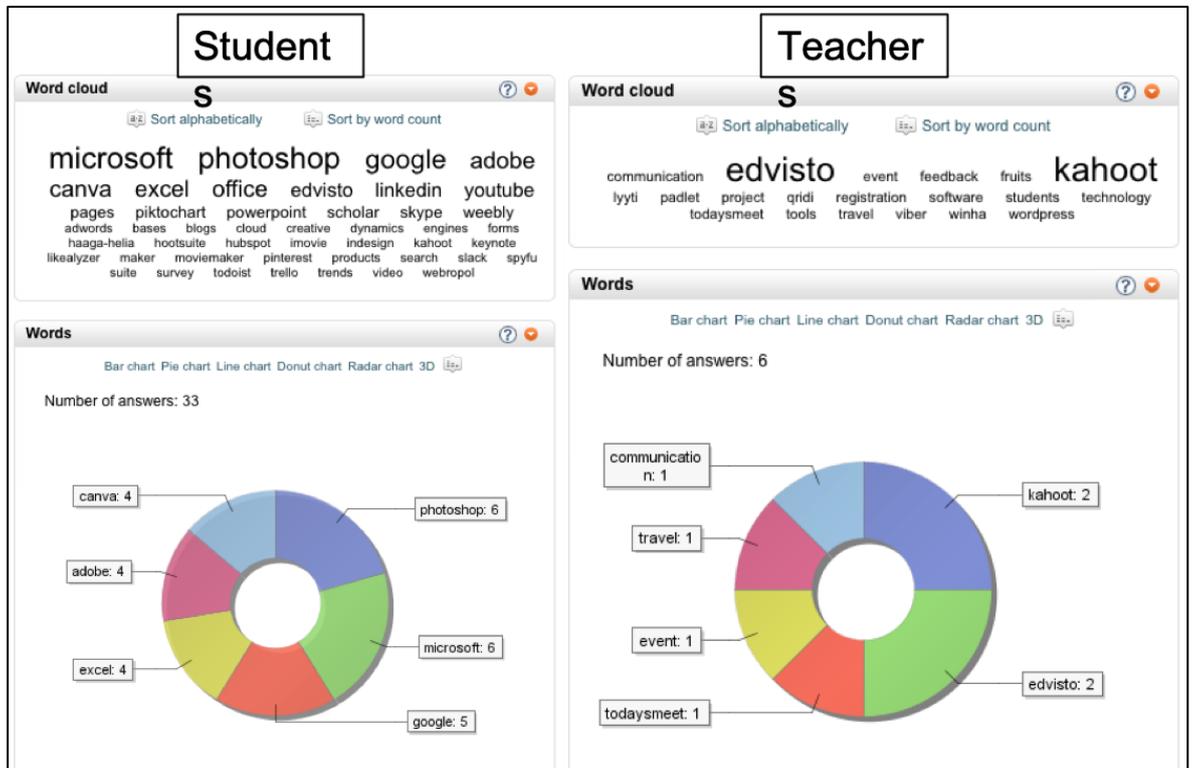


Figure 15. Comparison of digital tools student vs teacher

## 5.2 Cycle 2: Understanding the customer and project

In this section there were two separate parts for the action research cycle. Part 1 involved interviewing key staff and part 2 used a digital IBL tool to test with sample students' classes. Below both the results are presented and analysed.

### 5.2.1 Interviews of key staff analysis cycle 2 part 1

Results from interviews and internal communications identified two senior key staff for interviews from the Haaga-Helia ICT management (manager and senior manager), as they wanted their names and job roles not published on this study. The other two staff interviewed were the two Seppo teacher teachers. Below are the results and questions and their answers can be found on appendix 9.

The IT manager when asked about awareness of any communication documents or guidelines on internal intranet pages, the answer was no. They also said they think there is no official procedure in place or not aware of it. Their answer for clearer internal communication outlining the processes for experimenting and purchasing new digital tools was yes, but with no suggestions how. The interview response by the IT senior manager was conducted by email. Below is their reply.

We don't have any relevant information in Intra concerning the procedures of software purchasing, probably we should. The general idea is that IT-Services takes care of it, of course listening to user's needs as far as possible. We in IT-services

like to keep this in our hands and avoid the birth of “shadow-IT” in units. We can and will often negotiate education discount on licensing prices and co-operate with other universities in Finland.

(Interview questions and answers, 2018, appendix 7)

In the findings of the Seppo teacher testers the general results indicated the Seppo test went successfully with their students, especially the test with the SAMPO18 business class. On completion of the SEMPO18 test one teacher said they missed Seppo and that there are many things they could do with it, but after investigation they were unable to get any purchase decisions made at Porvoo campus. The staff member decided to contact IT support in Pasila campus but didn't know which manager needed to be contacted for purchase licenses, due to know information on any of the Haaga-Helia communication platforms. The accounting teacher stated they were surprised to find, with another digital tool specializing for accounting, that licenses were only made for use at Pasila campus. The teacher was forced to persuade the ICT help desk in Pasila through much negotiation, to arrange permission to use the digital tool at Porvoo campus. When asked about communication documents or guidelines for staff on the Intra intranet page, both their correspondents answered no.

When both correspondents were asked how they about communication at Haaga-Helia, both wanted clearer communication for example;

“And I mean communication, not only something in Intra somewhere” and “I try to avoid searching things in Intra, because I tend to find only documents that are so long and detailed, that my attention span is not long enough for reading them.”

(Interview questions and answers, 2018, appendix 9)

The Seppo results indicated from the student feedback that it was a good digital tool to use with IBL projects. These results would be fed back to the two teachers that tested the software and observations made to see how these teachers proceed next, as they are likely to want to purchase the software licenses to use with future classes.

The positive feedback by students clearly demonstrates the digital IBL tool Seppo has the potential to be used by other teachers at Porvoo campus, but a license will need to be purchased to continue with its use. Therefore, the two teachers who participated in the Seppo tests will be interviewed in the later stages of this study. This will provide adequate time for them to both pursue Seppo licenses and which internal communication they use. This will help provide answers for the two investigative questions outlined in section 2.2. The interview answers may be able to provide further insights in the communication processes for the decision makers at Haaga-Helia that have to be contacted for purchasing digital tool licenses.

### 5.2.2 Digital tool Seppo results analysis from students

As outlined in section 4.2.2 there were two student test groups used for the Seppo digital tool test. SAMPO18 for documenting their study trip to the city of Berlin and LIPPO16 for the calculation taxes in an escape room environment. The survey questions were created using Webropol and sent electronically to each class. Key conclusions from the survey mostly came from questions 16 to 18 as students were able to write text feedback about Seppo. The results can be found on Appendix 5 for SAMPO18 and Appendix 6 for LIPPO16. The survey analysis of both sample classes is discussed below.

The SAMPO18 study trip is an IBL learning project for students to learn business competence skills about international business, which is organized completely by the students including the travel, accommodation, company and cultural experiences in Berlin. The study trip took place between April 23<sup>rd</sup> to 26<sup>th</sup> April 2018. The students started their studies in January 2018, so as this was their 1<sup>st</sup> semester the study trip offered the opportunity to get to know one another better. The objective of the study trip project was for students to learn more about the field of international business and management, through a total of six company visits. The competences the study trip aims to develop students are customer understanding, operational environment, global mindset skills, team building and business etiquette. Seppo would be used to document the trip with gamification tasks created by the teacher to document the company visits. Students would complete the tasks daily by the use video, pictures and written text. Each task is graded by the teacher in real-time with point score ranges awarded, designed to encourage students to complete with each other. The teacher created all the Seppo instructions in English.

The Seppo digital test created by the teacher of the LIPPO16 class was very different to the SAMPO18 Seppo digital test, as Seppo was used by this class teacher to help support the understanding of tax calculations from a lecture about accounting taxes and finance theory. The LIPPO16 Seppo test took place between the week of 7<sup>th</sup> May to 10<sup>th</sup> May 2018. The LIPPO16's degree program specialisation is accounting and finance, so the teacher wanted to use the Seppo gamification features to add excitement to the tasks of tax calculation. The students had started their studies in the year 2016, so in their 4<sup>th</sup> semester. The teacher idea was to create an escape room for students to complete timed assessments about on accounting, that were graded in real time by the class teacher. The student with scores that reached a low score pre-set limit were removed from the escape room, designed to make the students compete with each other.

The total response rate was 13 students out of a total 46 students, with most of the responses coming from the SAMPO18 class that were eleven out of the 13 totals. The low reply rates from the Finnish speaking LIPO16 class were later discovered to be because the electronic survey was in English and many of the Finnish students didn't feel confident replying in English. Although the reply rate was low more feedback would be collected from the two teachers later in the research.

In question 16 students were asked about the positive features of Seppo and many mentioned in the SAMPO18 class the word fun, easy to use and a good for self-reflection tasks. The live feedback feature from teachers and students was also highly complemented. One of the questions asked to the test groups were to write one positive word which best describes Seppo and these answers are summarized as a word cloud in figure 16. The most popular words were experience, interactive, learning and reflect. Although the replies from LIPO16 were low the positive answers were very complimentary as the general consensus was that it gave a good variation and change to the normal routine of a lesson and that it increases the motivation to learn about taxes.

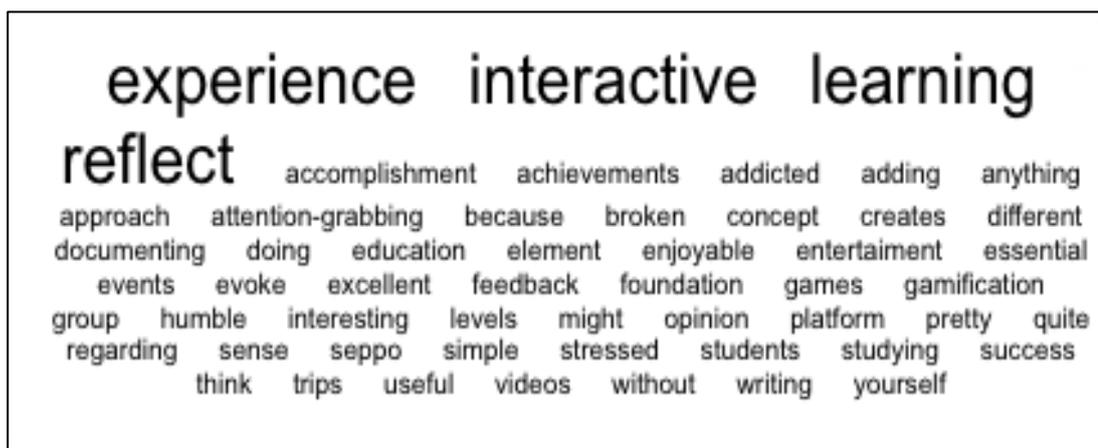


Figure 16. Results from students on positive features of Seppo

In question 17 students were about any negative features. Many of the answers focused around having to have an internet connection, text reply tasks took longer using on a mobile phone because of the screen size and no feature to edit a reply once it had been sent.

In question 18 students were asked if Seppo would be a good tool for using in other classes and a total of 9 students selected the yes option, and two each for no and not sure. Therefore, students clearly indicated that Seppo had very good potential to be used with other classes.

### **5.2.3 Digital technology internal communications results & analysis**

Upon extensive investigation, it became very evident that much of Porvoo campus use of digital tools depended much on the actions and communications of Haaga-Helia's DigiPeda development and support team (DigiPeda team) based in Pasila campus.

Despite extensive efforts, there was no information for staff to refer to for guidance at Porvoo campus on digital tool pedagogy. Any questions on this topic would have to be posted using the PedaHelp tool, which forwards any staff questions on using digital tools to experts at Porvoo campus. About once a month a list of IT training workshops is sent to all Haaga-Helia staff, but no training workshops are provided at Porvoo campus.

Teachers have access to a small team of two IT experts, but after an informal conversation with them they said that all their IT support tasks were directed by IT managers at Pasila campus. On the internal intra system there was some information found for technical guidance on using email, printing and the IT Helpdesk hours, but about nothing about digital pedagogy.

### **5.2.4 Cycle 2 next steps**

The analysis of the research from cycle 2 the results will be used to start suggestions and proposals for internal communications at Haaga-Helia, Porvoo campus. As outlined in section 4.2 of this study the main aim is to investigate how digital pedagogy is communicated internally within the case organisation. The main goal of the study is to find suggestions and solutions how to enhance the communication for teachers, who wish to experiment and use digital tools in inquiry-based learning.

Therefore, the next action step was to contact and arrange a meeting with the DigiPeda team manager to present some questions from these research findings and to get feedback. The outcomes from the feedback discussions from DigiPeda team will then be used to link with the communication theoretical frameworks discussed in section 3 of this study.

## **5.3 Cycle 3: Acting on knowledge**

In this section the digital tool pedagogy group DigiPeda team was contacted and interviews conducted. This forms the final stage of the action research process in this study. Below is the analysis and findings.

### 5.3.1 DigiPeda team meeting feedback results

A formal meeting with the DigiPeda team manager took place at Pasila campus on 24th August 2018. DigiPeda team documents were shared (appendix 7). The development of digital pedagogy is scheduled to start from October 2018 and all Haaga-Helia staff members will be invited to register.

DigiPeda team consists of six core team members and 19 digipedamentors. The core team prepares digipeda items and mentors. The DigiPeda team focus on the following tasks 1) provide support for digital media / systems related to their special skills in their degree programs, 2) provide planning and production aid for digital education, 3) ensure the quality of digital education in their degree program, 4) provide information on digipeda development needs in their units and change task, 5) distribute information on Haaga-Helia-level about their good DigiPeda practices, 6) attend DigiPeda team meetings that number 6-8 per year, 7) development the needs to “separately agreed upon act as a trainer in the digipedagogical training for Haaga-Helia personnel, 8) participate in Haaga-Helia level DigiPeda projects and 9) analyse information on the DigiPeda team trends, good practices and development. The DigiPeda team is responsible for the following at Haaga-Helia:

- responsible for creating Haaga-Helia's teaching design and learning support for both digital pedagogy and teaching environments and the tools used.
- for coordinating and supporting the design and development of Haaga-Helia's digital education / training offer
- responsible for defining and implementation (in collaboration with IT services + real estate management) of digital-built learning material production self-service environments (video and sound recordings) and other physical production environments
- responsible for defining requirements for IT-systems to support digital based teaching and learning and to guide the above-mentioned product portfolio in co-operation with IT services

The DigiPeda team training program aims to develop the participants' digital pedagogy competence, and the quality of their online courses in accordance with the Haaga-Helia quality criteria for online implementation. The training includes five webinars and two face-to-face workshops. During the training, the participants draft a pedagogic script for their course, and based on it, they design the online implementation. The participants build actively their own online implementation. For it, they get support from the Digipeda team mentors. Support is available also in English. The structure and content of the training is

based on a national program, which was developed and implemented in eAMK project in spring 2018.

Each member is a representative from the subject support program where they are based: Online pedagogy, DigiSchool, PedaCenter, School of Vocational Education, Education Program Director and IT Services representative (appendix 7). The purpose of the group is providing digital support to teachers and facilitation of digital project trainings at Haaga-Helia (figure 17).

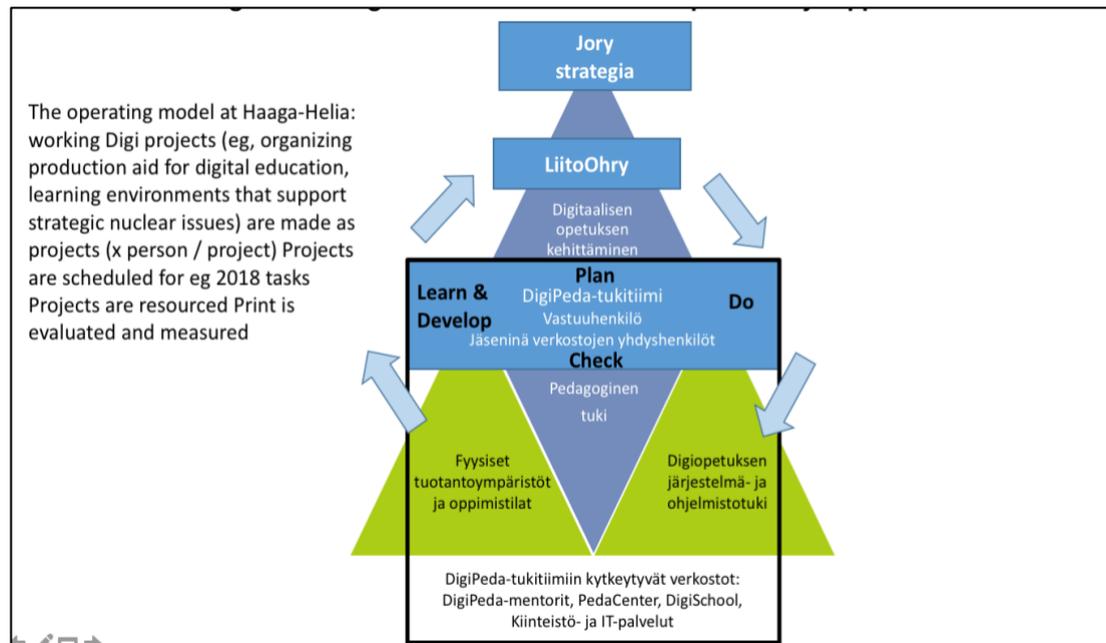


Figure 17. Digital learning and support group action plan (adapted, Appendix 7, 2018)

### 5.3.2 Cycle 3 outcomes and next steps?

The meeting with DigiPeda team manager in August 2018 gave much insights into the plans for improving the digital pedagogy competences for staff at Haaga-Helia and the impacts for teachers at Porvoo campus, but little information for how this would be communicated internally. As outlined by the DigiPeda manager much of the plans were still being finalized but would center much around DigiPeda mentors.

The plan was for DigiPeda team to start their implementation in October 2018, so one of the next steps would be to compare the DigiPeda team communication steps to the conclusions of this study in November 2018. As a result, the DigiPeda manager was keen to have access to the conclusions of this research study to help support them for creating a digital communication plan for the DigiPeda team.

## **6 Conclusions**

In the early parts of this study the main aim of this study was outlined, which was to investigate how the use of digital tools is communicated internally within the case organisation, Haaga-Helia Porvoo campus. Along with two investigative questions the study hoped to find suggestions for supporting the communication for teachers, who wish to experiment and use digital tools in inquiry-based learning. The study also looked at a number of theoretical frameworks but found the most suitable model for communication change was the strategic communication employee model (Barrett 2002. 221-222).

In the section below, internal communication suggestions will be suggested for using digital tools in IBL, based on the findings of the action research analysis and strategic communication employee model outlined by Barrett (2002).

### **6.1 Digital tool internal communication suggestions**

In the research analysis it was found there was little evidence of internal communication guideline support in the use of digital tools in IBL for staff to access at Porvoo campus. The analysis found Porvoo's digital solutions cannot be treated separately from the HH digital strategy entity, so much is dependent on the IT decision makers based at Pasila campus. Therefore, the IT decision makers need to make the digital strategy action points much more transparent for all HH teachers. In the conclusions presented below three communication improvement suggestions will be outlined for the IT decision managers to take at Haaga-Helia, which will directly support the case study organisation, Porvoo campus.

For the first suggestion the focus is on how DigiPeda team communicates the positive work it has already started in the area of digital tool pedagogy. In this research the DigiPeda group was found to have many good ideas and plans for supporting teachers on how digital tools can be used in IBL, so this study recommends the DigiPeda team group create an internal dedicated intranet page. On the proposed intranet page there would be sub-menu category options containing similar named components to the strategic communication employee model by Barrett (2002). These were supportive management, targeted messages, effective media/forums, well-positioned staff, ongoing assessment and integrated processes. These naming terminologies could easily be adapted and renamed for DigiPeda team, as can be seen in table 7.

Table 7. Proposed DigiPeda team intranet page structure teacher digital tools

<b>Suggested Intranet submenu page options</b>	<b>Component name (as outlined in the strategic communication employee model)</b>
DigiPeda action group members	<ul style="list-style-type: none"> <li>• supportive management</li> </ul>
DigiPeda mentor list	<ul style="list-style-type: none"> <li>• well-positioned staff</li> </ul>
DigiPeda participation group	<ul style="list-style-type: none"> <li>• ongoing assessment</li> <li>• integrated processes</li> </ul>
Joining DigiPeda & Making suggestions	<ul style="list-style-type: none"> <li>• ongoing assessment</li> <li>• effective media/forums</li> </ul>
Training workshop lists	<ul style="list-style-type: none"> <li>• ongoing assessment</li> <li>• integrated processes</li> </ul>
DigiPeda HH Social media	<ul style="list-style-type: none"> <li>• effective media/forums</li> <li>• targeted messages</li> </ul>

The DigiPeda team has already created much of the content for the submenu pages, so it would just be a matter of creating an intranet page to hold the information and placing the content into the relevant category submenu sections.

The communication of the staff member names who form the DigiPeda team would allow teachers to see the structure of the group is mixed with expertise areas at Haaga-Helia. By having an updated DigiPeda team mentor list this would allow campuses to see there is well-positioned staff at each campus for providing digital tools support. By publishing workshop meeting content conclusions regularly via internal communication mediums such as e-signals, yammer and newsletters, ongoing assessment would naturally self-monitor the progress of DigiPeda team and allow staff to track progression more easily. The strategic employee communication model (Barrett 2002. 221-222) outlines a perfect blueprint model for the DigiPeda team to replicate.

The second suggestion is that the approved Haaga-Helia teacher digital tools are communicated on either a document or an intranet page. This list would be updated by the IT technicians regularly, so all staff at Haaga-Helia can quickly check software available to use at their campus. An example of how this information could be viewed is in the suggested table layout structure below (table 8).

Table 8. Digital tool list for teachers

Digital tool/software name	Haaga campus	Malmi campus	Pasila campus	Porvoo campus	Vierumaki campus
Digital A			✓	✓	✓
Digital B	✓				✓
Digital C		✓	✓		
Digital D	✓	✓	✓	✓	

In the test with Seppo it was found that the staff group didn't know which procedures to follow in the procurement of licenses at Haaga-Helia for the Seppo IBL digital tool, after a successful digital tool test. As outlined with the theoretical frameworks by Kotter (1995) the emphasis on involvement and engagement is used heavily, so without effective employee communication the process of change becomes much more difficult and doomed for failure. Transparency of the digital tools available to use at each campus would help to implement the promotion of the efforts of the DigiPeda team.

The final and third suggestion is to include students in the communication process of suggestion digital tools and experimentation suited for IBL. In the cycle 1 and cycle 2 research cycles many new suggestions of digital tools were provided by students. The digital tool suggestion information could be communicated to the DigiPeda team mentors or directly to the DigiPeda team participation group. One option would be to create a group of student digital mentors, that are selected by each campus. The student digital mentor group could collaborate with the teacher digital mentors and participate in meetings with the DigiPeda team participation group. The DigiPeda team have not considered this untapped resource in their communication plans.

These communication suggestions would likely increase the motivation of teachers to start experimenting with digital tools in IBL, as they would feel they have a more of a voice in the decision processes of digital tools. This theory is backed up on the theoretical frameworks in this study such as TAM, TAM2 and participation in decision-making (PDM). In the PDM individuals who participate in decisions will be better able to implement the decisions, resulting in productivity and greater employee satisfaction (Miller 2015, 148-149).

I will finish this study by using a quote from Kotter (2007) for successful transformation in organisations:

In more successful transformation efforts, executives use all existing communication channels to broadcast the vision. They turn boring, unread company newsletters into lively articles about the vision. They take ritualistic, tedious quarterly management meetings and turn them into exciting discussions of the transformation. (Kotter 2007, 6.)

## **6.2 Reflection on learning**

This study has contributed much to my personal learning in how to apply change communication for educational technology. In the study of theoretical frameworks and readings I gained much more knowledge and understanding in organizational communication change models such as the strategic employee communication model, TAM & TAM 2, and internal communication theory such the transmission model developed by Shannon and Weaver from 1948. In addition, I have also improved my understanding for how to apply the action research approach cycle process in an organisation.

Apart from my early educational studies in science twenty years ago, this was the first thesis in many years completed in a different field of study. In some stages of the study I had to learn to take a step back as a researcher and not be judgemental before starting the cycles in the action research.

## **6.3 Limitations of the study and recommendations for further research**

The low response survey rate from staff in the early stages of the research make it very difficult to determine accurate analysis of the digital tools used currently in IBL at Haaga-Helia, Porvoo campus. In hindsight I would most probably have selected a different month to share the electronic surveys, rather than choosing the last few weeks before the Christmas break. Using a month when the dates are not as close to a holiday break, or a greater date range to collect replies for the electronic survey, would have likely returned more replies from staff.

The effect of this development project should be analysed and development needs regarding communication of digital tools suited for IBL should be done on a yearly basis by the key IT decision makers at Haaga-Helia. At the later stages of this study Haaga-Helia were already developing digital tool support procedures, so some of the communication suggestion ideas may begin to take a similar form by the time this study is published. In addition, it is important to continue discussion and actions with all stakeholders, to ensure everyone is included in the development of the communication process.

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# Appendices

## Appendix 1. Webropol student survey 2017

<p><b>1. Select your gender? *</b></p> <p><input type="radio"/> Male  <input type="radio"/> Female  <input type="radio"/> Non-binary/third gender  <input type="radio"/> Prefer not to say</p> <p><b>2. Select your age range? *</b></p> <p><input type="radio"/> 18yrs-21yrs  <input type="radio"/> 22yrs-25yrs  <input type="radio"/> 26yrs-30yrs  <input type="radio"/> 31yrs-35yrs  <input type="radio"/> 36yrs-40yrs  <input type="radio"/> 41yrs-50yrs  <input type="radio"/> 50yrs+</p> <p><b>3. Which country is your place of birth? *</b></p> <p><input type="radio"/> Within EU-please write country name      _____</p> <p><input type="radio"/> Outside EU-please write country name      _____</p> <p><b>4. How long have you studied at Haaga-Helia? *</b></p> <p><input type="radio"/> Under 1 year  <input type="radio"/> 1 year  <input type="radio"/> 2 years  <input type="radio"/> 3-4 years  <input type="radio"/> 5+ years</p>	<p><b>6. What does inquiry based learning mean to you? *</b>          Select the best match.</p> <hr/> <p><b>Option 1</b></p> <p>Enquiry and Research-Based Learning (EBL and RBL) are terms used to describe a method of teaching and learning based on self-directed enquiry or research by the student. EBL provides a strongly student-centred approach to teaching and learning, enhancing students' learning experience during their time at university.</p> <p>Source: <a href="http://www.reading.ac.uk/best-aurs/LinkingTeachingandResearchEnquiry-BasedLearning/What_is_Enquiry_Based_Learning_(EBL).aspx">http://www.reading.ac.uk/best-aurs/LinkingTeachingandResearchEnquiry-BasedLearning/What_is_Enquiry_Based_Learning_(EBL).aspx</a></p> <hr/> <p><b>Option 2</b></p> <p>EBL describes an environment in which learning is driven by a process of enquiry owned by the student. Starting with a "scenario" and with the guidance of a facilitator, students identify their own issues and questions. They then examine the resources they need to research the topic, thereby acquiring the requisite knowledge. Knowledge so gained is more readily retained because it has been acquired by experience and in relation to a real problem.</p> <p>Source: <a href="http://www.ceebf.manchester.ac.uk/ebf/">http://www.ceebf.manchester.ac.uk/ebf/</a></p>  <p><b>Option 3</b></p> <p>Enquiry learning is a learner-centred approach that emphasises higher order thinking skills. It may take several forms, including analysis, problem solving, discovery and creative activities, both in the classroom and the community. Most importantly, in enquiry learning students are responsible for processing the data they are working with in order to reach their own conclusions.</p> <p>Source: <a href="http://www.unesco.org/education/itsf/mods/theme_d/mod23.html">http://www.unesco.org/education/itsf/mods/theme_d/mod23.html</a></p>																																																																																																																														
<p><b>5. Select which degree program you belong to? *</b></p> <p><input type="radio"/> Degree Programme in Aviation Business 2017  <input type="radio"/> Degree Programme in International Sales and Marketing 2017  <input type="radio"/> Degree Programme in International Sales and Marketing (pre-2017)  <input type="radio"/> Degree Programme in Tourism and Event Management 2017  <input type="radio"/> Degree Programme in Tourism and Event Management (pre-2017)</p>																																																																																																																															
<p><b>7. How often are enquiry based learning methods used in your studies or projects? *</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Never</th> <th style="text-align: center;">Sometimes</th> <th style="text-align: center;">Frequently</th> </tr> </thead> <tbody> <tr> <td>Classroom</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>Projects</td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <p><b>8. How well do the following communication platforms support your learning at Porvoo campus? *</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Never</th> <th style="text-align: center;">Sometimes</th> <th style="text-align: center;">Frequently</th> <th style="text-align: center;">Very Often</th> <th style="text-align: center;">Not Sure</th> </tr> </thead> <tbody> <tr> <td>HH Public Website</td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>MyNet Website</td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>HH Social Media</td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>HH Finna -online library</td> <td style="text-align: center;"><input type="radio"/></td> </tr> <tr> <td>SharePoint/Leap</td> <td style="text-align: center;"><input type="radio"/></td> </tr> </tbody> </table> <p><b>9. How would you rate your own ICT skills to support your studies and learning? *</b></p> <p><input type="radio"/> Low  <input type="radio"/> Average  <input type="radio"/> High</p> <p><b>10. Select how often you use the following ICT tools to support your learning at Porvoo campus? *</b></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">Never</th> <th style="text-align: center;">Sometimes</th> <th style="text-align: center;">Frequently</th> <th style="text-align: center;">Very Often</th> <th style="text-align: center;">Not Sure</th> </tr> </thead> <tbody> <tr> <td>Haaga-Helia email</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>HH OneDrive</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Personal OneDrive</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>HH SharePoint</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Moodle</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Google Drive</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Other email</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Facebook</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>WhatsApp</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Instagram</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Twitter</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Snapchat</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>		Never	Sometimes	Frequently	Classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>		Never	Sometimes	Frequently	Very Often	Not Sure	HH Public Website	<input type="radio"/>	MyNet Website	<input type="radio"/>	HH Social Media	<input type="radio"/>	HH Finna -online library	<input type="radio"/>	SharePoint/Leap	<input type="radio"/>		Never	Sometimes	Frequently	Very Often	Not Sure	Haaga-Helia email	<input type="checkbox"/>	HH OneDrive	<input type="checkbox"/>	Personal OneDrive	<input type="checkbox"/>	HH SharePoint	<input type="checkbox"/>	Moodle	<input type="checkbox"/>	Google Drive	<input type="checkbox"/>	Other email	<input type="checkbox"/>	Facebook	<input type="checkbox"/>	WhatsApp	<input type="checkbox"/>	Instagram	<input type="checkbox"/>	Twitter	<input type="checkbox"/>	Snapchat	<input type="checkbox"/>	<p><b>11. Are there any ICT tools that have not been mentioned that you do use with your studies? *</b></p> <p>This question is optional. Only the names of the learning software tools, no description required.</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>75 characters remaining</p> <p><b>12. How often does your degree course incorporate the use of technology tools into your studies? *</b></p> <p><input type="radio"/> Never  <input type="radio"/> Sometimes  <input type="radio"/> Frequently  <input type="radio"/> Very Often  <input type="radio"/> Not Sure</p> <p><b>13. Would you consider being part of a research team for this study? *</b></p> <p><input type="radio"/> Yes (write name and email)      _____</p> <p><input type="radio"/> Maybe (write name and email)      _____</p> <p><input type="radio"/> No</p>																																																																				
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## Appendix 2. Webropol teacher survey 2017

**1. Select your gender? \***

Male  
 Female  
 Non-binary/third gender  
 Prefer not to say

**2. Select your age range? \***

18yrs-21yrs  
 22yrs-25yrs  
 26yrs-30yrs  
 31yrs-35yrs  
 36yrs-40yrs  
 41yrs-50yrs  
 50yrs+

**3. Which country is your place of birth? \***

Within EU-please write country name  
 \_\_\_\_\_

Outside EU-please write country name  
 \_\_\_\_\_

**4. How long have you studied at Haaga-Helia? \***

Under 1 year  
 1 year  
 2 years  
 3-4 years  
 5+ years

**5. Select which degree program you belong to? \***

Degree Programme in Aviation Business 2017  
 Degree Programme in International Sales and Marketing 2017  
 Degree Programme in International Sales and Marketing (pre-2017)  
 Degree Programme in Tourism and Event Management 2017  
 Degree Programme in Tourism and Event Management (pre-2017)

**6. What does inquiry based learning mean to you? \***

Select the best match.

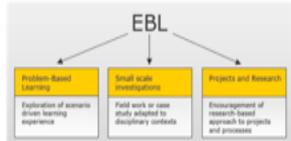
**Enquiry and Research-Based Learning (EBL and RBL)** are terms used to describe a method of teaching and learning based on self-directed enquiry or research by the student. EBL provides a strongly student-centred approach to teaching and learning, enhancing students' learning experience during their time at university.

Source: [http://www.reading.ac.uk/self-aurs/LinkingTeachingandResearchEnquiry-BasedLearning/WhatIsEnquiryBasedLearning\(EBL\).aspx](http://www.reading.ac.uk/self-aurs/LinkingTeachingandResearchEnquiry-BasedLearning/WhatIsEnquiryBasedLearning(EBL).aspx)

Option 1

EBL describes an environment in which learning is driven by a process of enquiry owned by the student. Starting with a 'scenario' and with the guidance of a facilitator, students identify their own issues and questions. They then examine the resources they need to research the topic, thereby acquiring the requisite knowledge. Knowledge so gained is more readily retained because it has been acquired by experience and in relation to a real problem.

Source: <http://www.ceebf.manchester.ac.uk/ebf/>



The diagram shows 'EBL' at the top, branching into three categories: 'Problem Based Learning' (Exploration of scenarios through learning experience), 'Small scale investigations' (Field work or case study adopted to disciplinary contexts), and 'Projects and Research' (Encouragement of research-based approach to projects and processes).

Option 2

Enquiry learning is a learner-centred approach that emphasises higher order thinking skills. It may take several forms, including analysis, problem solving, discovery and creative activities, both in the classroom and the community. Most importantly, in enquiry learning students are responsible for processing the data they are working with in order to reach their own conclusions.

Source: [http://www.unesco.org/education/tlsf/mods/theme\\_d/mod23.html](http://www.unesco.org/education/tlsf/mods/theme_d/mod23.html)

Option 3

**7. How often are enquiry based learning methods used with your classes? \***

	Never	Sometimes	Frequently	Very Often	Not Sure
Classroom	<input type="radio"/>				
Projects	<input type="radio"/>				

**8. How much pedagogical support/training does Porvoo campus provide for enquiry based learning methods in your lessons? \***

Never  
 Sometimes  
 Frequently  
 Very Often  
 Not Sure

**9. Has Haaga-Helia provided any training workshops within the last 2 years to support you with using enquiry based learning technology tools? \***

Yes (briefly describe)  
 \_\_\_\_\_

No

**10. How well do the following communication platforms support your planning at Porvoo campus? \***

	Never	Sometimes	Frequently	Very Often	Not Sure
HH Public Website	<input type="radio"/>				
MyNet	<input type="radio"/>				
HH Social Media	<input type="radio"/>				
HH Finna-online library	<input type="radio"/>				
SharePoint/Leap	<input type="radio"/>				

**11. How would you rate your own ICT skills? \***

Poor  
 Low  
 Average  
 Good  
 Excellent

**12. Select how often you use the following ICT tools to support your work at Porvoo campus? \***

	Never	Sometimes	Frequently	Very Often	Not Sure
Haaga-Helia email	<input type="checkbox"/>				
HH OneDrive	<input type="checkbox"/>				
Personal OneDrive	<input type="checkbox"/>				
HH SharePoint	<input type="checkbox"/>				
Moodle	<input type="checkbox"/>				
Google Drive	<input type="checkbox"/>				
Other email	<input type="checkbox"/>				
Facebook	<input type="checkbox"/>				
WhatsApp	<input type="checkbox"/>				
Instagram	<input type="checkbox"/>				
Twitter	<input type="checkbox"/>				
Snapchat	<input type="checkbox"/>				

**13. Are there any ICT tools that have not been mentioned that you do use with your work?**  
Optional question. Only the names of learning tools, no description required.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

50 characters remaining

**14. How often do your lessons incorporate the use of technology tools? \***

Never  
 Sometimes  
 Frequently  
 Very Often  
 Not Sure

**15. Are there any comments or suggestions you would like to mention about the use of enquiry based learning tools?**  
(optional)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

100 characters remaining

**16. Would you consider being part of a research group for this study? \***

Yes (name & email)  
 \_\_\_\_\_  
 Maybe (name and email)  
 \_\_\_\_\_  
 No

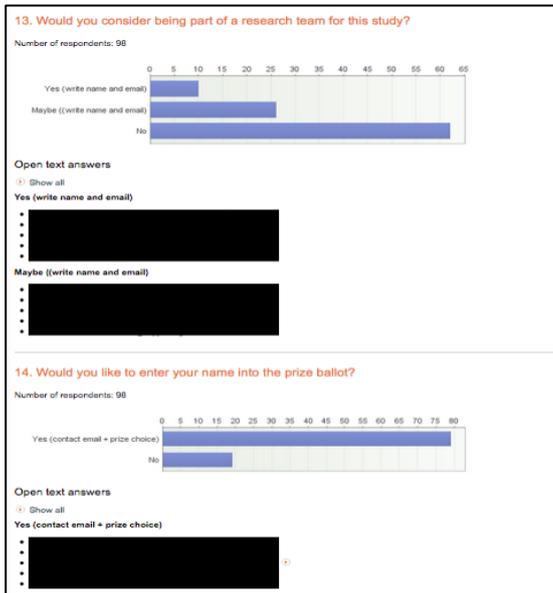
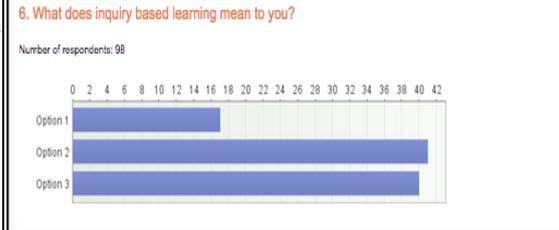
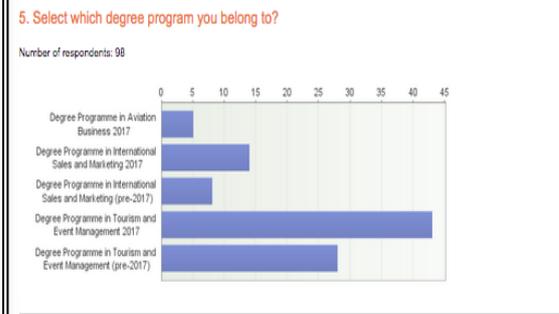
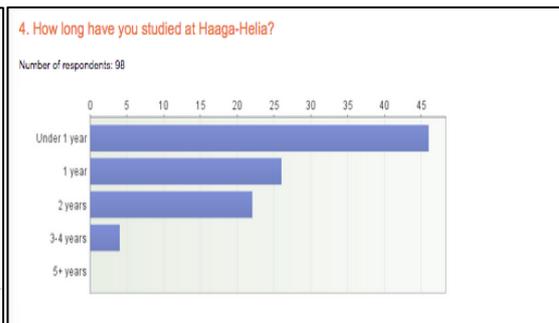
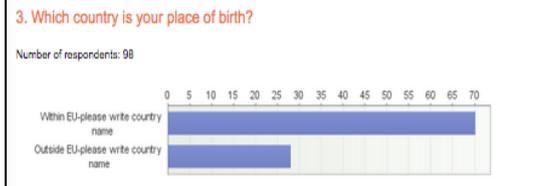
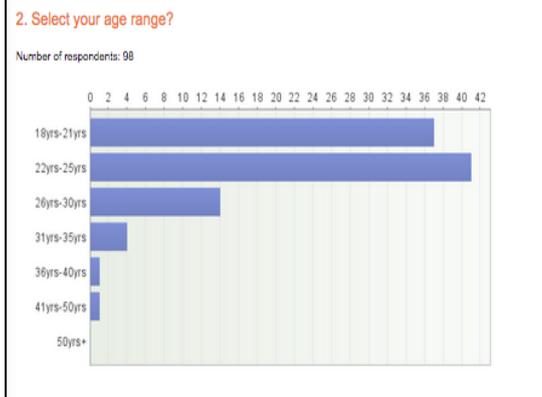
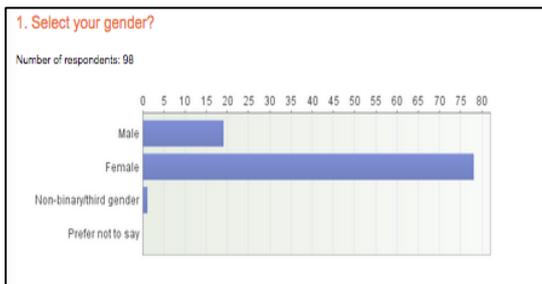
**17. Would you like to enter the wine prize ballot? \***

Two names will be selected at random and lucky winners will be given their prize choice: €20 retail voucher, €20 cinema voucher or €20 Alko voucher. Names will be drawn week 51 (Friday 22nd December) and prizes given to the winners in January 2018.

Yes (contact email + prize choice)

No

# Appendix 3. Webropol student survey results



7. How often are enquiry based learning methods used in your studies or projects?

Number of respondents: 98

	Never	Sometimes	Frequently	Total	Average
Classroom	1	58	39	98	2.39
Projects	0	33	65	98	2.66
<b>Total</b>	<b>1</b>	<b>91</b>	<b>104</b>	<b>196</b>	<b>2.53</b>

8. How well do the following communication platforms support your learning at Porvoo campus?

Number of respondents: 98

	Never	Sometimes	Frequently	Very Often	Not Sure	Total	Average
HH Public Website	17	45	23	8	5	98	2.38
MyNet Website	1	19	34	41	3	98	3.27
HH Social Media	18	42	22	11	5	98	2.42
HH Finns -online library	16	45	21	13	3	98	2.41
SharePoint/Leap	1	13	27	53	4	98	3.47
<b>Total</b>	<b>53</b>	<b>164</b>	<b>127</b>	<b>126</b>	<b>20</b>	<b>490</b>	<b>2.79</b>

9. How would you rate your own ICT skills to support your studies and learning?

Number of respondents: 98



10. Select how often you use the following ICT tools to support your learning at Porvoo campus?

Number of respondents: 98

	Never	Sometimes	Frequently	Very Often	Not Sure	Total	Average
Haaga-Helia email	0	3	19	77	0	99	3.75
HH OneDrive	12	25	19	41	3	100	2.98
Personal OneDrive	20	31	23	22	3	99	2.57
HH SharePoint	1	19	17	60	1	98	3.42
Moodle	0	6	26	65	1	98	3.62
Google Drive	29	32	17	18	3	99	2.33
Other email	9	24	23	40	2	98	3.02
Facebook	2	19	34	43	1	99	3.22
WhatsApp	3	9	32	53	1	98	3.41
Instagram	29	30	18	19	2	98	2.34
Twitter	54	35	7	2	1	99	1.6
Snapchat	72	18	4	7	0	99	1.45
<b>Total</b>	<b>231</b>	<b>249</b>	<b>239</b>	<b>447</b>	<b>18</b>	<b>1184</b>	<b>2.81</b>

11. Are there any ICT tools that have not been mentioned that you do use with your studies?

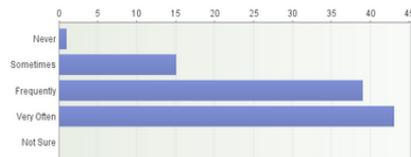
Number of respondents: 93

Show all

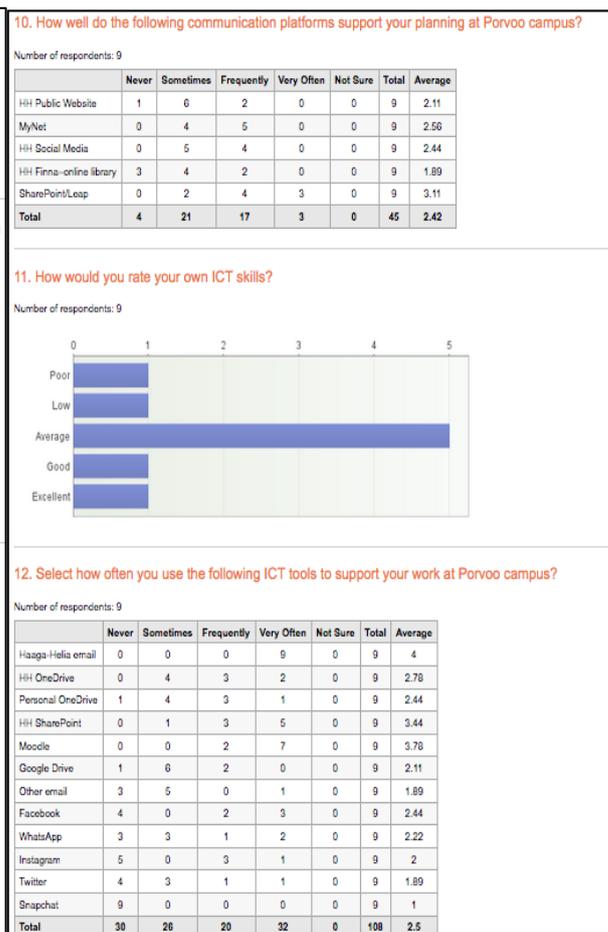
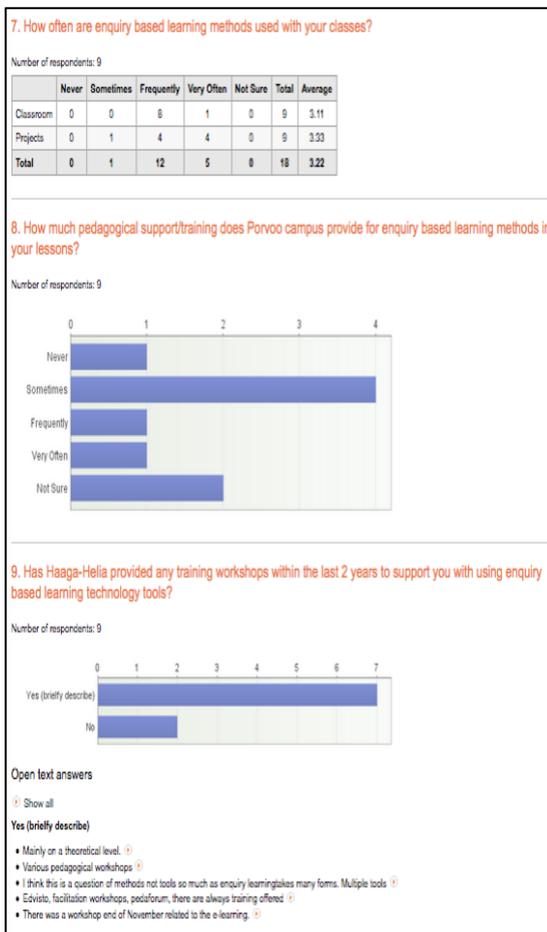
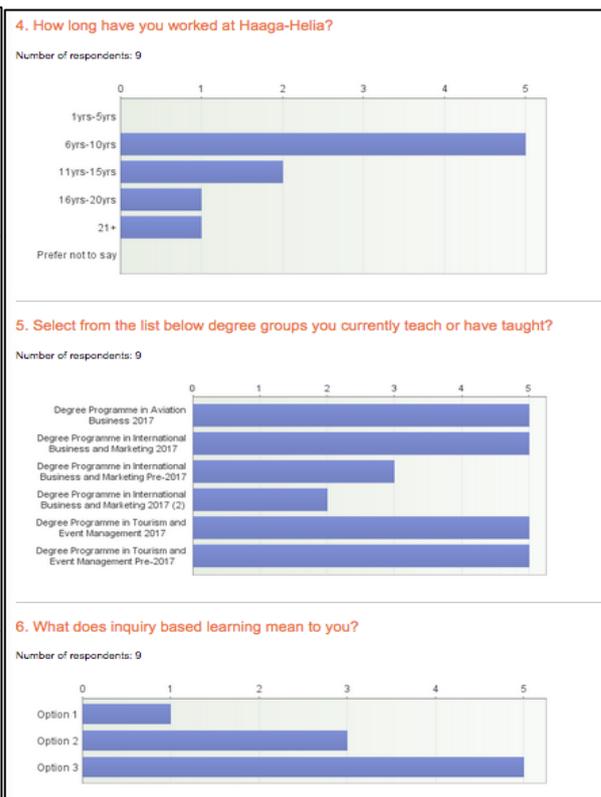
- N/A
- Microsoft Word, Excel and PowerPoint
- Microsoft office
- Edvisio
- SpyFu, Ikeyizer, google trends

12. How often does your degree course incorporate the use of technology tools into your studies?

Number of respondents: 98



## Appendix 4. Webropol teacher survey results



13. Are there any ICT tools that have not been mentioned that you do use with your work?

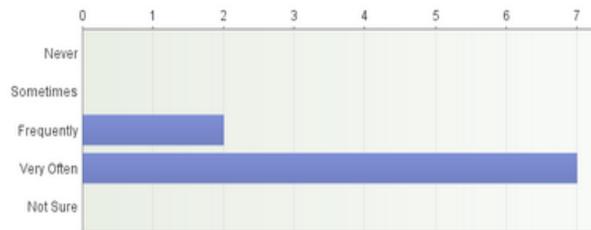
Number of respondents: 6

Show all

- Viber - in project communication with students
- Edvisto, Padlet, Kahoot, Todaysmeet, Wordpress, An
- Travel technology tools
- Lyyti event registration software
- Feedback fruits, Qnidi

14. How often do your lessons incorporate the use of technology tools?

Number of respondents: 9



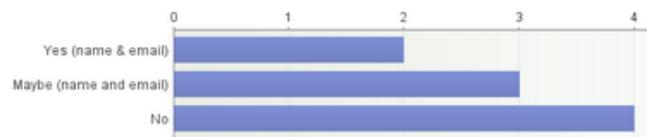
15. Are there any comments or suggestions you would like to mention about the use of enquiry based learning tools?

Number of respondents: 4

- I would love some training with the latest features of Instagram during development days
- We need to check the basics, many students do not know basic features of Excell
- I find students very often lack skills to broaden their searches from basic googling.
- Sometimes they seem to replace the use of brains. They should be what they are, tools.

16. Would you consider being part of a research group for this study?

Number of respondents: 9



Open text answers

Yes (name & email)

- [Redacted]
- [Redacted]

Maybe (name and email)

- [Redacted]
- [Redacted]

17. Would you like to enter the wine prize ballot?

Number of respondents: 9



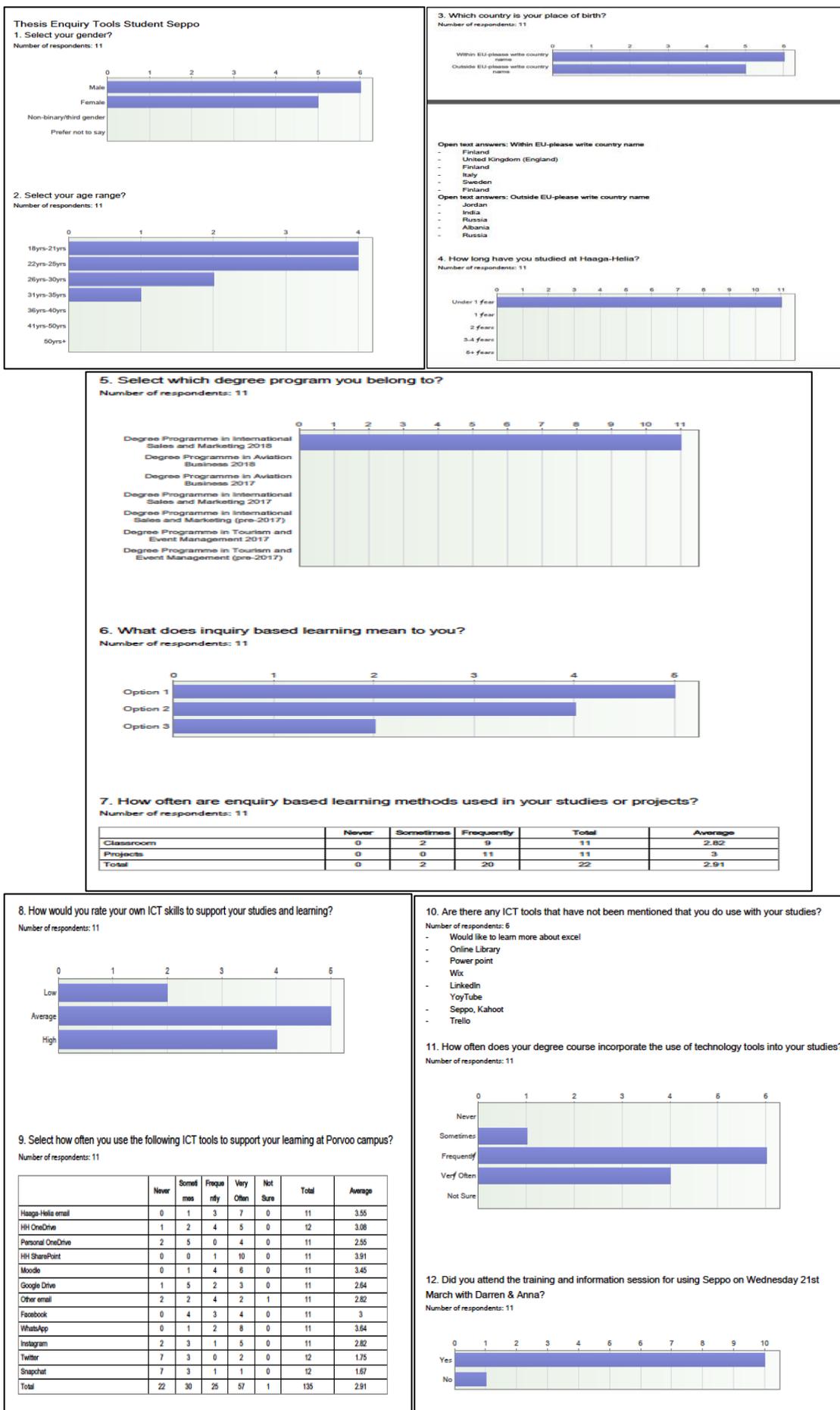
Open text answers

Show all

Yes (contact email + prize choice)

- [Redacted]
- [Redacted]
- [Redacted]
- [Redacted]

## Appendix 5. Student SAMP018 test group survey questions & answers



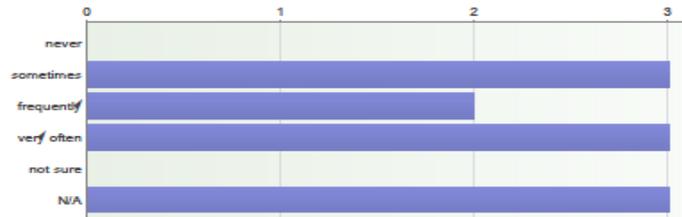
13. Rate the following points for the Seppo information and training session you had on Wednesday 21st March with Anna & Darren?

Number of respondents: 10

	1	2	3	4	5	N/A	Total	Average
Information about Seppo	0	0	0	7	3	0	10	4.3
Relevance to studies	1	0	5	2	2	0	10	3.4
Training session	0	0	2	4	3	0	9	4.11
Testing of Seppo (game task)	0	1	1	4	3	1	10	4.2
Using on a mobile device	0	1	1	2	4	2	10	4.5
Total	1	2	9	19	15	3	49	4.1

14. How often did you use Seppo on the Berlin study trip?

Number of respondents: 11



15. How often did you use the following features when answering tasks in Seppo, whilst on the study trip?

Number of respondents: 11

	1	2	3	4	5	N/A	Total	Average
Text	0	1	1	2	4	3	11	4.64
Pictures	0	1	4	1	2	3	11	4.18
Movie clips	4	1	1	1	1	3	11	3.27
Chat	4	3	0	1	0	3	11	2.91
Task revision/re-submit	1	2	2	3	0	3	11	3.73
Total	9	8	8	8	7	15	55	3.75

16. List any positive points about Seppo?

Number of respondents: 11

- Easy to use
- Its a fun way to get live feedback from students regarding anything they might be doing
- Fun, interactive and excellent for documenting trips/events
- Fun and interactive
- Nice way to reflect on yourself without writing a long text, I like to use videos a lot more.
- \* it creates a more stressed approach to learning
- \*it can be a group/team work different than usual ones
- It was good to use and very simple
- Best platform to reflect your experience and learning
- Interesting way of studying
- It is pretty useful tool for adding some entertainment to education.
- The gamification concept that has been the foundation of Seppo is attention-grabbing and quite enjoyable. We know from experience that games are addicted because they are broken into levels/achievements, as to evoke a sense of accomplishment. In my humble opinion I think that is a essential element in Seppo's success.

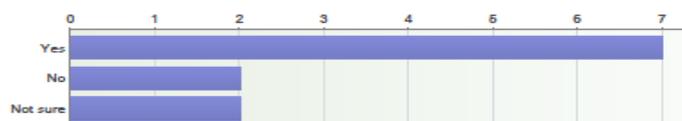
17. List any negative points about Seppo?

Number of respondents: 11

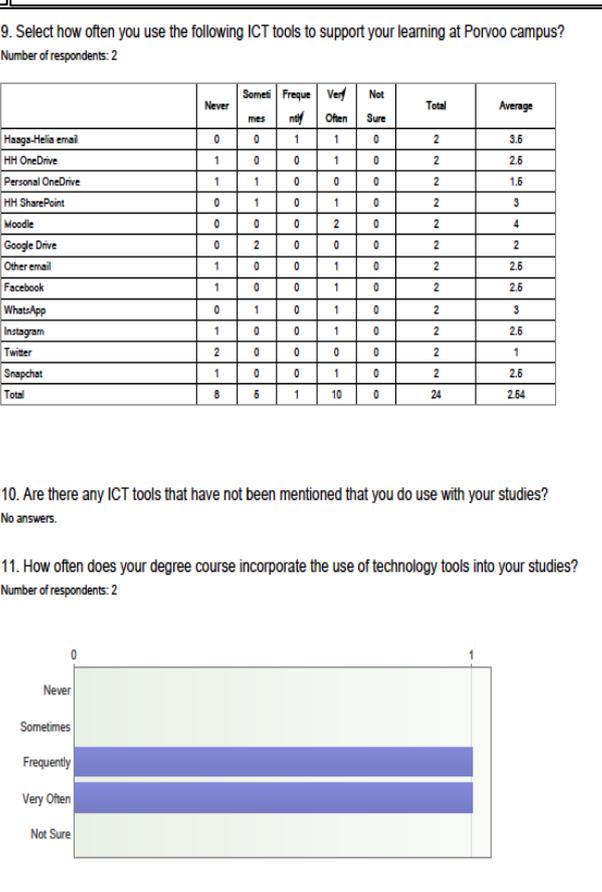
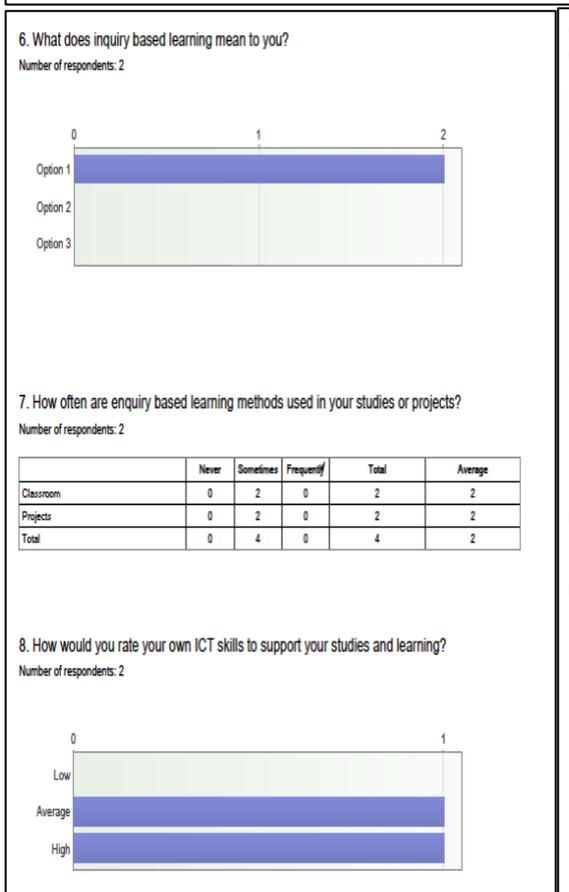
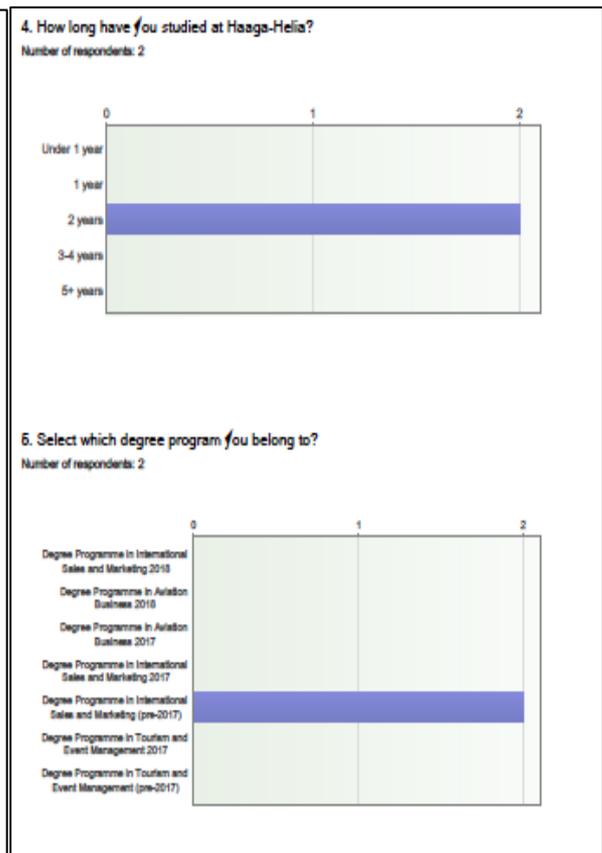
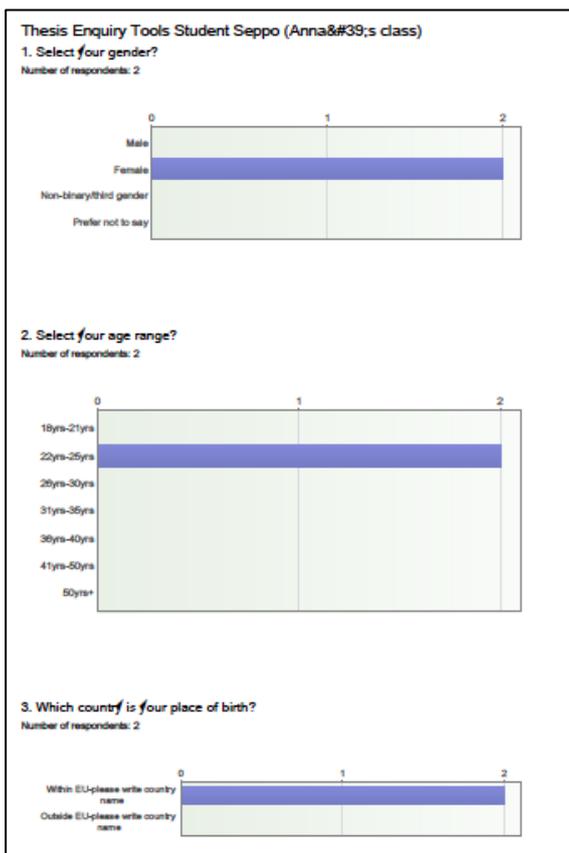
- nothing negative to say
- It needs internet and you might not be able to know what are your assignments without being connected to the internet which meant that i was lost since i didn't have any internet on my phone
- none so far
- Time consuming if a task is text only and if you arent the quickest writer on mobile.
- It needs a certain type of situation to be useful.
- For what I learned and for the only use I did of Seppo (as I was not on the Study Trip), I can say the only doubts I own are in general with the idea behind this methodology of incorporating games in learning
- Sometimes it was bit slow to post the text.
- Very less time (at least one day to complete the task, not on the same day)
- No possibility to see the own answer or reflection after closing the game or after finishing all lesson.
- You cant change submitted task, need internet connection to upload Files
- It is non stable mobile version. When i registered as a participant, i couldn't log in with my nickname again.
- I believe the structure could use more focus and have a bit of complexity.

18. Do you feel Seppo would be a digital tool that could be used in other classes for your studies?

Number of respondents: 11



## Appendix 6. Student LIPPO16 test group survey questions & answers





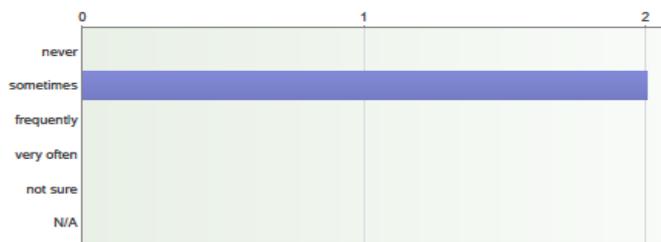
13. Rate the following points for Seppo?

Number of respondents: 2

	1	2	3	4	5	N/A	Total	Average
Information about Seppo	0	0	2	0	0	0	2	3
Seppo help tools	0	0	2	0	0	0	2	3
Relevance to studies	0	0	1	1	0	0	2	3.5
Training session	0	0	1	1	0	0	2	3.5
Testing of Seppo (game task)	0	0	1	1	0	0	2	3.5
Using on a mobile device	0	0	1	0	0	1	2	4.5
<b>Total</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>12</b>	<b>3.5</b>

14. How often did you use Seppo for Anna's class assignment task?

Number of respondents: 2



15. How often did you use the following features when answering tasks in Seppo for Anna's assignment task?

Number of respondents: 2

	1	2	3	4	5	N/A	Total	Average
Text	0	0	1	1	0	0	2	3.5
Pictures	1	0	1	0	0	0	2	2
Movie clips	1	0	1	0	0	0	2	2
Chat	1	0	1	0	0	0	2	2
Task revision/re-submit	0	1	1	0	0	0	2	2.5
<b>Total</b>	<b>3</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>2.4</b>

16. List any positive points about Seppo?

Number of respondents: 2

- It was cool to play game about taxes
- a good variation for normal lessons, competition motivates you to solve tasks

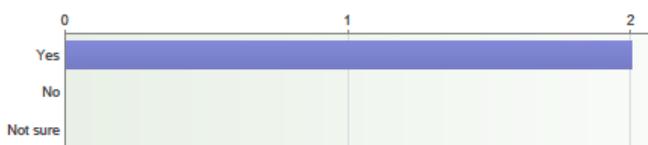
17. List any negative points about Seppo?

Number of respondents: 2

- Don't mind anything negative points about Seppo
- The answers must be in the right format to be approved

18. Do you feel Seppo would be a digital tool that could be used in other classes for your studies?

Number of respondents: 2



**Appendix 7. Haaga-Helia important decisions. Confidential**

## Appendix 8. Seppo training session for sample classes

# INTRO / SEPPO

██████████ & ██████████

## GAMIFICATION

Gamification = adding game-related elements to non-game contexts

- Narrative
- Immediate feedback
- Fun
- Learning through increasing challenges
- Mastery (for example leveling up)
- Points, badges, leaderboards (progress indicators)
- Social connection
- Player control

Benefits in education:

- Students' ownership (learning process, designing the game)
- Possibility to fail and try again
- Learning becomes visible
- Game-related elements can increase motivation

## BARTLE'S GAMER TYPES

### Bartle's Gamer Types

	<p><b>Killers</b></p> <p><i>Defined by:</i> A focus on winning, rank, and direct peer-to-peer competition.</p> <p><i>Engaged by:</i> Leaderboards, Ranks</p>		<p><b>Achievers</b></p> <p><i>Defined by:</i> A focus on attaining status and achieving preset goals quickly and/or completely.</p> <p><i>Engaged by:</i> Achievements</p>
	<p><b>Socialites</b></p> <p><i>Defined by:</i> A focus on socializing and a drive to develop a network of friends and contacts.</p> <p><i>Engaged by:</i> Newsfeeds, Friends Lists, Chat</p>		<p><b>Explorers</b></p> <p><i>Defined by:</i> A focus on exploring and a drive to discover the unknown.</p> <p><i>Engaged by:</i> Obfuscated Achievements</p>

https://pt.slideshare.net/GregWondra/3-2-notes-gamer-types

## LET'S MEET SEPPO

Go to [seppo.io](http://seppo.io)  
Login > Login as a player



**CODE:**  
**4A6375**

## LET'S MEET SEPPO

Choose a name for your team  
... And then **PLAY!**

You have 30 minutes to play the game (return to 3425 after you have finished the game)

## REPORTING WITH SEPPO

Reporting tool is Seppo

- Co-create in SharePoint
- Detailed instructions (for teachers)
  - Tasks, questions
  - How to answer (answer options, instructions...)
  - Pictures etc. if needed
  - Points

Remember

- Learning goals
- What we want you to report (course description, assignments)
- Different types of gamers/learners/personas

## Appendix 9. Interview questions and answers (Cycle phase 2)

### Seppo Interview Questions for [REDACTED] & [REDACTED]

Date: 1<sup>st</sup> June 2018

1. What were your motivations to experiment with using a new digital tool with your classes?

*In general, I'm interested in trying different tools and things with my classes. If you don't try, you really don't know what would work and what would not. And experimenting new things makes my own work more interesting. When I heard about Seppo at xEdu, I thought that it would be fun to try this out.*

2. Was there enough technical guidance and support made available for you to use Seppo with your classes after the training workshop?

*Seppo is super-easy to use (both for teachers and for students, I think), so even though there were no guidance or support, it still was enough. It might of course be that I'm a kind of person who just goes and tries things, without really searching for the support/guidance.*

3. Do you feel you had enough support from Haaga-Helia management to experiment with Seppo?

*To be honest, no. When I was telling that I was going to experiment this, I was told that this is probably not something that we are going to have in the future (so I felt like they were thinking that I'm wasting my time with this) and they don't know if this Seppo –thing can be done because of the GDPR and stuff.*

4. Were you satisfied with the results/outcome of using Seppo with your classes? (feel free to outline any positives & negatives)

*Tax –class (Lijja): We had "room escape" –type of game in one lecture. I thought it was fun, and most of the students got really in to playing the game. Many of them said to me that it was a clever way to get them for example calculating the taxes without them even realising that they were doing that (and not just playing the game). But my questions did not quite work, and it was a mess when I was trying to grade their tasks there and then – and of course they wanted to escape as soon as possible, so they were anxious for me to do the grading. This was not a Seppo – problem, but more because of me testing Seppo for the first time.*

*Study trip (Sampo): I think that Seppo was a great tool for "reporting" their trip. It was easy to grade their tasks already when they were on the trip. If something was not good enough, I could notify students and let them do the tasks again. I think that it is good for the students, that they can get feedback and improve. It was easy for the students to make short videos, take photos and also add some text. Of course, there might be problems with the internet connections or the capacity of their phones, but this is maybe just something that should be taken into consideration*

*while creating the game. There were some problems with the texts/questions. And it is a pity that we can't get the tasks (at least not easily) out from Seppo.*

*Seppo is extremely easy to use, and you can use it with computer or mobile devices. Seppo is fun, you can add games and competition in any subject. You could do simple and quick games, but with a bit of effort you could do something quite fancy, too.*

*It seems to me that students easily end up with creating multiple players/accounts. This of course might be a problem in my instructions – maybe with proper instructions this could be prevented.*

5. Have you experimented with using any other new digital tools with any of your classes before at Haaga-Helia? -if yes what was the outcome?

*I have used Padlet and Kahoot, and then my students have made videos (but we did not have any particular tools for this, but the students have been using the tool of their own choice). Usually I find it beneficial to use different digital tools, because students seem to enjoy them, and they do serious stuff with a bit of fun and games. Of course there are some students who could not care less – but then again, there probably is no such thing that everybody would equally enjoy.*

*I think that it is important that we introduce new digital tools to our classes. World is not turning any less digital. And as our students are anyway fiddling with their laptops and phones during the lectures, why not make them to something useful with them?*

6. Do you feel Seppo could be used at Haaga-Helia Porvoo campus as a digital tool to support enquiry based learning?

*I don't see why not. Of course, Seppo is not for everything, and not everyone wants to use it. But I would like to see more experiments before we say "no" to Seppo.*

7. Are you aware of any communication documents/guidelines for staff on the Intra intranet page or from ICT support that outline the process for purchasing new digital tools for use with your teaching?

*No, I'm not.*

8. Is there any guidance information by Haaga-Helia for how much you can experiment with a new digital tools (time resources/hrs, compensation, training workshop etc?)

*I don't think so. I think that experimenting new things in general should be done within your "normal" resources and on the job here in Haaga-Helia (and this might be the reason why some of us are not willing to try new things).*

9. Do you think clearer communication outlining the processes for experimenting and purchasing new digital tools is needed at Haaga-Helia?

*Yes, there should be a clear communication. And I mean communication, not only something in Intra somewhere. To be honest, I might not read the process description, if there were one for example in Intra. I try to avoid searching things in Intra, because I tend to find only documents that are so long and detailed, that my attention span is not long enough for reading them 😊 But of course, this is another story. It would be good to think and have a process in general – and if we already have the process, then it should be clearly communicated.*

10. Would a digital tool communication process document have made this experiment easier for you?

*I don't know. But I know that I would like to know now what will happen to Seppo (can we use it in the future, is there something that I could do if I want to use Seppo in the future, is there a forum I could share my experiences of Seppo, was this trial any useful, etc.).*

11. Are there any other comments you would like to add about this digital tool trial experiment?

*I don't know what will happen to Seppo now. I kind of hope, that we could keep using it for a while, because now I have some ideas that I would like to try (and I also know what to improve in my previous game). Now if the decision is made only based on the amount of teachers using Seppo, I know that if I want to keep experimenting with this one, I have to invest the money myself. But for Haaga-Helia it is about the money, and I understand that they are not going to invest in something that only I use. And actually no one asked me what do I think of this tool 😊 And probably I could do similar games with free tools, too.*

*We need to learn how to use different kinds of digital tools. And in my opinion it shouldn't be just the professional "business" tools (even though they are of course very important), but we could also experiment the digital tools for learning.*

[REDACTED]

## Interview Questions

(Haaga-Helia ICT) Date: 21.6.2018

Interviewee name: [REDACTED]

1. How important do you feel digital tools are for supporting the enquiry based curriculum here at Haaga-Helia?  
**As I am not working as a teacher, I cannot comment this based on pedagogy, but in general I think we should use as much as possible digital tools to ease our work and give valid data.**
2. What is the procedure you follow when authorizing new digital tools at Porvoo campus?  
**My home unit is Commercial Services, so I have to contact first my superior financial issues and then the IT Department for technical issues.**
3. Are you aware of any communication documents/guidelines for staff on the Intra intranet page or from ICT support that outline the process for purchasing new digital tools?  
**No, I do not think we have an official procedure for this or at least I am not aware of it.**
4. Are there any other key people you contact at Haaga-Helia when you need to authorize new software purchases?  
**I would contact [REDACTED] at the IT Department. He is responsible for our Information Systems.**
5. Do you feel get enough support from Haaga-Helia for your job role? Please describe either yes or no answers?  
[REDACTED]
6. Do you feel the process how we experiment with using new digital tools could be improved, if yes how?  
**Yes, the process should be improved, by having general but agile and flexible rules for the whole process. I think it is even our duty as university of applied sciences to test different digital tools so our students will also be more ready for the digital world.**
7. Have you aware off any other new digital tools purchased for use with the enquiry based curriculum over the last 3yr years? If yes what was the outcomes?  
**No.**
8. Do you think clearer communication outlining the processes for experimenting and purchasing new digital tools is needed at Haaga-Helia?  
**Yes, we need common and clear process for experimenting and purchasing new digital tools.**
9. Are there any other comments you would like to add about this digital tool trial experiment?  
**Go for it! 😊**