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Developing Online student tutoring through a standardized process

– Lean thinking for Online student tutors



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Developing Online student tutoring through a standardized process

- Lean thinking for Online student tutors

Online learning is part of the modern transformation of higher education, the need to provide guidance and support to university students is recognized by higher educational institutions and tutoring is one solution to respond to the students' needs. The need of peer-to-peer tutoring for students in distance learning is just as important as for those studying on-site.

The objective of this research was to develop online student tutoring by creating a continuously improving standardized process for IB online student tutors tutoring their peers while using lean thinking as the theoretical framework. The standardized process is designed to support the current development of the online student tutoring.

The methodology used for this project is a mix of qualitative and quantitative methods supported by participant observation. Participant observation is used because of the authors' direct experience in the tutoring practices of Turku UAS's IB Online degree programme. The results showcase three main issues: the absence of training that online student tutors get access to, absence of a structured process and confusing communication methods.

Keywords: Student tutoring, online learning, online communication, lean, lean processes, standardization, lean tools

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Verkko-opiskelijatuutoroinnin kehittäminen standardoidun prosessin avulla

- Lean-ajattelua verkko-opiskelijatuutoreille

Verkko-oppiminen on osa vastausta korkeakoulutuksen nykyaikaiseen muutokseen. Korkeakoulut ovat tunnistaneet, että opiskelijat tarvitsevat verkko-oppimisen rinnalle ohjausta ja vertaisoppimisen keinoja. Tuutorointi on yksi ratkaisusta vastata opiskelijoiden tarpeisiin. Tarve vertaisopetuksen saatavuudelle on aivan yhtä tärkeää etäopetuksessa opiskeleville kuin heidän paikan päällä opiskeleville kollegoilleen.

Tämän tutkimuksen tavoitteena on kehittää verkko-opiskelijoiden tuutorointia luomalla jatkuvasti kehittyvä standardoitu prosessi. Verkko-opiskelijatuutorit ohjaavat ikätovereitaan käyttämällä tukenaan lean-ajattelua teoreettisena kehyksenä. Standardoidun prosessin avulla voidaan tukea verkko-opiskelijatuutoroinnin jatkuvaa kehittämistä.

Tässä projektissa käytetty metodologia on sekoitus laadullisia ja kvantitatiivisia menetelmiä, joita tukee osallistuva havainnointia, jota käytetään koska tekijöillä on välitön kokemus Turun ammattikorkeakoulun IB Online -koulutusohjelman tuutorointi käytännöistä. Tulokset osoittavat kolme pääongelmaa: koulutuksen puuttuminen, johon verkko-opiskelijatuutorit pääsevät, strukturoidun prosessin puuttuminen sekä hämmentävät viestintämenetelmät.

Asiasanat: Opiskelijatuutorointi, verkko-oppiminen, verkkoviestintä, lean, lean prosessit, standardointi, lean-työkalut

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Table 1 Number of enrolled students in IB Online by Spring 2021.

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List of abbreviations

BBA	Bachelor of Business Administration
IB Online	International Business Online
IB Online students	International Business students
THESEUS	Open Repository of the Universities of Applied Sciences
TPS	Toyota Production System
TUO	Turku University of Applied Sciences Student Union
TURKU UAS	Turku University of Applied Sciences
UAS	Universities of Applied Sciences

1 Introduction

Higher education is a space for long-lasting and inclusive innovation to achieve self-sustained development (Tang et al., 2020, p. 5). Therefore, no wonder that training and education are considered as the best protection against exclusion and lack of prospects (Finnish Government, 2021).

The internet has revolutionized human operations and has taken commerce and services online along with academic education (Kananen, 2015, p. 11). The natural arrival of online learning is part of an answer to the modern transformation of higher education (Bach et al., 2006, p. 5). The advancement and reach to technologies allow students to access education from any place and time hence making learning more accessible (Cook, 2005, p. 1).

The need to provide guidance and support to university students is acknowledged by higher educational institutions. Tutoring is one solution developed by these institutions in their attempt to respond to the student's needs. (Veiga Simao et al., 2008, p. 76.) Students online that are separated from their peers do not have to study in isolation by themselves and should join other learners in an electronically supported community (MacDonald, 2008, p. 1-2).

Tutoring embodies structures and characteristics of considerable range and diversity, it can vary from legal tutoring to educational or institutional to mention a few (Veiga Simao et al., 2008, p. 74). The dimensions that can be found in higher education provided tutoring go from legal and administrative, curricular, or educational, personalized, practical, distance tutoring, to awareness of diversity and peer tutoring (Boronat Mundina et al., 2005, pp. 71-72).

Tutoring is an interactive process where experts or trained people help or support people with less skills or lower level of knowledge or expertise in a meaningful and organized way (Ullah et al., 2018, p. 1). Peer to peer tutoring is an element where mentors simultaneously play an intermediate role and act as instructors for the students in their charge (Veiga Simao et al., 2008, p. 75).

Peer to peer tutoring enjoys great popularity in many foreign universities, due to the level of communication and the degree of empathy that is achieved between pairs of equals (Boronat Mundina et al., 2005, p. 72).

Peer to peer proves to be successful if a tutor and tutees are engaged in cooperative work and meaningful activities under a planned and structured program (Gordon, 2009). Distance tutoring is a distinctive dimension that is supported in a technological training environment, capable of diversifying the sources of knowledge and providing help to the student (Boronat Mundina et al., 2005, p. 72). Like traditional learning, online learners have the need for tutoring as well (MacDonald, 2008, p. 16).

Standardization is the process of developing protocols to guide the creation of a good or service based on the agreement of all those involved in the industry, standards ensure that goods or services produced in a specific industry are given with consistent quality (Corporate Finance Institute, 2021).

Standardization is not an obstacle for development but works as the necessary foundation on which the future improvement will be based on (Santos et al., 2006, p. 2).

Fredendall and Thürer characterized the basis of lean thinking in a nice and simple way: When implementing a new system not only know-how is required, but also one must understand the know-why to succeed (Fredendall and Thürer, 2016a, p. XI). Lean is about achieving operational excellence (Fredendall and Thürer, 2016a, p. 1) and it is about continuous improvement, there is no lean unless there is not a constant progress (Santos et al., 2006, pp. 1 - 2). Many higher education institutions have implemented lean initiatives (Sunder, 2016, p. 1101) that have led to significant improvements in efficiency of processes, through for example eliminating waste and non-value-added activities (Sunder, 2016, p. 1100-1101). By using the theoretical framework that lean thinking entails, the authors developed a continuously improving standardized process for online student tutors, a process that seeks to develop alongside with Turku UAS continuous quality growth.

1.1 Research needs and motivation

There are 23 Universities of Applied Sciences (UAS) in Finland providing education that is administered by the Ministry of Education and Culture (Vipunen 2021). In 2020, there were 39 222 new students pursuing bachelor's degrees in Universities of Applied Sciences (Vipunen 2020) and 14 Bachelor's level online degrees in Finland (Studyinfo 2020). With the increasing numbers of students and while more studying is conducted online, the need for online student tutoring is on the rise. In January 2020 five tutor guides in English were available through the Open Repository of the Universities of Applied Sciences called THESEUS. However, very little information regarding student tutoring in Turku University of Applied Sciences could be found from THESEUS.

Turku University of Applied Sciences Student Union (TUO) facilitates and provides tutoring for degree and international students (Ratilainen 2013, p. 29) studying on campus, but does not currently provide tutoring to the International Business Online (IB Online) degree students. Instead, the Online degree students are tutored by other Turku University of Applied Sciences (Turku UAS) Online degree students.

The student tutoring operated by the IB Online degree programme students, has been conducted to the best of knowledge of the online student tutors without a structured or standardized process, training, planning nor with clear guidelines on the roles, duties or responsibilities of the online student tutors or head student tutors.

Officially Turku UAS asks a one-year tutoring cycle from the student tutors (Ratilainen 2013, p. 30). Therefore, to assist the student tutors in their work as online student tutors and to standardize the online student tutoring a standardized process was needed.

Motivation for the thesis came from the authors' own experiences as IB Online degree students, IB online student tutors as well as for Annika working as the head online student tutor and Martha as the IB Online degree's assistant and realizing how the lack of standardized online student tutoring process makes the online student tutoring quite challenging. Quoting the father of the Toyota Production System Ohno Taiichi: "Without standards, there can be no improvement." We, the authors, wish to standardize and hence improve the IB online student tutoring process while increasing the quality of the online student tutoring and thus creating more value for the degree programme.

1.2 Research objectives and questions

The objective of this research was to develop online student tutoring by creating a continuously improving standardized process for IB online student tutors tutoring their peers while using lean thinking as the theoretical framework. The standardized process is designed to support the current development of the online student tutoring.

The original aim for the thesis was to create a standardized online student tutoring process for the Turku UAS IB Online degree students but it can also be utilized by other degree programs that operate online and use online student tutors to support new students.

The following research questions were investigated:

1. How does online student tutoring support online students?
2. What type of tutoring are online student tutors currently providing?
3. What type of student tutoring do the online students want and need?
4. How can the online student tutoring be supported?

1.3 Thesis structure

The first chapter introduces the needs and motivation for the research by giving general information about online student tutoring as well as online studies after exploring the background information the chapter presents the thesis objectives and the research questions. The literature review takes place in chapter two where we give the theoretical framework to tutoring, online studies, online communication, lean thinking, standardization and used lean tools.

In the third chapter we explain the type of research made and the methodology used to collect the data. The analysis of the obtained data and interviews process is presented in chapter four and finally, in the fifth chapter we present the conclusions of the research. Figure 1 has a visual representation of the thesis structure.

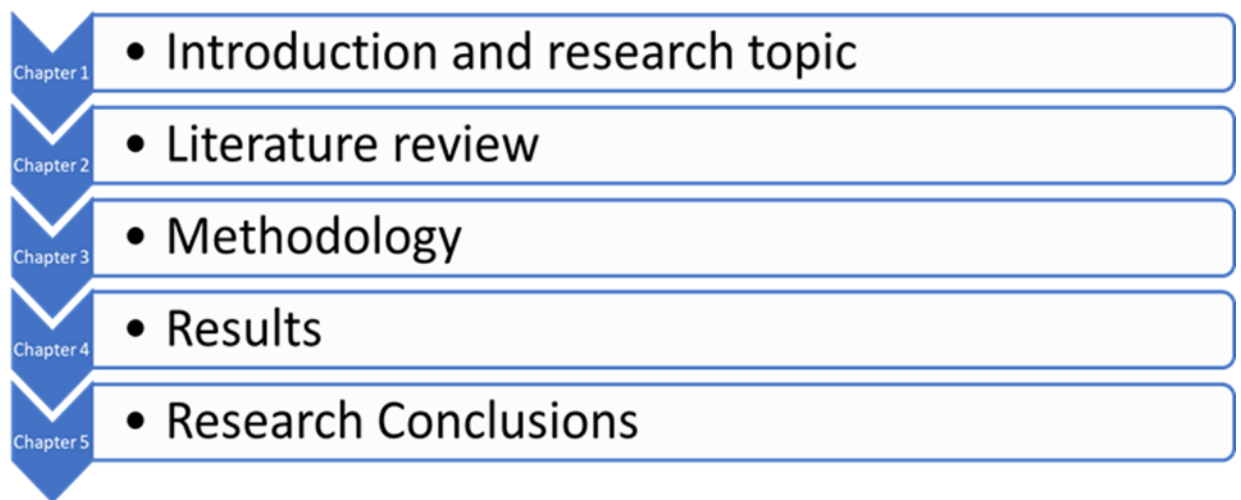


Figure 1 The thesis structure.

2 Literature review

2.1 Tutoring

The aim for education in Universities of Applied Sciences (UAS) is to prepare students for working life, to support students' wellbeing and to contribute to their success as individuals and social operators (Komulainen et al., 2016, p. 11). According to Lonka, Vaara and Sandström (2015, p. 315) "education methods are becoming more student and thought-activating and student-led." Students are expected to regulate their own learning and that of others, thus motivation, engagement and well-being should be facilitated (Lonka et al., 2015, p. 315).

Student tutoring intends to provide mentoring, increase the student's wellbeing, and support individuals in their ability to cope with their new student life based on the needs and situations of each student (Ratilainen, 2013, p. 29-30).

Tutoring is by nature individualized which allows the tutor to focus only on what students need to know at that moment (Chin, et al., 2011, p. 1). The interaction of the tutor with the tutee(s) and the environment is the foundation of effective tutoring experiences (Johnston, et al., 2018, p. 6).

Each relationship between the student tutor and the student is unique (Ratilainen, 2013, p. 29) but what most successful tutoring partnerships have in common is acceptance of meeting the students as they are (Chin et al., 2011, p. 31 and 36). For the tutors, it is important to be patient, observant, ask questions and try to understand the students at their level (Chin, et al., 2011, p. 31). As tutoring is not a stable teaching characteristic it should be conducted according to the situation and persons involved (Savin-Baden and Wilkie, 2006, p. 45).

Tutoring in higher education can be provided in many forms, the most common ones are teacher to student tutoring and peer to peer tutoring (Veiga Simao et al., 2008, pp. 74 - 75). Martínez (2007, pp. 110 - 111) perceives the university teacher tutor not only as the caretaker of the human and scientific growth of the student but also as the person responsible of the student's entire learning process whilst helping the student to find his/her strengths and weaknesses.

The student tutor aims to increase students' sense of community by enhancing the lives of other students with a broader spectrum than studies alone (Ratilainen, 2013, p. 30). Student tutoring can also improve the student tutor's social skills, loss of stage fright, confidence in public speaking and preparedness for responsibilities (Ratilainen, 2013, p. 34).

Savin-Baden and Wilkie (2016, p. 44) characterizes tutors as more facilitators or coaches than conventional teachers; their tasks can include, among others, supporting social interactions, encouraging a proper development of group work, assisting during study conversations, and evaluating the practices.

Tutors play a crucial part in TUAS's tutoring cycle (Ratilainen 2013, p. 29), and personalized tutoring can make big impacts (Chin et al., 2011, 27). Student tutoring helps students feel better, gain new skills, and make them feel more confident about themselves and their future and improves the student tutors team working and group directing skills (Ratilainen 2013, p. 34). The tutoring given to the student during the first year is focused on creating an encouraging and positive team spirit, as well as getting started with studies and familiarizing into the University's ways of working (Härmä and Joshi, 2013, p. 18).

Editors Johnston and Burke (2016, p. 6.) mention three concepts that tutors go through during the tutoring experience. The first concept is the learner model, here the tutor gets all the possible information on the tutee(s) and with this information the tutor makes instructional decisions before, during and after the tutoring experience. (Johnston et al., 2018, p. 6.) The second concept is called the domain model, which is the tutor's lesson plan, meaning the content that will be presented to the tutee(s). Finally, the third concept is the pedagogical model, that includes the strategies to bring together the content and the tutee(s) and provide the learning experience. (Johnston et al., 2018, p. 6.) The models are part of the cycle that online student tutoring goes through and therefore they are important to the thesis and the online student tutoring process.

2.1.1 Benchmarking tutoring provided by TUO

Benchmarking is a process by which companies examine the best practices of other companies and select these best business practices as their own standards (Frendall and Thürer, 2016b, 125). Via their website TUO provides an online application form, tutoring application criteria and information on responsibilities of a student tutor. To become a tutor for TUO the student needs to participate on a mandatory two-part training and at the end of the tutoring, the student is rewarded with 3 credits. (Opiskelijakunta.net b.)

To apply to become a student tutor the applicants fill out an online application along with a 2-3-minute-long video. The selected applicants take part in a group interview. (opiskelijakunta.net b.) Through the online and video applications, applicants are evaluated in a scale of 1-3, based on the extent of the application, the tasks of a peer tutor, answering the questions in the application and video form, the reasons for applying, the suitability for peer tutor's role, level of commitment/time management, strength and weaknesses and challenges of tutoring (Opiskelijakunta.net a). Student tutors are selected based on the application forms, video applications, interviews as well as credit score and studies success (opiskelijakunta.net b).

As mentioned in the motivation for this thesis, TUO does not provide training to online degrees student tutors in Turku UAS, but only to on-site student tutors.

2.2 Online learning

Distance technologies have unlocked new potential in higher education (MacDonald, 2008, p. 1). The arrival of online learning is part of the modern transformation of higher education (Bach, Haynes, and Lewis-Smith, 2006, p. 5). Online learning has proven in the last decade that is far more than a just trend, every year an increasing number of universities enter the arena with new online learning programs. (Cook, 2005, p. 28.) Keystone Insights indicate

currently 11,081 fully online schools around the world registered in their data base (Keystone Online Studies, 2021).

Online schools headed a transformation in education by taking what was known as correspondence education, meaning classes and courses completed via mail, and mixing it with elements of conventional education, such as immediate interaction and access to extensive learning resources such as online libraries (Fandl and Smith, 2016, p. 25). While the entire study teaching process is carried out online and formed in a technology-oriented manner studying is facilitated by clear structures and predictable functions (Joshi et al., 2020, 19, 27 and 31).

“An online degree refers to a degree that is completed online.” (Joshi et al., 2020, 12.) Online learning is real-time, attending, interactive, guiding, and communal form of studying independent of time and place (Joshi et al., 2020, 10). Online studies offer the flexibility to combine work, family, hobbies, and studies, but requires commitment, self-direction and above all, new learning skills from the student (Joshi et al., 2020, p. 36). An online degree can be used to enable students to study at higher education as part of a diverse life situation (Joshi et al., 2020, p. 39). Even though online schools differ from conventional universities in some matters, getting access to the same information, resources, and professors is just as easy for students enrolled in an online school as it is for those in traditional ones (Fandl and Smith, 2016, p. 54).

Studying online gives students good basics to work in the increasingly digital global environment of work life (Joshi et al., 2020, p. 54). According to Pallof and Pratt (2013, p. 137) for some students online studying is easy and successful while others struggle. Students in an online learning environment should not feel alone or isolated, but rather work together and feel safe (Pallof and Pratt, 2013, p. 144-145, 161). If students enjoy their university experience, they will cope better with their studies (Ratilainen 2013, 28). Through online student tutoring, online learning students can get the help to make their studying experience easier whilst getting a sense of community.

Palloy and Pratt (2013, p. 162) also agree that, for online students, affiliation is vital for their learning development and, that students have a need to be part of something – to be able to depend on one another and to work together for a common goal. Palloy and Pratt (2013, p. 39) argue that “collaborative activity can help to reduce the feeling of isolation that occur when students are working at a distance.” Building new relationships can make significant contributions to distance learning (Palloy and Pratt, 2013, p. 30).

Encouraging students to become part of joint online classrooms increases motivation, collaboration, and willingness to be involved. It also helps the learning community to get to know one another while creating social connections. (Palloy and Pratt 2013, p. 174.) Student views should be heard and taken seriously in any development work of degree education, and online programs are no different (Joshi, 2019).

When studying online, creating good habits like time management and organization will help the online student reduce stress (Fandl and Smith, 2016, p. 58). The online student must be self-directed and self-initiated, they need to follow the progress of their studies accurately from the beginning as they are responsible for the progress of their studies (Joshi et al., 2020, p. 32).

2.3 Online communication

In a traditional classroom, communication between the teacher and student and between students generally occurs at the same time and place (synchronous). However, in distance learning, communication can be synchronous or asynchronous, meaning that it does not take place at the same time and place. (Smith et al., 2008, p. 99.)

One of the biggest challenges in online group work are that communication is highly text-based and lacks non-verbal cues that give clarity to messages' meanings. Secondly, this communication style, leaves permanent data of academic and behavioral shortcomings, and it takes away the sense of apparent urgency from group members who have diverse working styles though, the latter can also happen in face-to-face learning. (Witt, 2016, p. 461.)

Additionally, online discussions can get out of sync because of slower typists' answers, if he or she responds to a comment after several other points have been made, the responses no longer follow in order. Regulations for participation should be established from the beginning so that the students have clear expectations of how the online communication will work. (Smith et al., 2008, p. 104.) The main discussion area of an online course should be corresponding to what it would be in a face-to-face classroom (Smith et al., 2008, p. 102). The selection of a suitable communication method reduces challenges and facilitates interpretation (Dimitrova et al., 2007, p. 6).

2.4 Lean

Lean production is a long-term approach or strategy in the management of operations (Petersson et al., 2018, p. 17). The strategy of Lean is to develop the operations from the current situation towards the goal status of the future (Petersson et al., 2018, p. 51). The Lean approach has been selected because it is a method to develop processes and, as it has been established, tutoring is a process no matter if it is conducted on-site or online.

Lean is an activity that never ceases but is constantly in process. In short, the aim is to increase value with a vision to remove waste. (Petersson et al., 2018, p. 17–18.) Waste meaning any non-value-adding activity (Yankelevitch and Kuhl, 2015, p. 12 and 28). Any complex processes are breeding grounds of waste (Yankelevitch and Kuhl, 2015, p. 12).

Lean production had its first steps towards what we call Lean these days by Henry Ford in the beginning of the 1900s when he started to develop an efficient manufacturing system for the auto industry with an integrated lean concept (Petersson et al., 2018, p. 39). Ford believed standardization was a necessity and he believed every step of the manufacturing process needed to be of quality (Petersson et al., 2018, p. 39-41). In the 1940s a structured a system of policies - the Toyota Production System (TPS) was created by Taiichi Ohno – TPS being considered as the base of Lean. (Petersson et al., 2018, p. 43-45.)

The goal of Lean is to adapt the functionality to the best possible and to suit the needs of all parties involved (Petersson et al., 2018, p. 20). Lean also aims to increase productivity, efficient use of resources, to reduce waste, increase employee participation, and to understand the bigger picture yet while working with the details. It is a whole in which the intention is a win-win situation for all, i.e., the activities should benefit all stakeholders. (Petersson et al., 2018, p. 31 and 33.) What makes Lean different to other operations is that in Lean it is believed that the best people to improve the work are those working daily on the process (Frendall and Thürer, 2016b, p. 129).

Also, Lean processes do not start on their own, but are initiated and driven by signals from customers (Yankelevitch and Kuhl, 2015, p. 38). Lean thinking follows a certain pattern of activities that are surrounded by organizational values. These values include principles, methods/working methods, and results. Principles is a way of thinking to find the right solutions, the methods/working methods is the way on how to translate thoughts into results, and lastly results are working according to values, principles, and the methods/working methods. (Petersson et al., 2018, p. 54.)

Lean has two main principles: Just-In-Time (JIT) and Jidoka, and two basic prerequisites: standardization and leveling. In JIT, the product is delivered at the right time. The basic principles are: Takt, flow and pull. Takt refers to the support given to the company's operations and processes. Its purpose is to brighten expectations, synchronize operations, and create a monitoring system for deviations. (Petersson et al., 2018, p. 98–100.) Flow is one of the key elements of lean mindset aiming at as efficient processes as possible (Yankelevitch and Kuhl, 2015, p. 40) where products, materials and information are in constant motion and gaining added value (Petersson et al., 2018, p. 110). Pull, on the other hand, controls the flow processes (Petersson et al., 2018, p. 114).

Jidoka is about efficient flow that produces value. The goal is flow and resource efficiency. Flow efficiency shows how much of the lead time of products is productive while the value flow itself can be calculated. (Petersson et al., 2018, p. 198.) Jidoka takes action that makes things easier to do right from the start and stops the process if something goes wrong or requires too much time. It is therefore a question of built-in quality and of stopping on an error when it arises. (Petersson et al., 2018, p. 87–88.) Leveling means getting the workload into an as even flow as possible over time (Petersson et al., 2018, p. 76–79).

2.5 Standardization

Standardization is a straightforward improvement method where each process step is carefully analyzed to standardize a process and to set a goal for improvement (Frendall and Thürer, 2016b, 30 and p. 124). When it comes to lean it is a significant part of Lean work (Petersson et al., 2018, p. 79) and it means defining best practices in a process and ensuring they are followed by everyone (Yankelevitch and Kuhl, 2015, p. 65). A standard defines boundary conditions on how a certain task, process or service needs to be done to meet the standard (Frendall and Thürer, 2016b, p. 121) and is about defining clear roles and responsibilities (Ortiz, 2021, p. 142).

Standardized processes allow greater productivity, quality, and consistency (Yankelevitch and Kuhl, 2015, p. 60). Standardized work processes reduce time variance, improves performance and coordination between suppliers, customers and those involved in performing the tasks. Via standardization each task is done using the same method and by taking a standard time. (Frendall and Thürer, 2016b, p.122.)

In standardization everyone is aware of the standardized process. It allows faster and more complete training, showcases clearly what needs to be learned and when, and eliminates shortcuts that may endanger quality. It also requires rework to correct problems. (Frendall and Thürer, 2016b, p.122.) A standard is valid if it is the best solution and is used until a better solution is found and decided on (Petersson et al.; 2018, p. 129).

Standard operations address the quality standards that need to be met, the sequence the work will be performed as well as the quantity of inventory that is maintained (Frendall and Thürer, 2016b, p. 122). To sustain improvement, it needs to be standardized. Standardization makes it possible to assess current performance, to create plans and implement them to improve future performances. (Frendall and Thürer, 2016b, p. 120 and 125.) Standardization is especially important to be able to find deviations, increasing predictability and to create learning (Petersson, 2018, p. 129).

2.6 Standardizing processes with Lean thinking

Standardized work intends to capture the best current way of doing work (Holt, 2019, 94) and the most important standards in Lean are to constantly question the basis for continuous improvement by defining baseline performances yet allowing creativity to occur (Frendall and Thürer, 2016b, p. 120). It also supports all Lean tools (Holt, 2019, 95). Continuous improvement requires a structure in all activities and with all parties involved (Petersson et al., 2018, 183).

Applying lean principles can provide a clear picture of the situation and determine needed corrections - lean thinking revealing hiding process problems (Yankelevitch and Kuhl, 2015, p. 13 and 37). Lean recognizes the value of standardized work and one of the most important standards in lean is to constantly question standards (Frendall and Thürer, 2016b, p. 120).

In lean thinking it is an expectation that everyone is engaged and one's thinking is equally critical as their labor to succeed (Yankelevitch and Kuhl, 2015, p. 35). To sustain improved performances, long-term commitment and significant effort are required (Yankelevitch and Kuhl, 2015, p. 72). Obtaining a universal agreement on a standard creates a benchmark that one can use to return to confirm and, calibrate, and for continuous Improvement to occur (Yankelevitch and Kuhl, 2015, p. 61).

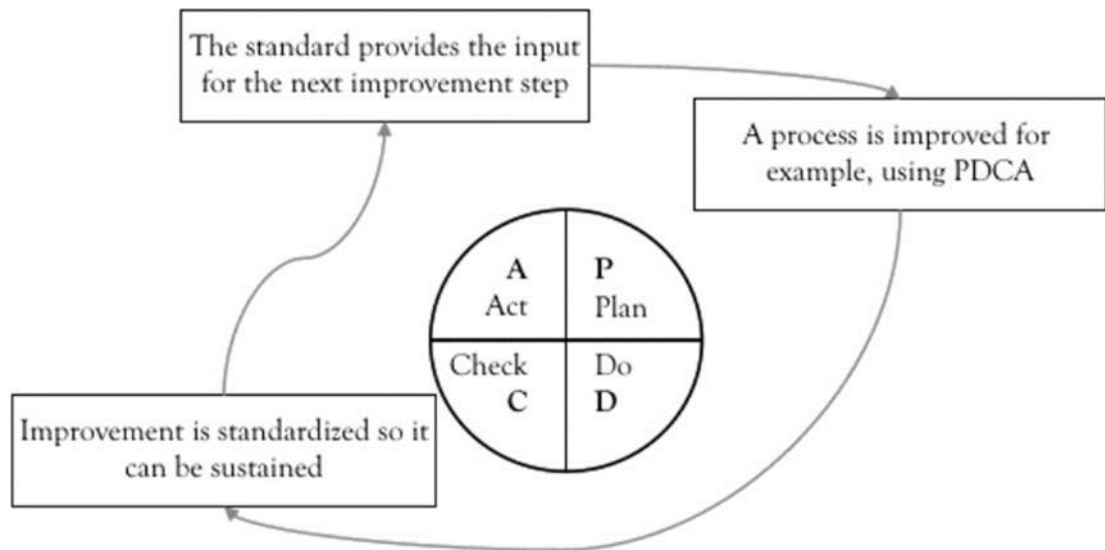
We, the authors, aim to create a standardized process that will guide future student tutors and head tutor during their time serving as tutors. By using the theoretical framework of lean in the process, an always evolving blueprint for tutoring can be created. As mentioned by Frendall and Thürer (2016b, p. 129) the best people to improve the work are those working daily on the process and we have sufficient knowledge of the task sustained by our own experiences as student tutors, head tutor and degree programme assistant. Another reason to use a lean approach to develop the process is backed up by Yankelevitch and Kuhl (2015, p. 38) where the authors mentioned that "lean processes do not start on their own but are initiated and driven by signals from customers". This thesis was initiated by collectively shared opinions of the actors, and it would benefit the not only the future actors, but also the receivers (future students) and the institution itself.

2.7 Used Lean methods and tools

The Lean method is about continuous improvement (Petersson et al.; 2018, p. 325) and for continuous improvement to occur it requires an implementation structure (Petersson et al.; 2018, 183). Lean tools are designed to improve processes (Yankelevitch and Kuhl, 2015, p. 5) and lean improves operations through various methods (Petersson et al., 2018, p. 124). Following are the lean methods and tools that are the most relevant for this thesis. These tools are significant for the online student tutoring process because they are methods that provide constant development and improvement.

2.7.1 PDCA development method

PDCA is a method of systematic development that comes from plan, do, check, and act, i.e., plan, implement, review, and standardize (Petersson et al., 2018, p. 177). It is also known as the continuous process improvement (Petersson et al., 2018, p. 177; Yankelevitch and Kuhl, 2015, p. 72). The method is suitable for all development work (Petersson et al., 2018, p. 178). The authors chose the PDCA systematic development method because it goes along with Turku UAS's ways of working and the institution's constant aim for excellence in action in its operations. Below can be found picture 1 with a visual representation of a continuous improvement cycle using PDCA. In the picture a process is improved for example, using PDCA. Improvement is then standardized so it can be sustained. Through the standard the next improvement step is provided. All while the process goes through the PDCA cycle.



Picture 1 Continuous improvement using PDCA (Frendall and Thürer, 2016b, 120).

The planning sets a target and draws up a plan of the necessary measures. The problem is clearly defined and the root cause, i.e., the real cause of the deviation, is investigated. Then to proceed according to the plan and review, i.e., evaluate. (Pettersson et al., 2018, p. 178–179.) The purpose of the development work is to take the work to a higher level and the aim is to establish a new level through an agreed standard.

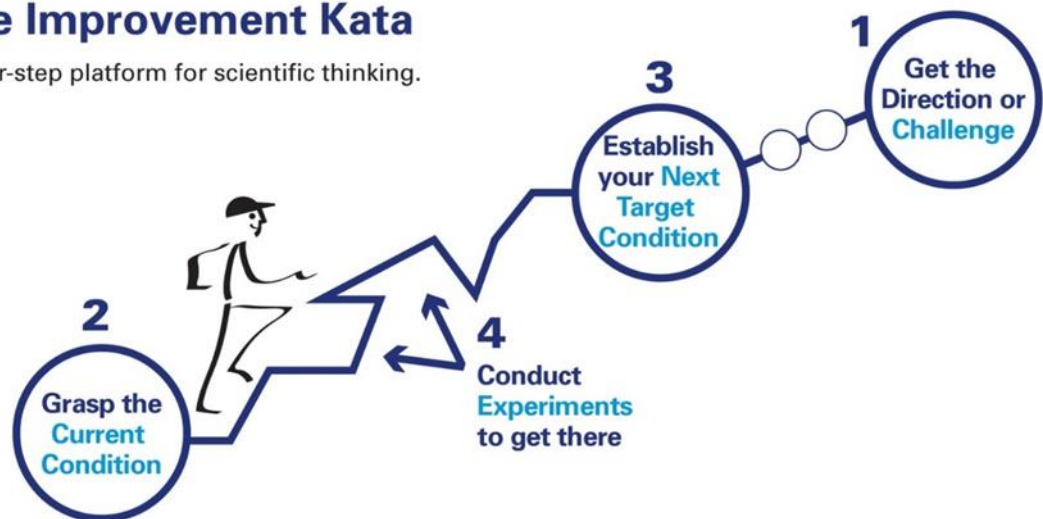
The aim is also to ensure that the new level achieved becomes permanent. (Pettersson et al.; 2018, p. 179) With the PDCA cycle continuous learning can be institutionalized, risks limited, and continuous improvement initiatives perpetuated (Yankelevitch and Kuhl, 2015, p. 73). Pettersson et al., (2018, p. 177) and Yankelevitch and Kuhl (2015, p. 72) describe PDCA as a systematic development method for processes. By using said method, that is an essential part of the lean philosophy, the process of student tutoring can continuously improve.

2.7.2 Kata method

The Kata method is one of the means of achieving a culture of continuous improvement. Kata sets target modes for observing obstacles, exceptions and problems that are reported immediately, and which, through small steps and multiple repetition, achieves a routine of continuous improvement. (Pettersson et al., 2018, p. 325.) Picture 2 visually shows the four-steps used in improvement Kata. First one must understand the direction or challenge and grasp the current conditions. Then the next target condition needs to be established and one must move towards the target condition by way of conducting experiments.

The Improvement Kata

A four-step platform for scientific thinking.



Picture 2 Improvement Kata (Lean Enterprise Institute, 2021).

Kata is divided into two ways – an improvement Kata and coaching Kata. Improvement Kata describes the continuous improvement routine, and the coaching kata is a way to teach the previously described routine. (Pettersson et al.; 2018, p. 326.)

In connection with the two Katas, the coach asks five questions, these questions are used to coach through the continuous improvement:

1. What is the target condition, as related to the current state?
2. What is the current situation?

3. What do you think is preventing you from achieving the goal?
4. What next step will you implement?
5. How quickly will we be able to review what we've learned from this next step? (Petersson et al.; 2018, p. 327.)

These questions are put in the A3 user guide template that is found in the end product section of this thesis. They are written there to help the template users go through the continuous improvement cycle of the A3 template.

2.7.3 A3 method

The A3 method is about creating a development routine, improving communication and learning. The name comes from the paper size, A3, that is considered the correct size to describe development activities. It is suitable for all development of activities and can be used to describe any improvement in performance. It is also an efficient tool to communicate issues, tasks, and results. The A3 titles may change based on the use of the method, yet it is always based on the PDCA. (Petersson et al., 2018, p. 316–317.)

The form has two sides that represent the development work's two stages: The left side contains an understanding of the situation and the causes of the problem, and the right side consists of the measures to get into target mode. (Petersson et al., 2018, p. 316–317.) Each section logically builds on the previous one ensuring quality at all levels of improvement and provides a framework for learning and standardizes the documentation. (Petersson et al.; 2018, p. 316–318) Below in picture 3 we can see a clear example of an A3 template that defines the problem, target setting, root cause, countermeasures, results and sets a standard.

Problem Solving A3: <Headline Problem Title>

RAG Status



<p>Problem definition</p> <p>What is the Problem? (Should not Include Root Cause or Solution)</p>	<p>Countermeasure development <in order of Root Cause Linkage></p>	
<p>Target setting</p> <p>What will Success look like?</p>	<p>Checking results The results will be established through te measurement of:</p>	
<p>Root Cause analysis Please see the next slide for the Ishikawa Diagram</p> <p>What are the 2-3 Root Causes to be addressed?</p>	<p>Standardisation of success</p>	
<p>Owner:</p>	<p>Date:</p>	<p>Process:</p>

Picture 3 Example of an A3 document (Holt, 2019, 62).

The essence of the method is not the format used, but the process it provides. The A3 is not to be used as a one and done form of a report, but it is an ongoing process that is constantly replenished. (Pettersson et al., 2018, p. 318–319.)

3 Methodology

3.1 Methods

This project is a combination of mix of methods research supported by participant observation as a data collection method. Participant observation is qualitative, and its importance is on finding the meanings that people attach to their actions (Saunders, et al., 2012, p. 340). Mixed Methods Research is defined as a style of research that combines qualitative and quantitative methods into a single study (Saunders, et al., 2012, p. 161) Quantitative research aims to generalize and qualitative research to understand a phenomenon and to create a foundation and theory on that phenomenon (Hughes and Davies, 2014, p. 9).

The purpose of quantitative research is to discover answer to questions by applying scientific procedures which in turn, have been developed to increase the likelihood that the answers gathered are relevant to the question asked and that they will be reliable and unbiased (Hughes and Davies, 2014, p. 9).

Qualitative research on the other hand, is an activity that locates the observer in the world. It consists of a series of interpretive material practices that turn the world into a set of representations that can include but is not limited to field notes, interviews, conversations, photographs, recordings, and memos to oneself (Hughes and Davies, 2014, p. 9.)

Saunders, Lewis, and Thornhill characterize participant observation as the researcher's attempt to fully participate in the lives and activities of the members in the research group, allowing the researcher to become a member and enabling him/her to share their experiences not only by observing what is happening but also by feeling it (Saunders, et al., 2012, p. 342). The authors used participant observation as a data collection method because of their direct experience in the tutoring practices of IB Online. Participant observation is used as an attempt to get to the cause of "what is going on" in a social situation (Saunders, et al., 2012, p. 342).

Using participant observation as a research method the researchers took into consideration the subjectivity that they brought to the study based on their previous roles as student tutors, head of student tutors and assistant to the degree program. However, the researchers gave their opinions in the most professional way possible, avoiding impacting the results. The collected data came from the surveys and interviews done to the closest relevant groups involved in online tutoring. The study participants consisted of student tutors, degree programme assistants, teacher tutors and degree programme students.

3.2 Data collection

For the quantitative part, the authors sent an online survey with a total of 15 questions via Webropol to all students enrolled in IB Online in Turku UAS. The survey was completely anonymous to ensure that the confidentiality of the study participants would remain intact. The number of online students' participants was formed by three different generational years of the degree program, and the total population that got access to the survey was of 104 online students. The rate of participation was of 24,96%. Table 1 gives a detailed explanation of the number of students per generational year from student groups that started studies during year 2018, 2019 and 2020.

Generation	Number of students enrolled by Spring 2021
PINBOS18	25
PINBOS19	34
PINBOS20	45*

*The number of students enrolled in PINBOS20 has changed ever since due to transfers from students in other degree programs.

Table 1 Number of enrolled students in IB Online by Spring 2021.

The survey sent in January 2021 was open for the students to answer for a period of seven days and the researchers offered a raffle of two 20-euro gift certificate to all of those answering the survey.

By interviewing the three different groups mentioned above, the aim was to achieve a greater closeness to be able to collect feelings, ideas, experiences, and perspectives i.e., achieve a more reflective perspective to the topic. Simultaneously, the purpose of the quantitative research was to get to the conclusions based on the online survey results.

Online surveys had both closed and open-ended questions and functioned as descriptive research. To get the students to participate we first created a short 23-second video asking the students of classes of 2018, 2019 and 2020 in IB Online to answer the Webropol survey and at the end of the video we mentioned the raffle of two gift cards between the students who had answered. After reaching out with the video via messaging app WhatsApp, we then shared the Webropol link of the survey to the students of the classes mentioned above also via WhatsApp and e-mail.

3.3 Qualitative interviews to online student tutors

The past and present online student tutors were contacted primarily via different social media platforms such as WhatsApp and Instagram, secondly via e-mail as we, the thesis researchers, had more personal relationships with our peer online student tutors and wanted to use the platforms we generally used with them. However, these personal relationships did not influence the veracity of their answers as the authors asked questions that had nothing to do with our existing relationships.

Before the interview, we sent via email the research purpose, the approximate length of the interview as well as the interview questions to give the interviewees time to prepare if so desired; it was also mentioned that the interview would be recorded to write a transcript of the discussion and that the recording would be deleted once the transcript had been written.

The online student tutor interviews were conducted via Skype for Business and Microsoft Teams. IB Online degree has had a total of 12 past and present online student tutors, nine out of the twelve online student tutors were available for the interview – making the response percentage into 75 per cent. The other three online students were interested in participating, but due to busy schedules were not able to do so. However, having a 75 percent of the online student tutors interviewed fulfilled the high participation rate we expected.

3.4 Qualitative interviews to IB Online teacher tutors and assistants

Having the opinion of both, the IB Online teacher tutors and the degree program assistants was important for the research to understand how they viewed the importance of online student tutoring; the two groups were contacted via email to agree on being interviewed. So far, IB Online has had six different teacher tutors and two-degree program assistants, one of whom is part of the research team for this thesis.

Out of the six teacher tutors, only four were interviewed as two remaining ones supervised the thesis; they were left out of the interviewing phase due to their active participation on the thesis process. As well as with the student tutors' interviews, the questions were previously sent via email to the teacher tutors in case they wanted to prepare beforehand. The interviews were conducted via Microsoft Teams and were also recorded to later create transcripts of the conversations.

3.5 Other ways of collecting data

Information was gathered not only through the online surveys, interviews, and participant observation, but also through books, e-books, and journals. To get a general idea of the application forms for students that want to apply for the tutoring position, we referred to TUO's online existing material.

3.6 Publishing the results

Results were published and introduced to the TUAS IB online teacher tutors, online student tutors and IB Online program students in November 2021. The interview and Online survey answers were used to further develop the online student tutoring process and to create a standardized process for Turku UAS online degrees student tutoring.

The final version of the thesis will be taken through an automatic text-recognition system Ouriginal used for evaluation of plagiarism and will be uploaded to THESEUS. The stakeholders that benefitted from the thesis are Turku UAS' online degree students, online student tutors, teacher tutors, the online degree programs and Turku UAS. Also, pre-prepared material could increase the Student Union TUO's interest in taking IB Online programme as part of their tutoring program.

4 Results

The results presented here are not a description of individual opinions, but a synopsis of the different opinions gotten from the three study groups interviewed.

4.1 Online student tutor interview results

Question 1. Which expectations did you have for being an Online student tutor? What motivated you to become an Online student tutor? Were those expectations met?

In general, all the student tutors' expectations and motivations were the same: helping others. Every student tutor mentioned that their main motivator was to be able to help new upcoming students to digest the wave of information that is given in the orientation days and once the studies had officially started, they would help with whatever new questions the new students will have.

The word that was most consistent with their answers was giving back. The tutors mentioned that they decided to become one after receiving help from their own student tutors when they started their studies, they felt that becoming a student tutor would repay that help and would be a way to show gratitude for the labor. A couple of student tutors mentioned that the second motivator to apply was to get the three extra credits that come with the job.

Another motivator for a couple of students was to meet and network with the students. These student tutors mentioned that they wanted to focus their future careers in organizational communication so becoming a student tutor in a degree program that hosts so many international students was a great opportunity for them to gain more experience in the subject.

The motivators to become student tutor supports what Ratilainen (2013, p. 29-30) writes in her report that one of the goals of student tutoring is to increase students' sense of community by improving the lives of other students beyond the studies and that student tutoring can also improve the student tutor's social skills, loss of stage fright, confidence in public speaking and preparedness for responsibilities.

Most online student tutors mentioned that their expectations were met completely, and they enjoyed the experience very much. One student tutor whose expectations were not met at all, mentioned that they did not get more than three questions from new students during their time as a tutor, causing them to feel disappointed by the experience.

Another student explained that their experience was halfway met, as they did not feel that there was any collaboration between the degree program and the institution, making them feel like the online students were not fully as connected with the institution as the on-site students. They felt that this lack of collaboration doesn't allow online students benefit from the same experiences and networking others do.

Question 2. What did you enjoy about Online tutoring? What were the biggest challenges?

The highlight for most student tutors was to meet the new students face to face during the orientation days and being able to help them to solve their questions. The student tutors mentioned that they were able to make deep connections with some of the new students and they were able to learn new things from different cultures while practicing their language skills.

One of the biggest challenges that the student tutors faced was the communication methods, the main tool used to communicate with students was WhatsApp. Student tutors mentioned that following a chain of messages was difficult as many of the tutors were in working life and could not open WhatsApp every time somebody had written something there, so quite often at the end of their workday, they would have 100 unread messages.

Scrolling up and down to see what questions have been posted and what had been answered made things more complicated than it should have been. Using a messaging app as a communication platform can result in discussions getting out of sync; as Smith, et al. (2008, p. 104) explains this can occur because of a slower typist responding to a comment after several other points have been made, or a receiver checking their messages after long periods of time.

A couple of student tutors suggested that it would be more beneficial if all communication would move to another platform such as Microsoft Teams and gave an example of how it would work:

New student tutors would create different chat rooms for different topics e.g., information about the learning platform or information about enrolling on Campus Online. Student tutors will oversee x number of chat rooms. When a new student has a question, he or she can then go to the chat room containing the specific information; if the information is not there, then the student can post his/her question and get a 'one-on-one' answer.

The latter idea would also benefit the student tutors to equally share the load work. A couple of student tutors felt that some of their fellow tutors did not share the task similarly, so creating rooms that would then be shared equally in amount would prevent student tutors from lacking at the task.

If creating different chat rooms help declutter the communication challenges that student tutors have had so far, Smith et al., (2008, p. 104) recommend that the guidelines for participation of every part involved need be established from the start so that the students have clear expectations of how these rooms would work.

Another challenge raised by a student tutor was the lack of understanding of practical things outside the courses, meaning that if a student asked a question on how to apply for international exchange, the tutor was not sure about the matter and had to therefore ask the student to ask someone else.

Question 3. What were your typical tasks as an Online student tutor?

All student tutors, after the orientation days, had to answer technical questions regarding the functioning of the learning platform, some others had to explain things on the studies like e.g., how the teacher is expecting a report to look like, how to be more efficient when studying online, or how to “read” the semester calendar.

Some students reached out to ask for personal experiences from the student tutors, for example on how to balance work life/family/studies or just to get a word of encouragement.

The answers provided by the student tutors in this question, connect to what M. Joshi (2013, p. 18) mentioned in her study Verkkotutkinnot about tutoring in online degrees “during the first year, tutoring is focused on creating an encouraging and positive team spirit, as well as getting started with studies and familiarizing into the University’s ways of working.”

Question 4. Which environments did you use, and how suitable do you think they were for the purpose?

The main and most used tool was WhatsApp, student tutors mentioned that the main reason to use WhatsApp to communicate was because of its reliability and quick delivery. However, just like in the previous question, most tutors said that WhatsApp can get confusing because, unless you have been reading the received messages as soon as they come, one will end up having hundreds of messages you need to read to catch up.

Witt (2016, p. 461) exposes that in communication in distance learning, it is fairly easy to take the sense of urgency in a message a student has sent via text message than in person, resulting in a cluster of misread questions that can be difficult to detangle and creating a communication crisis.

The second most used tool was email, student tutors expressed they felt this was a more professional way to communicate but it posed a challenge when they needed to show e.g., with pictures examples of how to do something whereas with WhatsApp it was easier to send screenshots of the information asked.

A couple of student tutors were reached out via other social platforms such as Facebook, and Instagram and one tutor even had face to face online calls with the students via Zoom, Skype, and WhatsApp video chat.

Almost every student tutor suggested that perhaps switching the current communication ways to something more formal like Microsoft Teams would be more effective to keep the discussions clean and understandable. As Dimitrova, et al., (2007, p. 6) mentions in their publication, finding an effective online environment to communicate will prevent problems and facilitate reasoning among those communicating.

Question 5. Which recommendations would you give to new Online student tutors?

Know what the role of the student tutor is and stay committed to it. It is important to define the role of the student tutor because at times the students are asking questions that only teachers can answer, so from the orientation days, students should be given e.g., a list of what the competences of the student tutors are. Be present and remember that not everyone is in the same time zone, so if you get messages in the middle of the night, don't get frustrated.

Be patient, positive and understanding of others, remember that new students come from different backgrounds so we cannot expect everyone to understand things in the same way. Chin, Rabow, and Estrada (2011, p. 31 and 36) agree that what most successful tutoring partnerships have in common is acceptance, meaning that tutors must take care of the students no matter their race, gender, class, or background.

Another point raised from the answers gained, was to establish limits; sometimes new students think that the role of the student tutor is to provide them with all the information already processed.

By guiding students to find their own answers instead of giving them, student tutors help create good studying habits like organization and time management that in the long run, will help online students reduce stress as Fandl and Smith (2016, p. 58) suggest, and to become more self-directed and self-initiated as Joshi, et al., (2020, p. 32) say online students should be.

Question 6. What are the special requirements set by having to tutor online students in a fully online environment?

Tutoring online requires being empathetic, kind and patient. Future student tutors do not need to be tech wizards, but they do need to have decent technological skills and should know how the learning platform works.

Good communication skills are important as tutors talk with students in platforms where non-verbal communication is involved, it is important to know how to convey messages in a clear and effective way.

Also, student tutors need to be active, as a lot of students do not feel comfortable reaching out for help, so it is a good idea that tutors reach out to them individually and ask them if they need help with anything. However, Joshi et al., (2020, p. 32) say that the online student must “be self-directed and self-initiated”; so, student tutors should also remind the students whenever reaching out, that they [the student] are the ones that need to follow the progress of their own studies accurately from the beginning as they are responsible for their own progress.

Regarding the experience so far, a couple of student tutors expressed that there should be more communication and cooperation between them and the online degree staff. A meeting where the student tutors’ tasks are presented to the degree program staff would be beneficial for everyone involved.

Question 7. Is there something else you would like to add?

Few student tutors did not add anything to this question, however, most of the tutors emphasized that there should be clearer guidelines for the process, that includes an explanation of their responsibilities, status of limitations, what is expected from them, and performance evaluation.

The usage of Lean would help to create a clearer and more structured tutoring process, Petersson (2018, p. 17–18.) describes Leas as an activity that never ceases and is constantly in development, it is long-term approach or strategy in the management of processes.

A richer picture of the benefits on using lean tools during the tutoring process is reflected in the end products of this thesis.

The results obtained in questions number 2, 4 and 7, indicate that student tutors have shared pain points such as unclear communication environments and a lack of guidelines for the tutoring experience. Having a standardized process that covers the tutoring experience in its entirety would prevent future student tutors to feel confused about the extent of their task and would help to create better communication methods with the tutees.

According to Johnston and Burke (2018, p. 6) the tutoring experience happens in three different stages (the learner model, the domain model and pedagogical model) for the IB online student tutors, the stages occur as explained next:

The learner model happens when the future student tutor learns how many students have applied to the program and will prepare him/herself to welcome new students to the entry exam, while being there, the tutor will learn important aspects about the potential tutees such as cultural background, age, gender. This information will then help the tutor to make informed decisions on how to e.g., communicate with the tutees.

The tutors would then provide their knowledge and help to the new accepted degree program students during the orientation days (domain) and based on the strategy used to create the process, the student tutors will measure how well they achieved the desired results (pedagogical). The end products of this thesis aim to support each one of the three tutoring stages.

We, the authors, aim to create a standardized process that will guide future student tutors and head tutor during their time serving as tutors. We think that by using a lean approach to the process, we can create an always evolving blueprint for tutoring. As mentioned by Frendall and Thürer (2016b, p. 129) the best people to improve the work are those working daily on the process and we have sufficient knowledge of the task sustained by our own experiences as student tutors, head tutor and degree programme assistant.

Another reason to use a lean approach to develop the process is backed up by Yankelevitch and Kuhl (2015, p. 38) where they mentioned that “lean processes do not start on their own but are initiated and driven by signals from customers”. This thesis was initiated by collectively shared opinions of the actors, and it would benefit the not only the future actors, but also the receivers (future students) and the institution itself. Petersson et al., (2018, p. 177) and Yankelevitch and Kuhl (2015, p. 72) describe PDCA as a systematic development method for processes, because of this reason, the authors have used this lean tool to continuously improve the online student tutoring process.

4.2 IB Online teacher tutors and assistants interview results

Teacher tutors and degree program assistants were interviewed via videocall, the questions asked were of qualitative nature and both groups were asked the same set of questions. The results given here are a condensation of the answers given by all the teacher tutors individually and the two program assistants respectively. The teacher tutors' answers will be marked as TT and the program assistants as PA.

Question 1. What is online tutoring?

TT. Tutoring is about caring about students and their study path, from the first day when they arrive, taking care and supporting the students in all the steps that he/she takes until graduation. Is having a hand ready if needed. The job is very efficiency and productivity focused.

Online tutoring is not different from on-site tutoring, if anything, it might involve some extra work because you don't have face to face interaction and that cuts an important part of communication such as the non-verbal one. So online tutors need to be "wired" differently to be able to get over these kinds of challenges.

PA. It is helping other students by supporting them in their studies and getting through their online degree while using online tools. The online tutor does the same things as the on-site ones but, he/she does it by using the internet as the medium to support the tutees.

Question 2. What do you find is the value of online tutoring a) to the University b) to the students?

TT. Online student tutoring helps students to focus quicker into their studies resulting in us teachers being able to focus more on practical matters like explaining the content of the course and of course teaching, so it means it becomes a chain of help where everyone benefits. For the university it helps even economically as the funding from the State to the organization continues with each graduated student within time.

Students get benefits from tutoring by getting the flexibility to access different channels to reach out when questions come. When new students come and are received by their peer tutors, they get to feel welcomed and important; student tutors also enjoy larger credibility in the new students' eyes compared to teachers with things like planning, studies, etc., this advantage helps, again, to cut the valuable time teachers would normally have to spend explaining curricula and concentrate in teaching.

PA. The value that tutoring in general is beneficial for both parties as it helps cutting the time that students can spend searching for specific information and allows them to focus quicker to their studies and of course, it also cuts the time that a teacher would normally have to spend answering individually to practical matter allowing him/her to focus on teaching.

Online tutoring is valuable specially to those students that are not specially tech savvy and having online student tutors is important to motivate the incoming students to believe that they can also combine work and everyday life with studies as the tutor becomes a proof that it is achievable.

Question 3. What do you think is the role of online student tutors?

TT. Support in different ways; tutors form relationships beyond information giving, they can also offer moral support [even though this is not their duty], but it can help to detangle situations for the students.

Student tutors also create a sense of community and team, they are able to monitor and respond, because they have more credibility in the students' eyes, the student tutors can create a more relaxed a comfortable atmosphere that allows students to open up. In this way, the student tutors become an important intermediary not only between students and teachers but also between students and the whole educational organization.

PA. Two important parts of the role is knowing how to use the learning systems and communicating with the students frequently, not only when they need help.

The reason for the tutors to do the latter is that some students can be too shy to ask for help but when someone approaches them and asks - Can I help you with something? then the student can open up and ask their doubts.

Beyond the first two roles, online student tutors create team spirit within the study teams and provide new students with experiences and tips to better succeed in the degree program.

Question 4. Could you name as many practical duties as possible you think an online student tutor should do?

TT. They should be aware of the curricula and the overall way the studies are handled, of course they need to be able to show students how the online learning systems work. Tutors need to be there for students not only in the beginning of the studies but throughout their whole trajectory.

Student tutors in general need to be culturally aware of the communication differences that exist within cultures. In IB Online, we have many international students, and their communication skills differ from one another, you cannot communicate in the same way with someone i.e., from India than from Germany. Communication differences can create issues between student tutors and students if the tutor does not understand the student cultural background. Online tutors are community builders, and they need to know that not everyone is experienced or lived abroad.

Another important duty is to speak clearly and openly to the students about the issues they could have during the time of the studies e.g., the risks of failing a course, poor time management and even dropping off the degree program all together.

PA. Welcome the new students to the degree program and talk with them about their own experiences as online learners, what work nicely and what didn't. They need to help incomers to get familiar with the learning environment and the tools and repeat the information as many times as necessary until every new student is on board.

Especially throughout the first semester, student tutors need to keep contact with the students on regular basis to check that everything is running smoothly. If there is an individual doubt, the tutor can either pinpoint where to look for the information or give the information straight away. We think that sometimes, to increase the students' sense of self-guidance, is better to point at where to find something whilst with others, the best is to give the answer straight.

Tutoring in general should be an active role specially during the first year of the studies but also at the end, since about to graduate student tutors can give tips on how to e.g., write a better thesis or avoid procrastination.

Question 5. Who is responsible for the student tutors?

TT. The IB Online student tutors are recruited by the teachers and the coordinator of the program, and they get their training from previous student tutors.

PA. Mainly the coordinator of the degree program, teacher tutors sometimes check on them but are not directly responsible for them.

The roles are not well defined on who checks on who and since TUO hasn't trained student tutors in IB Online, the responsibility to check on their performance is in the air.

Question 6. How Turku UAS contributes to the management of the online tutoring process?

TT. We as online teacher tutors get access to special pedagogical courses offered by Turku UAS to learn how to effectively teach online, and when we recruit the student tutors, we can give them some of the tools learned for them to succeed at their task so, it becomes a chain of information.

PA. Not sure on how Turku UAS is managing the program but since the student union TUO hasn't taken on board the online degree student tutors to train them, it feels like the online degree program is a bit overlooked.

Question 7. How could more students be motivated to become online student tutors?

TT. At the moment the school rewards them with three extracurricular credits but perhaps there could be a special reward for their job such as a certificate backed up by Turku UAS that will give them something extra to show in their CV for example. Previous student tutors should also talk about the rewarding experience to the students after the first year to get them excited about the job.

PA. If they get credit for it in a way that will help them in life after school. If you think about online tutoring position, one of the things you must specialize is digital solutions; so, giving them some kind of certificate that will later translate as a plus in the job market could make for a great incentive.

Question 8. What do you expect from a student who wishes to become a tutor?

TT. Good attitude and a sense of service. The aspirant student tutor does not need to be a 5-grade student to do the job, but it should not be a barely passing the courses type of student either.

Tutoring needs motivation and dedication so these two are very important features a student tutor should have. They should also possess excellent communication skills and a genuine will to help others.

They need to be friendly and positive, good at planning and talking to people no matter their background. They should be able to take initiative and not afraid to ask questions when they don't have an answer.

PA. He or she needs to be someone who knows how to work in teams, has great intercultural communication skills, is outgoing and proactive and gets along easily with others.

The most important characteristic in a person who would like to tutor their peers is commitment, we have seen some student tutors that start out with a lot of energy, especially during the orientation days and then slowly start being present in the tutees' lives. So, it needs to have the same amount of energy and commitment with its tutees in the beginning as at the end of the studies.

Question 9. What skills do you think student tutors need?

TT.

The answer given for this question is a mixture of all the skills listed by all the teacher tutors. The skills they all had in mind were study skills, technical skills, online communication skills, intercultural communication and awareness skills, organizational skills, presentation skills.

A 20% percent of the teacher tutors mentioned that the online student tutors should have an empathetic and caring attitude and they should be able to forecast the issues that new students might have based on their own experience.

PA.

Both programme assistants agreed that the future online student tutors should be team players, have good intercultural communication skills as well as technical and organizational skills. He or she should be a fast learner and curious to learn more, needs to be patient, open minded and creative; they should also be brave to speak up when something or someone is not acting as expected so that measures can be taken if necessary.

Chin, Rabow and Estrada (2011, p.31) say that it is important for tutors to be patient, observant, ask questions and try to understand the students at their level. On the other hand, Ratialainen (2013, p. 34) mentions that the tutoring activity provides the tutor with social skills, loss of stage fright, confidence in public speaking and preparedness for responsibilities. From this we can say that even if the future online student tutors do not possess all the skills at once, through tutoring they can expect to develop these skills.

Question 10. Do you have improvement ideas for the student tutors?

TT. Provide sustainability so the service is offered in the same manner and with the same quality every time. Of course, this might be difficult because every year we have different people, so there should be a standardized process of the recruitment and training methods the student tutor get access to.

PA. It is important to have clear tasks, especially when you have more than two tutors, so clarify who is doing what, when, etc. There should be a training on what are their tasks and what is expected from them and for them to set their own goals even.

4.3 Online student tutoring survey results

The qualitative answers given by the students about online tutoring survey gave an insight on the value and importance of getting sufficient support from the students tutors online.

Question 1. What do you think is the role of Online student tutors?

The majority of answers showed that most students think these are the tutor's main roles:

- Guiding and helping junior students during the start of their studies.
- Helping with homework doubts
- Answer questions fast and in an accessible manner.
- Facilitate communication between students and teachers.
- Helping with technical and administrative issues.
- Advice, mentor and support junior students
- Creating a team spirit among students.

Though, it is not the student tutor's role to facilitate communication between students and teachers, further answers in the survey showed that students either don't feel comfortable reaching teachers for small questions or they have reached the course teacher but have gotten no answer back.

The answers to this question proved once again that a clearer role of what online student tutoring is about is needed. By using the online student tutoring process cycle presented in the end products can help online student tutors to identify what tutoring is about.

Question 2. Could you name as many practical duties as possible you think a tutor should do? e.g., Assisting students with homework

- Providing help with courses, graduation and catching up regularly with the student about their wellbeing and helping them find a balance between studies, work, and family life. Helping them understand the structure of the studies, both, optional and compulsive.
- Answer study related questions
- Giving feedback to students
- Sharing insights of the studies based on the student tutor's experience(s).
- Acting as a connection bridge between students and teachers
- Organizing events
- Reminding students about important dates that they might miss e.g., enrollments, campus online, deadlines.
- Coach students and teachers on the usage of the learning environments, therefore student tutors need a solid knowledge of technical information. A large majority of students answered that helping them navigate the learning environment was an imperative duty for the student tutors.

Question 3. What were the issues that you needed help with from tutors?

Most of the students replied that it was related to technical and administrative issues such as understanding the usage of the learning environment, enrollment system and getting the student ID. The second most given answer was getting help with assignments, studies and picking up courses for the optional studies as well; they also wanted ideas on how to move further along with their studies. Lastly, the third most given answer was using the student tutor as a bridge between the student and the teacher e.g., bringing to the student tutor's attention mistakes done by the teacher in the learning platform such as wrong dates and faulty links.

A quarter of the students (six out of twenty-four) who answered this question mentioned that they have not encountered any issues to reach out for help to their student tutors.

Question 4. What kind of support from your tutor was the most important to you?

The most given answer for this question was getting help with school courses and understanding things such as assignments, the learning environment, and the school system in a fast and uncomplicated way.

Surprisingly, one of the insights we got from this question was the way students viewed their student tutor as a moral support figure. A vast majority of students mentioned that they felt supported through listening experiences from tutors and thus getting reassurance that they could also study alongside with working a full-time job and having a family. This connects with the online study part that there is a real need for people to feel some sort of human connection to get a more social experience in their studies. – check it from online studies ---

Two out of twenty-four students said that even though they did not need any kind of assistance from their student tutors, it was nice to know that they could have had support if needed.

Question 5. On a scale of 1 - 5, grade how important did you find that you had an Online student tutor during the first months of your studies? 5= Very important 4=Important 3= Somewhat important 2= Not so important 1= Not important at all

The students were asked how important they found having an online student tutor during the first months of their studies. Out of 24 students, 45,8% found having an online student tutor during the first months of their studies very important, 25% important, 20,9% somewhat important, 8,3% not so important – making the importance average to be 4,1 with a median of 4,0. Grade 1, not so important at all, was not given by any student. Figure 2 shows said percentages.

The results to this question connected with the answers in question number three [where the majority of students mentioned that they needed the most help with technical, administrative, and practical matters] prove that the majority of students feel the importance and impact that having a student tutor during the first stages of their studies provides. These results support again what Härmä and Joshi (2013, p. 18) have written about tutoring during the first year: it is focused on getting started with studies and familiarizing with the University's ways of working.

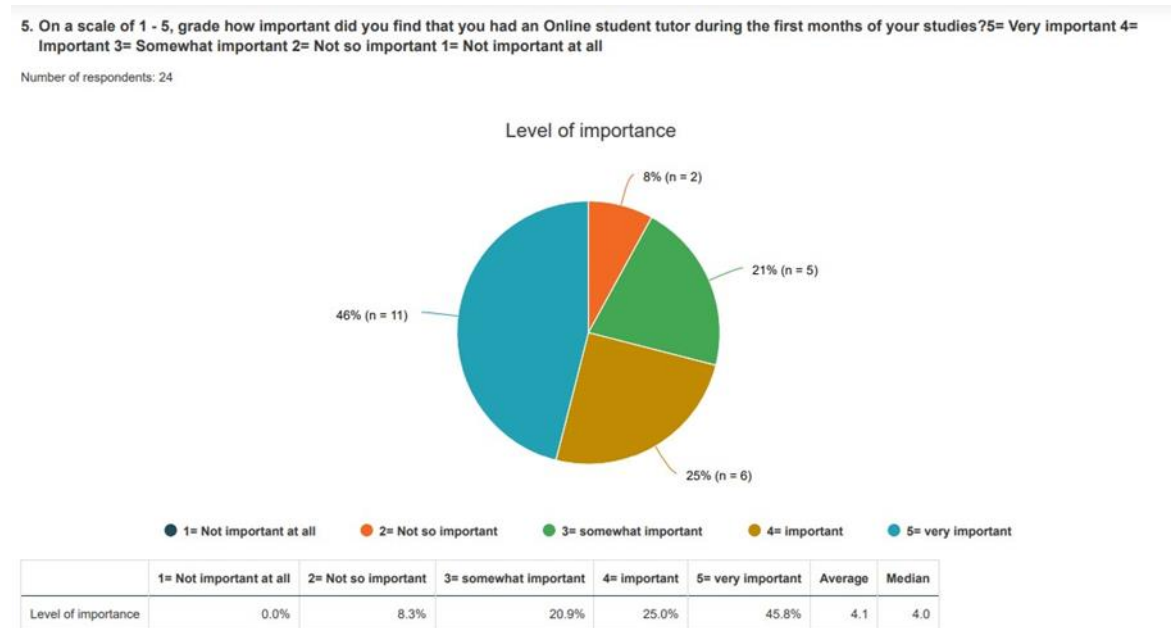


Figure 2 Question 5.

Question 6. In your own words, please describe what is the value of Online tutoring?

The students' answers in this question can be connected to previous ones: assistance and closeness. Most students agreed that the value of online tutoring is crucial as online studies are demanding by themselves, it is a great tool for the students to access information and getting answers in an uncomplicated way via tools like WhatsApp and Teams.

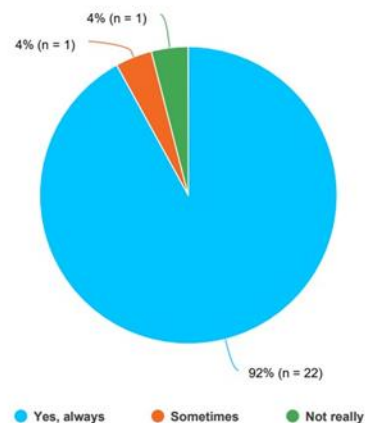
The second most given answer has to do with the humanistic part of the studies meaning that online tutoring provided the student with a sense of connection with someone who has gone through the same experience even at the distance. Some students indicated that their student tutor became their friend and the person who gave motivation to continue during the first semester of studies.

Again, two out of twenty-four answers similarly expressed that the value for online tutoring is more for junior students and teachers as it provides an extra set of helping hands as the funnel from where to get information quicker, however, they did not see a lot of value for more seasoned students as, they believe, are more capable to find answers by themselves.

Question 7. Did your tutor have an approachable attitude? In question seven the students were asked whether the student tutors had an approachable attitude. Out of 24 students, 91,6 percent answered yes, always, 4,2 percent answered sometimes and 4,2 percent not really. Figure 3 shows that the large majority of students had a positive interaction with their online student tutors.

7. Did your tutor have an approachable attitude?

Number of respondents: 24



	n	Percent
Yes, always	22	91.6%
Sometimes	1	4.2%
Not really	1	4.2%

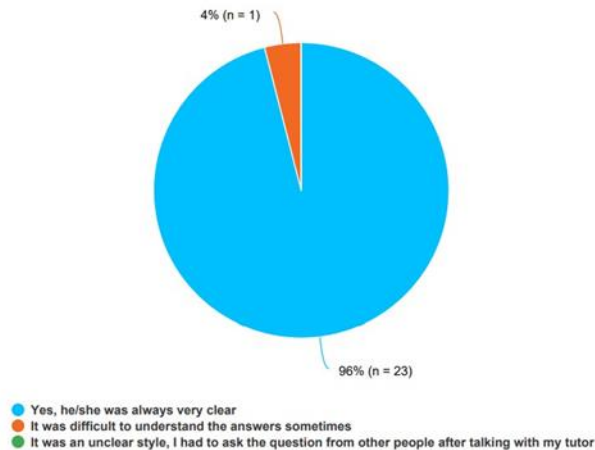
Figure 3 Question 7.

Question 8. Was the communication style of your tutor clear enough when clarifying your questions?

In question eight the students were asked was the communication style of their student tutor's clear enough when clarifying their questions. Out of 24 respondent's 95,8 percent answered yes, he/she was always very clear, 4,2 percent (one student) answered it was difficult to understand the answers sometimes. No students answered their tutors had and unclear communication style. Figure 4 shows that communication style of the online student tutors was for the most part, very clear.

8. Was the communication style of your tutor clear enough when clarifying your questions?

Number of respondents: 24



	n	Percent
Yes, he/she was always very clear	23	95.8%
It was difficult to understand the answers sometimes	1	4.2%
It was an unclear style, I had to ask the question from other people after talking with my tutor	0	0.0%

Figure 4 Question 8.

Question 9. Was the tutor available?

In question nine, was the tutor available out of 24 respondent's 21 students, 87,5 percent, answered the tutor was always available, three students – 12,5 percent answered that they had to sometimes wait for an answer. No student answered their tutor was rarely available. Figure 5 shows the online student tutors' availability.

9. Was the tutor available?

Number of respondents: 24

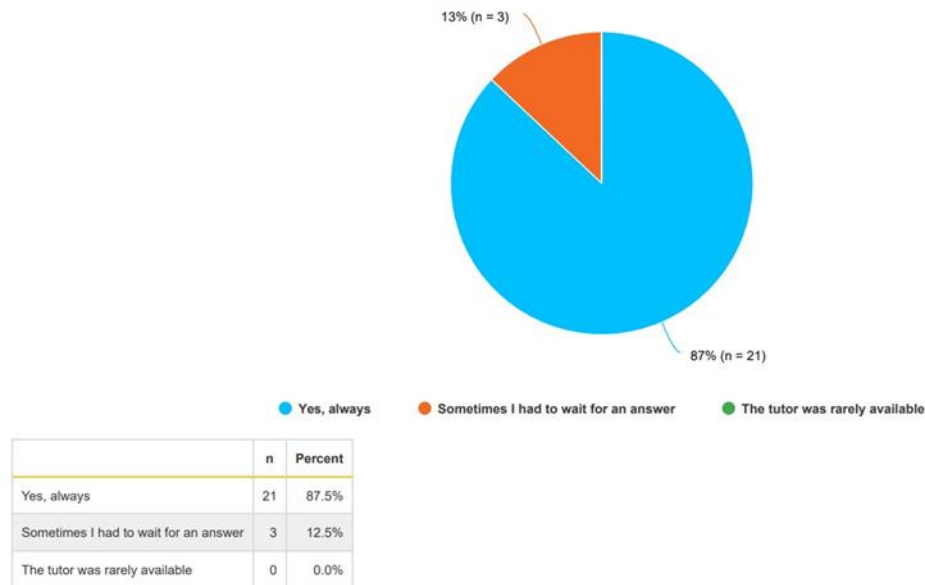


Figure 5 Question 9.

Question 10. Answer this question just in case you chose option 2 or 3 to the previous question. Did the tutor get back to you when you had a question, he/she didn't answer ASAP?

In question 10 the students were asked to answer the question in case they chose option two or three to question nine. Question was, did the tutor get back to you when you had a question, he/she didn't answer as soon as possible. Again, out of 24 students 23 students - 95,8 percent, answered yes and one student – 4,2 percent, no I had to ask from another person. No additional information was given in the free text field. Figure 6 shows that even online students needed to wait some time for answers, for the most part, the online student tutors got back to them to answer their question.

10. Answer this question just in case you chose option 2 or 3 to the previous question. Did the tutor get back to you when you had a question he/she didn't answer ASAP?

Number of respondents: 24

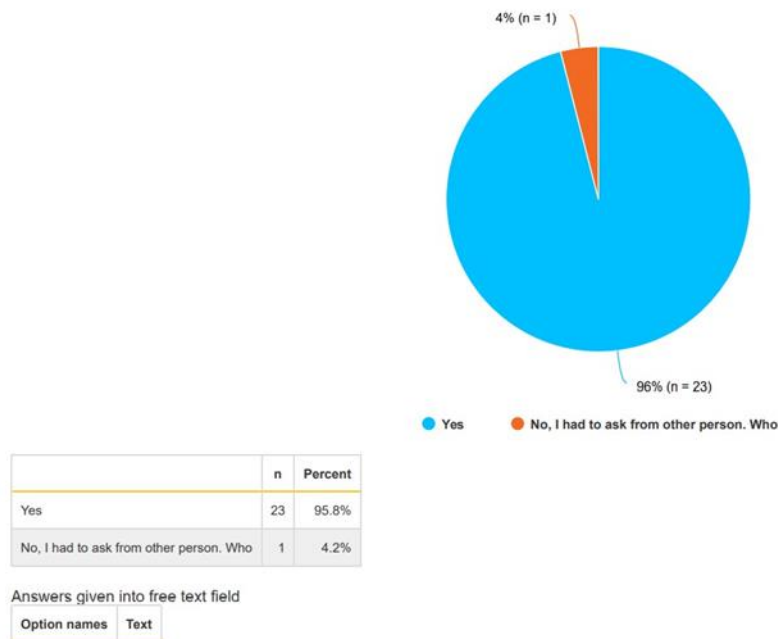


Figure 6 Question 10.

Question 11. On a scale of 1 - 4, what was the level of knowledge of your tutor in the matter regarding your questions? 1= Dominated the subject 2= Somewhat dominated the subject 3= He/She was insecure about the subject 4= Did not dominate the subject

In question eleven students were asked to scale what the level of knowledge of their student tutors was in the matter regarding their questions. 24 students answered the question with 75 percent answering their student tutor dominated the subject, 8,3 percent somewhat dominating the subject, 4,2 percent that he/she was insecure about the subject and 12,5 percent that the student tutor did not dominate the subject – making the median 1,0 and average level of knowledge 1,5 scaling between the student tutors either dominating the subject and between somewhat dominating the subject.

The answers provided in this question can further be researched as we did not ask for any additional information on what the topics were the students felt their tutors did not dominate. It can be assumed that one of the reasons why student tutors did not dominate a subject was because the issue was outside of the limitation of their roles.

Figure 7 shows the level of expertise of the online student tutors according to the online students' opinions.

11. On a scale of 1 - 4, what was the level of knowledge of your tutor in the matter regarding your questions? 1= Dominated the subject 2= Somewhat dominated the subject 3= He/She was insecure about the subject 4= Did not dominate the subject

Number of respondents: 24

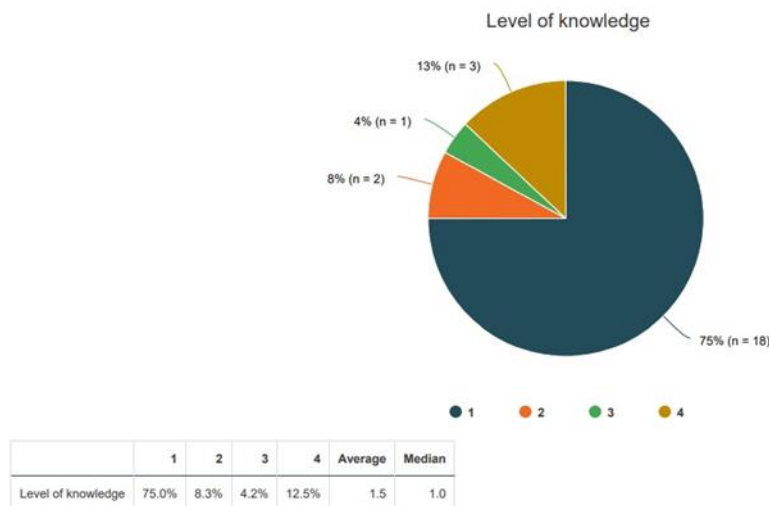


Figure 7 Question 11.

Question 12. Which environments do you think are the most suitable for Online tutoring? You can choose more than one.

In question 12 the students were asked which environments you think were the most suitable for Online tutoring. Again, 24 students answered the question, giving 38 selected answers as more than one choice was permitted. 79,2 percent chose WhatsApp, 41,7 percent answered Teams, 29,2 percent answered other, and 8,3 percent answered Zoom. In the free text field students answered as other environments Telegram, Slack, email, Optima/Itslearning and an answer that environment depends on the question.

Clearly the majority of students thought that WhatsApp is the best tool to communicate with their tutors, we can assume they like this tool due to the speed it provides in communication, however we must keep into consideration that a large number of student tutors mentioned that the communication methods became challenging because of the use of apps like WhatsApp.

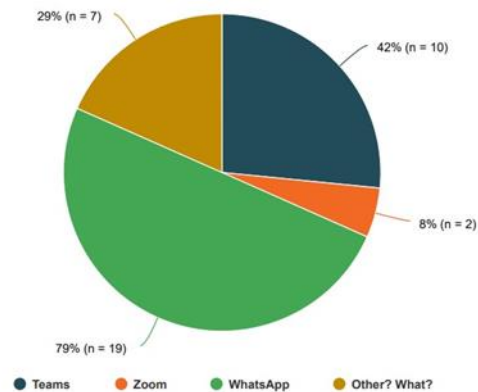
Dimitrova, et al., suggest that a selection of suitable communication methods reduces challenges and facilitates interpretation (2007, p. 6). Therefore, the future student tutors need to think of what the best communication methods could be so that everyone can access quick and effective information without neglecting the clarity of message.

As mentioned in the results obtained by the online student tutors, using the A3 template given in the end products will help to facilitate communication.

Figure 8 showcases the most suitable environments for online tutoring.

12. Which environments do you think are the most suitable for Online tutoring? You can choose more than one.

Number of respondents: 24 , selected answers: 38



	n	Percent
Teams	10	41.7%
Zoom	2	8.3%
WhatsApp	19	79.2%
Other? What?	7	29.2%

Figure 8 Question 12.

Question 13. What skills do you think tutors need? e.g., Communications, enthusiasm.

The researchers wanted to know what skills students think the student tutors should possess to succeed. The most listed skill was good communication skills, both, written and verbal; this skill was followed by empathy and willingness to help others.

Other mentioned skills were responsibility and professionalism, good organization skills, they should have leadership and a team player attitude, objectivity, and tolerance as well as inclusiveness and cultural knowledge.

The skills listed by the online students are very much aligned with the skills that both, the programme assistants, and the teacher tutors mentioned an online student tutor should have.

Question 14. Do you have any improvement ideas for the student tutors and Online tutoring in general?

The answer gotten for this question was to create a more structured and defined role for the online student tutors. Both, online students, and online student tutors, did not fully know the concrete description of the role and limitations of online tutoring.

Students also mentioned that the communication vehicles could be improved, there was a suggestion of moving the conversation for general group questions from WhatsApp to Teams to keep the discussion threads clearer as sometimes WhatsApp can get cluttered, and it is difficult to follow the chat and the engagement level drops down. Another similar suggestion was to maintain chats regarding school in Teams threads and more personal questions (even regarding studies) one-on-one with the student tutors on WhatsApp.

Using the A3 template shown in the end products, can help online student tutors to find more efficient communication methods during their year tutoring, the methods can change every year according to the then available communication tools and applications.

Another suggestion was to have individual meetings with their student tutors once every semester and a whole group semiannual meeting with the student tutors and a representative of the degree program to talk about how the program is working, as sometimes students have learned that a same mistake in a course had been experienced by previous year students and nothing has been changed.

Eight out of the nineteen people who answered to this question mentioned that they were content with the way online tutoring has been taking place so far and they did not have any suggestions to further improve their experience.

4.4 End products

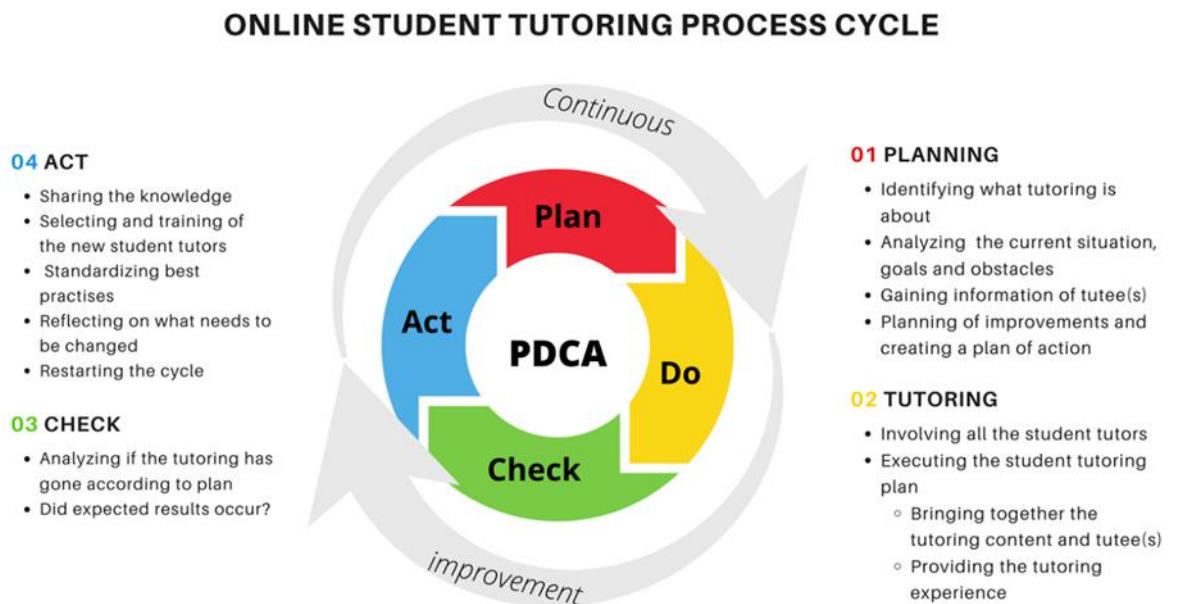
All activities can be improved in one way or another – yet there must be a logical link between the objective and the measures needed to achieve it. The starting point, a need for development, requires a selected way forward. (Petersson et al.; 2018, 17) Online student tutoring is an activity that can be constantly improved, and Lean tools are the way to not only identify the objectives and create the measurements to achieve them, but also provide a way to evaluate the process and standardize the best practices.) Connect this more towards your own topic.

The objective of this research was to develop online student tutoring by creating a sustainable standardized process for online student tutors tutoring their peers while using lean thinking as the base. The standardized process was designed to support ongoing development of the online student tutoring.

As end products, the authors created an online student tutoring process cycle and an A3 template to help standardize the online student tutoring and to support continuous improvement. The end products were designed to sustain improved performances with a long-term commitment in mind and with an aim to always capture the current best way of conducting tutoring.

The process cycle was based on lean thinking and uses the PDCA framework with continuous improvement surrounding all phases of the cycle. It also includes editors Johnstons and Burkes (2016, p. 6.) three concepts that tutors go through during the tutoring experience: The learner model, the domain model, and the pedagogical model.

The learner model happens during all phases of the online student tutoring cycle. It begins from the planning phase where tutors receive information on the tutee(s) which the tutor then uses for instructional decision-making during all phases. Secondly online student tutoring entails the domain model – the planning of tutoring in its entirety as well as plans for individual tutoring. Thirdly the online student tutoring has the pedagogical model in its tutoring phase where the tutoring content and the tutee(s) are brought together to provide a learning experience. Below can be found picture 4 containing the online student tutoring process cycle.



Picture 4 Online student tutoring process cycle.

The process cycle starts with the first PDCA phase, P – plan. This is where we identify what tutoring exactly is about, analyzing the current situation in online student tutoring, tutoring goals and possible obstacles. It is also the phase to gain information on the tutee(s), plan any desired improvements and create a plan of action for the next tutoring season.

The second phase is D – do. It is the part of the cycle where every tutor needs to be involved and a time to execute the online student tutoring plan. This is where the tutoring content and tutee(s) are brought together and where the tutors provide the tutoring experience.

Thirdly comes the PDCA phase C – check, where it is vital to analyze whether everything has gone according to the tutoring plan and if the expected results occurred.

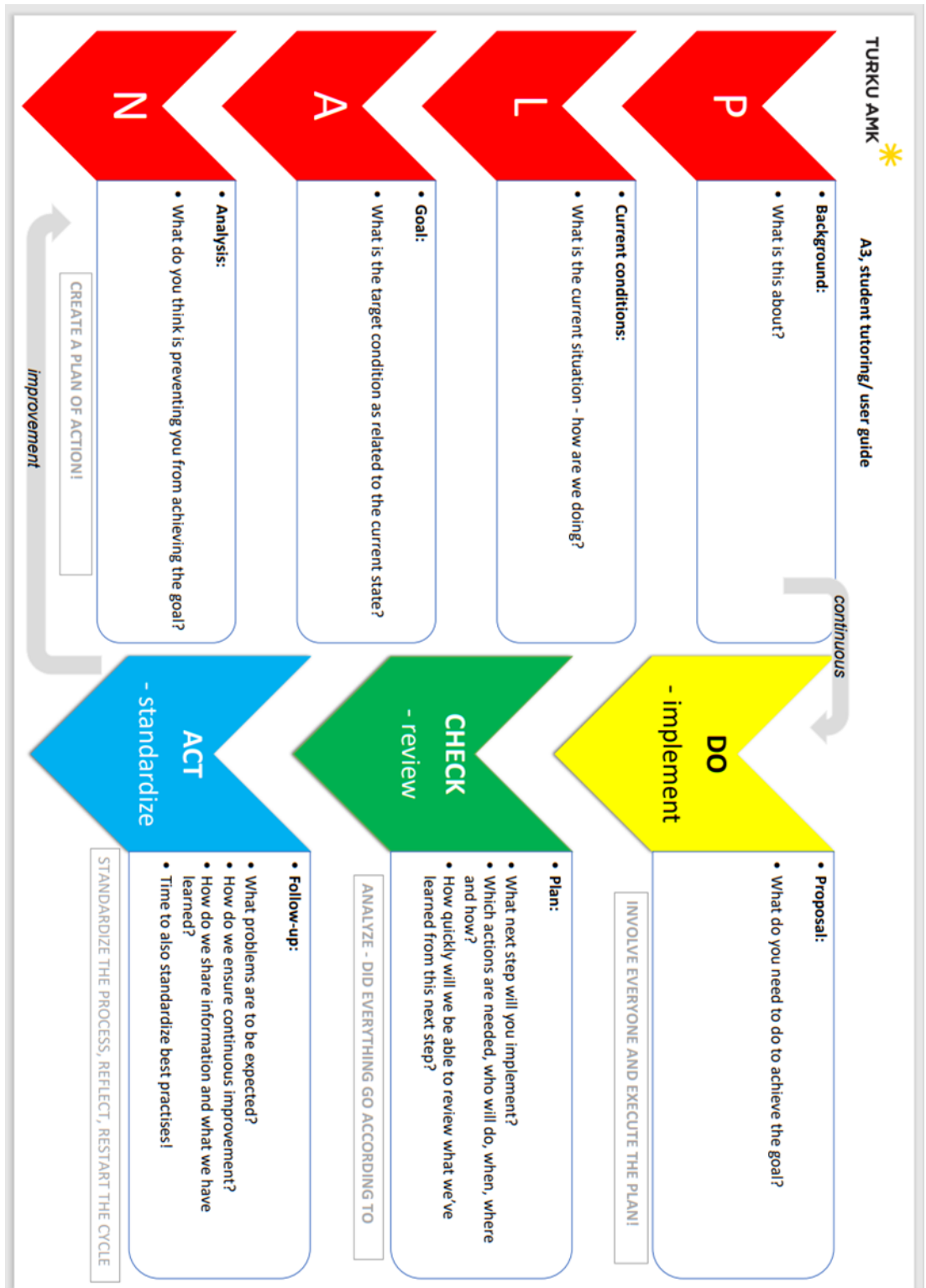
Finally, comes the phase A – act, where student tutors should share knowledge, select, and train new student tutors, standardize best practices, and restart the cycle.

The A3 template was built based on the core values of continuous improvement and standardization. The template corresponds with the produced online tutoring process cycle, and it is meant to support all phases of said process. It contains the continuous improvement implementation structure as Petersson et al., mentioned (2018, 183) is necessary for continuous improvement to occur.

Said implementation structure has been developed through the PDCA method. The A3 template goes phase by phase through the PDCA cycle stating current and target conditions, setting target modes for observing obstacles, expectations, and problems, all while aiming for continuous improvement of the online student tutoring.

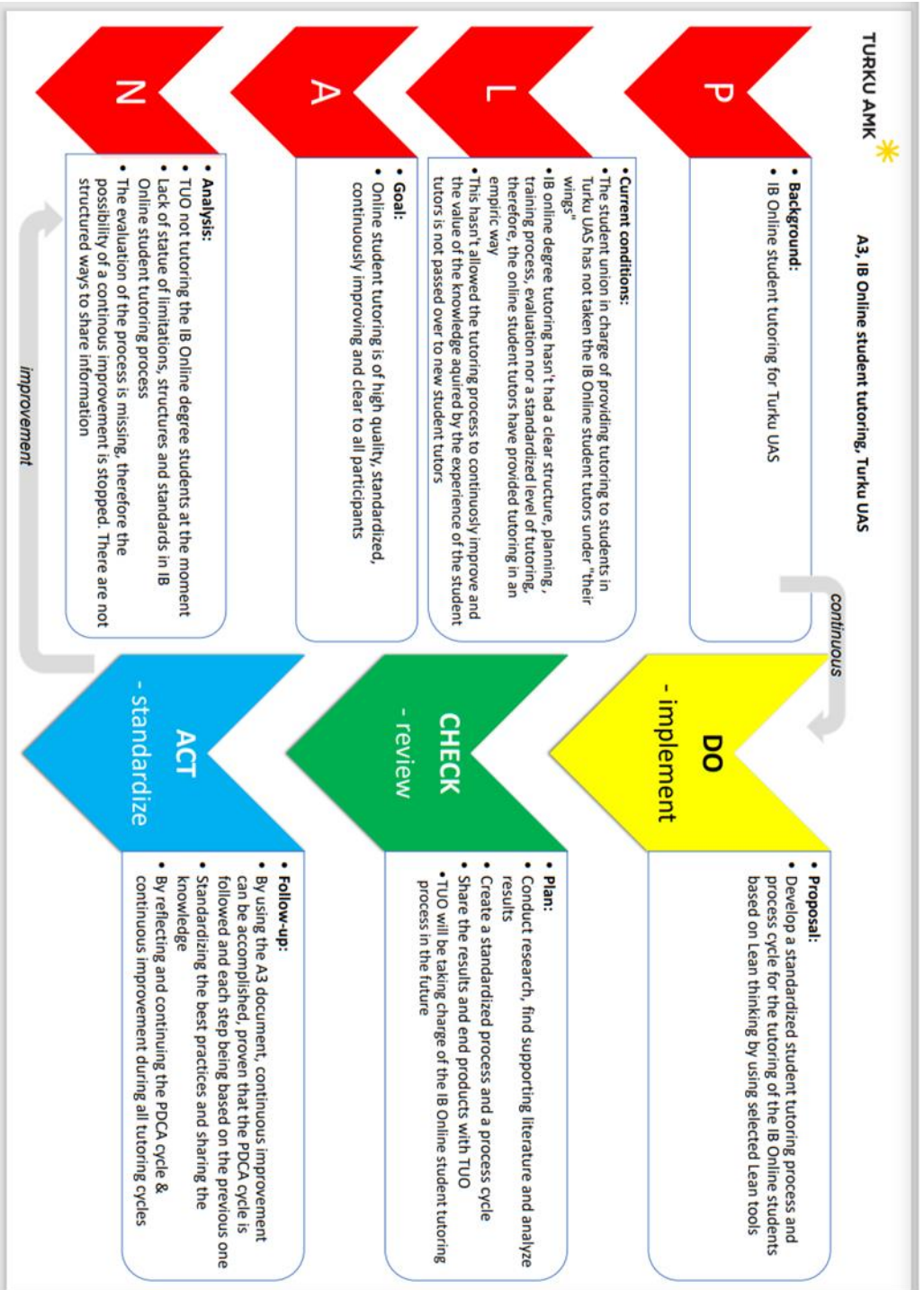
Petersson et al., (2018, p. 326) described the Toyota Kata as a method to achieve a culture of continuous improvement. Therefore, to ensure the implementation of a continuous improvement, the five coaching Kata questions (see page 27) have been added to the user guide of the A3 template.

The methods, PDCA, A3 and coaching Kata, were chosen due to their core principle of being continuously improving and completing each other well and as mentioned by Holt (2019, 95) standardization is what supports all Lean tools. Next, in picture 5, a user guide A3 template version for online student tutoring can be found below.



Picture 5 Online student tutoring A3, user guide.

Next can be seen picture 6, a filled A3 for the Turku UAS IB online student tutoring.



Picture 6 A3 IB Online student tutoring.

The example A3 was based on the current situation of Turku UAS IB Online degree's student tutoring and was filled to test the templates user guide, the template itself as well as to assist on the standardization and continuous improvement of IB Online degrees online student tutoring. Conventionally the template would be printed on an A3 size paper and filled into the paper but for showcasing purposes of the thesis was filled directly into the template on an A4 size. **the real size template can be filled with any visual methods, for example with pictures, graphs, or charts.

5 Research conclusion

The objective of this research was to develop online student tutoring by creating a continuously improving standardized process for online student tutors tutoring their peers while using lean thinking as the base. The standardized process was designed to support ongoing development of the online student tutoring.

To achieve the continuous improvement and development of online student tutoring, the researchers established four questions that were aimed to be answered with this thesis.

1. How does online student tutoring support online students?
2. What type of tutoring are online student tutors currently providing?
3. What type of student tutoring do the online students want and need?
4. How can online student tutoring be supported?

Online student tutoring supports online students by guiding new students navigate the first stages of adaptation to studies. Student tutors become not only the first contact point for technical and practical questions, but in many instances, they become a friend a close ally of the student.

Fully online students have the same need of support as those in conventional education, the online student often has a more challenging coupling during the first stages of the studies because they need to absorb a larger amount of technical information in a short amount of time.

The type of tutoring online student tutors currently provide is that of an empiric approach, meaning that they learn by doing, not based on previous training and they pass the gained knowledge to future online student tutors in an unstructured manner. The results obtained during the qualitative part of the research with the answers provided by all study groups, a more structured process for online student tutoring is needed.

In the third question we explored what type of online student tutoring the online students want and need. Findings obtained proved the online students perceived the online tutoring as sufficient. Online students' ideas of what a student tutor is and what are their responsibilities were in line to what many authors have written about tutors; however, some students did not have a clear picture of the statute of limitations of their tutors.

Online students thought of their online student tutors as the primary source of information for studying related issues as well as a support system during their first year of studies. The large majority of the online students agreed on the importance of having a student tutor during this time. The students liked the level of knowledge and availability of their student tutors, however, the majority thought that the communication methods could be improved.

In the fourth question, the researchers wanted to know how online student tutoring could be supported, the results showed that there are three main issues with IB Online student tutoring:

1. Absence of training that online student tutors get access to.
2. Absence of a structured process.
3. Confusing communication methods.

These three findings were the incentives to create the final products, however the end products focus on the absence of a structured process and can be used as a guideline to improve the confusing communication methods. The reason why the absence of training was not taken into consideration in the end products was because towards the end of this thesis, it came to our knowledge that TUO was planning on taking over the tutoring of the IB Online degree programme in Turku UAS which will solve the issue of the absence of training online student tutors get access to.

Nevertheless, the researchers hope that TUO will take advantage of the results and the material produced in this thesis and recommend that alongside with Turku UAS, they can create clearer guidelines of responsibilities to support the standardization of the tutoring process.

The second finding was the absence of a structured process, the authors' proposal to improve this issue is found in the end product with an A3 template based on Lean methods PDCA and Kata that have a core value of continuous improvement and that facilitate standardization.

Lean thinking, PDCA, A3 and Kata were chosen because they are proved methods and tools for continuous improvement of processes, and student tutoring is a process whether it happens online or face-to-face. And even though we aimed to create a base line for the online student tutoring process, we want to make sure that online tutoring is a process that is always looking for the best practices ergo, always improving.

For the communication process, in the future we advise future student tutors to decide among themselves the most efficient ways to communicate during their season with their online tutees taking into consideration the most suitable tools available. The suggestion given in the results of this thesis on how to improve communications is a good example of the way it could be implemented. The A3 template from the end products can also be used to improve the communication methods.

With the help of online student tutors, the new online degree students may adapt faster into their new roles as students and a standardized online student tutoring process will help online student tutors to operate in a more efficient level. The final product can be then further developed, based on the future needs of the program, by upcoming online student tutors with input from online students and online teacher tutors as well as the organization itself.

Online student tutors following standardized processes that aim to improve continuously, by always adapting to functionality in the best possible ways and using the best practices with a long-term approach will give both, IB Online degree programme and Turku UAS better-functioning students.

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