12-13-2021

PERSONAL COMMITMENT AND PERFORMANCE IMPROVEMENT: A NEW EVALUATION

Sarah Koen
University of Amsterdam, sarahkoek@hotmail.com

Emőke Takács
ERI Hungary – European Research Institute, t.emoke@eri.net.in

Toon Abcouwer
University of Amsterdam, a.w.abcouwer@uva.nl

PERSONAL COMMITMENT AND PERFORMANCE IMPROVEMENT: A NEW EVALUATION

Sarah Koen
University of Amsterdam
sarahkoek@hotmail.com

Emőke Takács
ERI Hungary – European Research Institute
t.emoke@eri.net.in

Toon Abcouwer
University of Amsterdam
A.W.Abcouwer@uva.nl

Abstract:

Guaranteeing quality education is a right of the people and an obligation of educational institutions. Therefore, they permanently pay attention to and initiate interventions to assure and improve the quality. At the University of Amsterdam (UvA), this focus is mainly on the quality of the taught knowledge and transferring it from teacher to student. An aspect not receiving much attention is how the students feel during the education.

COVID-19 raised awareness on the topic of well-being. At UvA, the evaluation surveys were extended with questions about digital education after the course ended, when no improvements were possible any longer. The results only impact the future education and not the student, so students do not feel like filling in the evaluations.

Our research focuses on whether personal attention to well-being and personal involvement plays a role in creating added value to the quality of education.

Keywords: ACoR, Cooperative learning, COVID-19, Course evaluation, High Dosage Tutoring, Institutional Research, Motivation, Personal Commitment, Qualtrics, Survey, Well-being

I. INTRODUCTION

In 2020 the world faced the Coronavirus pandemic (COVID-19), suspending regular education, among others. Education had to be organized online (Abcouwer, Takács & Solymosy, 2020; Takács & Abcouwer, 2020), and the university had to demonstrate its ability to deal with the emerging situation. Adapting to the new setting (from physical to online) had several advantages and disadvantages (James, 2002; Alshamrani, 2019; Hiranrithikorn, 2019). Benefits, like following the courses from any location, saving travel time for other things, or recording the lectures and listen to them at any time, are compared with the disadvantages of online education, lacking interactions and physical contacts. Overall, there is not yet a clear outcome of whether the switch is advantageous or not. Research showed that digital education can easily lead to a decrease in students' motivation (James, 2002; Alshamrani, 2019; Hiranrithikorn, 2019). Motivation being part of well-being, should be considered in our research, because it may significantly influence the academic performance (Bakker et al., 2005; Cohn et al., 2009). Unlike the current practice, measuring the students' well-being and its impact requires thorough and continuous evaluations (Schilstra et al., 2019), Course evaluations should ensure continuous well-performance. Shifting to online learning forced the university to deliver digital course evaluations, which did not work well in practice. (Abcouwer et al., 2020). Our research showed that response rates dropped, students did not feel that the evaluations contributed to better education and growing resistance against this form of education arose.

Our study introduces hybrid thinking. Showing another approach than traditional course evaluation with an explicit focus on both the quality of knowledge taught and transferred to students (teachers' approach) and the well-being of students (students' approach) leads to a higher degree of participation by teachers and students in improving quality education.

We will look at three theories, Cooperative learning, High Dosage Tutoring, and Institutional Research and describe a newly developed evaluation method with our first experiences applying it. During the research time, both the education and the evaluation surveys were online, letting us verify the impact of online working space.

In our new evaluation method, students and teachers should become more involved and committed to the process and take more attention to the well-being of students, leading to better and more effective results in education.

Focusing on quality education by improving course evaluations via the personal commitments and feedbacks of students and teachers, we see that traditional evaluation mainly focuses on the teachers' perspectives. To guarantee quality education, students and teachers should understand each other better (Kizilcik & Daloglu, 2018). Aiming to improve the interaction between teacher and student to reach mutual understanding during the learning process, we see the need to focus on student well-being, as a valuable addition to the evaluation process. Before COVID-19, the interaction mostly took place in the classroom, but in online learning, an increasing gap blurred it.

With this research, we aim at clarifying that improving the personal involvement of students - whether in classrooms or online - will also contribute to a higher quality of education. So, we are searching for an answer to *the extent to which students' well-being in course evaluation can provide a foundation to support student and teacher commitment*.

First, we look at the concept of evaluation, then discuss a theoretical framework to base our new approach to evaluation. Finally, we share our preliminary results applying the new approach during the time of COVID-19.

II. THE ROLE OF COURSE EVALUATION

Course evaluations aim to provide the teachers feedback on the quality of the course given, so they can adapt and improve education (UvA, 2020). These evaluations mainly take place at the end of a course. If we had involved students in the feedback process, we could find the bottlenecks quicker. Therefore, the evaluations should measure student satisfaction for the classes and lecturers (Braun & Leidner, 2009; Heckert et al., 2006), teachers' preparations, how assessments are carried out and whether they are in line with the course topic. The focus is more on the knowledge content and the teacher.

Contrary to this approach, we suggest concerning both teachers and students and evaluate education quality by the knowledge taught and transferred. This way, both the perspectives of the sender (teacher) and the receiver (student) are considered and results in a circularity of feedbacks. The evaluations are currently reviewed by the course coordinators and the Programme Committee, comparing them with previous years to judge the evolution of the educational processes to ensure quality education (UvA, 2020). Evaluations are also helpful because students systematically rate satisfaction and dissatisfaction with the course or lecturer (Nielsen & Kreiner, 2017). The programme committee with a long-term perspective can gain a broad picture of the course for the previous years. This practice does not improve the running course but the ones to follow since the evaluation takes place only at its end. Furthermore, the teacher does not gain an insight into the weekly results. Shallow feedbacks only have long-term impacts.

The current forms of evaluation used by the UvA are on paper or online and via the sounding board session (UvA, 2020):

Paper: Its disadvantage is that it is often far too long (Shute, 2008), and the outcome of the evaluation can be influenced. Students filled in the evaluation sheets after the final exam, and when they are easy, they may give better evaluations. But there is no scientific proof for this mechanism.

Online: an automatic software-based evaluation, EvaSys is easy to implement (Evasys, 2020a-c), and the analysis of the results is also automated (Evasys, 2020b). The problem with online evaluation is the low response rate by the students. At UvA, it is often below 25%, therefore not representative for showing the students' opinions.

Sounding board session: Not being part of the formal evaluation policy, many educational programmes use this mechanism, usually two sessions per course. One is halfway to detect problems early, and another one at the end to evaluate the course. Its advantage is that students can give direct feedback to the lecturer, which creates an honest bond, according to the Chairman of the Programme Committee. The downside is that students and teachers are not always well-prepared or fail to show up. In general, this way of evaluation is still under development.

Because of the rise of COVID-19 and suspended physical education, the university had to develop an alternative to continuing education. Classroom education has shifted to online. The same applied to the course evaluations: Before COVID, the course evaluations took place after the final exam and

guaranteed that almost every student completed the form. Online course evaluations had a considerable impact on the response rate. Comparing evaluation from several years for the same course, showed that hardly any student completed the surveys. As a result, it was impossible to get a good picture of evaluating educational quality.

The evaluation board of UvA also became aware of the impact online education had on students, therefore some questions were added about the situation of students, and whether COVID-19 was an obstacle to the perceived quality of the learning process. It appeared that the well-being of students was suddenly considered to be important, while previously, it was not given much attention. Still, the evaluation takes place only at the end of the course. So, the old way of dealing with evaluation does not cover the relevant quality aspects of online learning (Evasys, 2020c). As the personal contact between students and teachers is limited in online learning, adding some extra questions to the end of course evaluation will only test the opinion of the students about their well-being.

At the beginning of COVID-19, the sudden situation enforced interaction between the teaching staff and the students to discuss how to deal with this new situation. The new reality was uncomfortable and compelling for all parties. Due to the digitization of education, there was a growing pressure on students to participate in online classes, so not only attending classes but also start a conversation with fellow students and the teacher. Everyone had to get used to working and sharing thoughts online. Another difficulty arose with low response rate for surveys, resulting in a part of the quality control cycle getting lost or deteriorated. Our research, therefore, looks for a solution to create a more integrated evaluation method with attention to quality aspects of education and the well-being of students as main focus points. We were looking for an improved way of evaluation in which a better mutual understanding between the student and teacher was possible to reach. We have developed the “Expectation Management Model”, which will be discussed in more depth later. Before that, we introduce the theoretical framework on which the new evaluation method is based.

III. THEORETICAL FRAMEWORK

Studying the literature to discuss why personal involvement leads to better performance has helped create a new evaluation model. We studied the following topics in detail to make the model we could test during 2020 and 2021 at the University of Amsterdam.

III.1 The well-being of students and their motivations

A few years ago, the World Health Organization (WHO, 2012) demonstrated the importance of the well-being of individuals. They stated that it is important that the individuals have the right to express their own individual strengths, in an environment of positive contributions, without any stress and uncertainty. Applying it to students means that it becomes difficult to perform well when they perform academic skills in an inappropriate or unstimulating environment. During the pandemic, the latter was expected from students, putting a lot of pressure on them, and causing difficulties to flourish. Currently, there are plenty of studies on the impact of well-being on an individual's health. An impact worth mentioning is that positive well-being decreases the risk of stress and burn-outs (Bakker et al., 2005; Cohn et al., 2009).

Much research on students, student performance explains educational results. Studies show that high level involvement and emotional connection between teacher and student can evoke both positive and negative feelings (Reschly et al., 2008). Positive emotions are necessary to achieve higher academic results. They can be promoted by focusing on individual strengths (Bandura, 1977). Self-motivation or self-determination (Deci & Ryan, 2008) can form this focus. Basic needs in the self-determination theory reflects student motivation. The importance of this theory lies in the fact that an individual should be able to express themselves in a calm and stimulating environment, where the student is motivated by environmental factors that enable them to perform well. Positive emotions play a significant role in forming motivation (Froiland et al., 2012). High level personal involvement in university increases student motivation (Archambault et al., 2009). Some questions arose around the ways to consider the well-being and the personal involvement of students to reach better results. We can achieve them through theories on Institutional Research, High Dosage Tutoring and Cooperative Learning.

III.2 Institutional Research

Institutional Research (IR) (Volkwein, 2008) shows the necessity to conduct an interim study about education using weekly evaluations to see how students feel and think. This way, the students can inform the teachers and give feedback and modify according to their needs. Benefiting from the information and ameliorating the course quality is the main purpose of evaluation, just as guaranteeing the well-being of students (Volkwein, 2008; UvA, 2020). This method of research is a guide to analytical

activities within a university. We may apply various phases of this method to assess and analyse effectiveness, goals, performance reports and, for example, the curriculum. It also involves self-reporting, in which we ask participants to state their feelings, attitudes and beliefs towards the course (Gonyea, 2005). Figure 1 shows to which activities this method relates. According to IR we must consider the feelings and the environment of a student, because they influence motivation and academic performance (Volkwein, 2008).

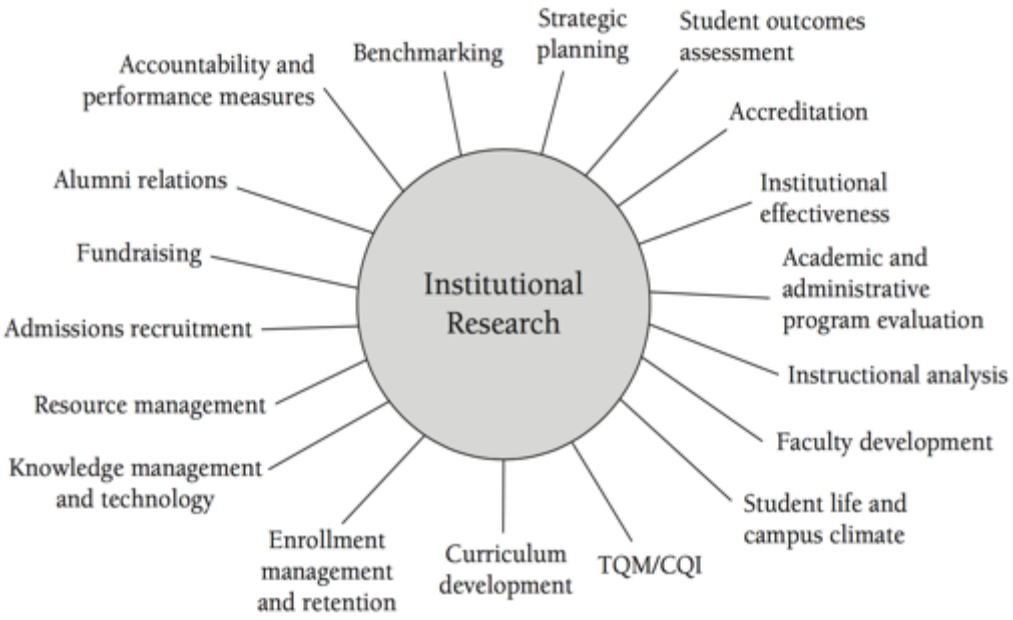


Figure 1: Volkwein's IR: The Guiding Light (Volkwein, 2008)

III.3 High Dosage Tutoring

High Dosage Tutoring (HDT) is an intensive educational intervention to increase students' social-emotional well-being and level of knowledge, mainly used for people with a learning delay. According to Paulle's research (2020), students develop better with extra guidance and personal involvement. A disadvantage of HDT is that it is intensive for teachers, just like Institutional Research (IR), so the two methods are intertwined. In addition to personal involvement, a student's socio-emotional development is also essential, and HDT and IR take this into account. With the help of HDT, we can form a stronger bond between the lecturers and students. Because of this, there will be greater understanding on both sides, and the lecturer will be able to supervise the students well (Paulle et al., 2019; Fryer Jr & Howard-Noveck, 2020). If we then add IR to HDT method, education can be improved in cooperation with the students (and students with each other) (Volkwein, 2008). For example, models like the Adaptive Cycle of Resilience (ACoR) can be used to go through various phases to assess the course properly, taking into account the feelings and convictions of students (Abcouwer & Smit, 2020; Volkwein, 2008; Gonyea, 2005).

III.4 Cooperative learning

Involving students personally in changes, improvements, and the organisation of education can increase the learning efficiency (Schilstra, Abcouwer & Takács, 2019). Taking this into account, the following aspects are required for a better result:

- Identification of the objectives of the education programme
- Identification of climate requirements, with a focus on cooperative learning, to better exchange knowledge.
- Measuring the course performance
- Evaluation of education

As shown in figure 2 (Johnson et.al. 1998), when it comes to cooperative learning, it is stated that the use of knowledge and the exchange of knowledge between the parties involved can be regarded as a mutual learning process, in which learning from each other is maximised (Dandy & Bendersky, 2014;

Johnson & Johnson, 1999). Learning from each other increases a student's performance, which is why it is important to shape the course together with the student.

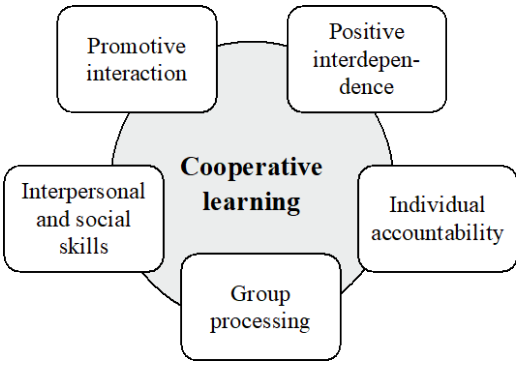


Figure 2: Five basic elements for cooperative learning (Johnson, et al., 1998)

Well-designed and implemented evaluations are necessary for measuring individual progress and performance in cooperative learning (Schilstra, Takács, & Abcouwer, 2019). According to them, we need to pay attention to the following elements (see figure 3):

Preparation: We must identify the student's needs and show them what the course goals are and why the programme is useful. Adjusting the education to needs and developing a shared understanding can contribute to stimulating cooperation.

Facilitation: In the facilitation phase, we need to clarify the goals, requirements, and necessities to result in a useful educational programme.

Evaluation: During a cooperative learning process, it is important that there is regular evaluation; and providing feedback to the course, the teachers, the materials, and the assignments. In addition, evaluating the students' well-being and how they feel is helpful to make the processes more efficient.

Climate: The last aspect puts focus on the environment of the learning process. During COVID-19, this is mainly at home, and because not every student has an easy (or the same) home situation, it is necessary to consider it.

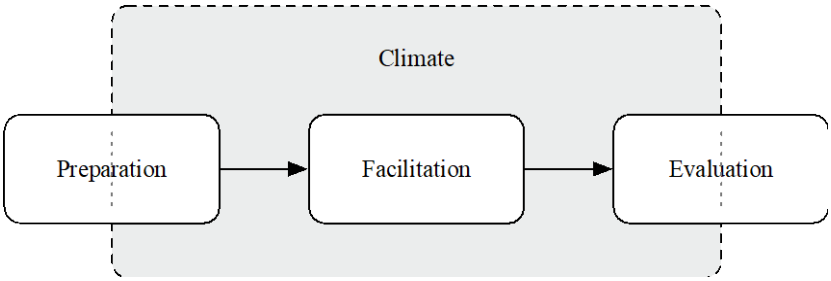


Figure 3: Cooperative learning implementation model (Schilstra et.al 2019)

IV A NEW CONCEPT FOR COURSE EVALUATIONS

Based on the theoretical insight as described above, there are three main issues to be solved.

The insights are offered by the institutional research approach make clear that a more intensified and constant attention is needed. So, we have to rethink the end-of-course evaluation, as the only moment, we contact students. Of course, we should not skip the end-of-course assessment, but there should be more intensive questioning of the students.

Integrating the insights of IR and HDT also guides us in the same direction. Evaluation should occur by asking about knowledge and knowledge transfer-related issues, how the students understand and internalise the knowledge, and whether they feel valued contributing to the learning process. The HDT approach also guides us to the necessity to personalise the results of the evaluation. To test our approach, we have asked students to fill in their names to react personally to issues mentioned by them directly. The reason for asking for their consent is to comply with current laws on privacy (GDPR). In

this way, it is possible to see whether each student understands the course well or needs additional help.

The suggested approach to evaluation is also in line with the insights brought in with the concepts of cooperative learning. The aim of the course evaluation is to get a better insight into the expectations and the outcomes of the course from both the perspective of the teacher and the student.

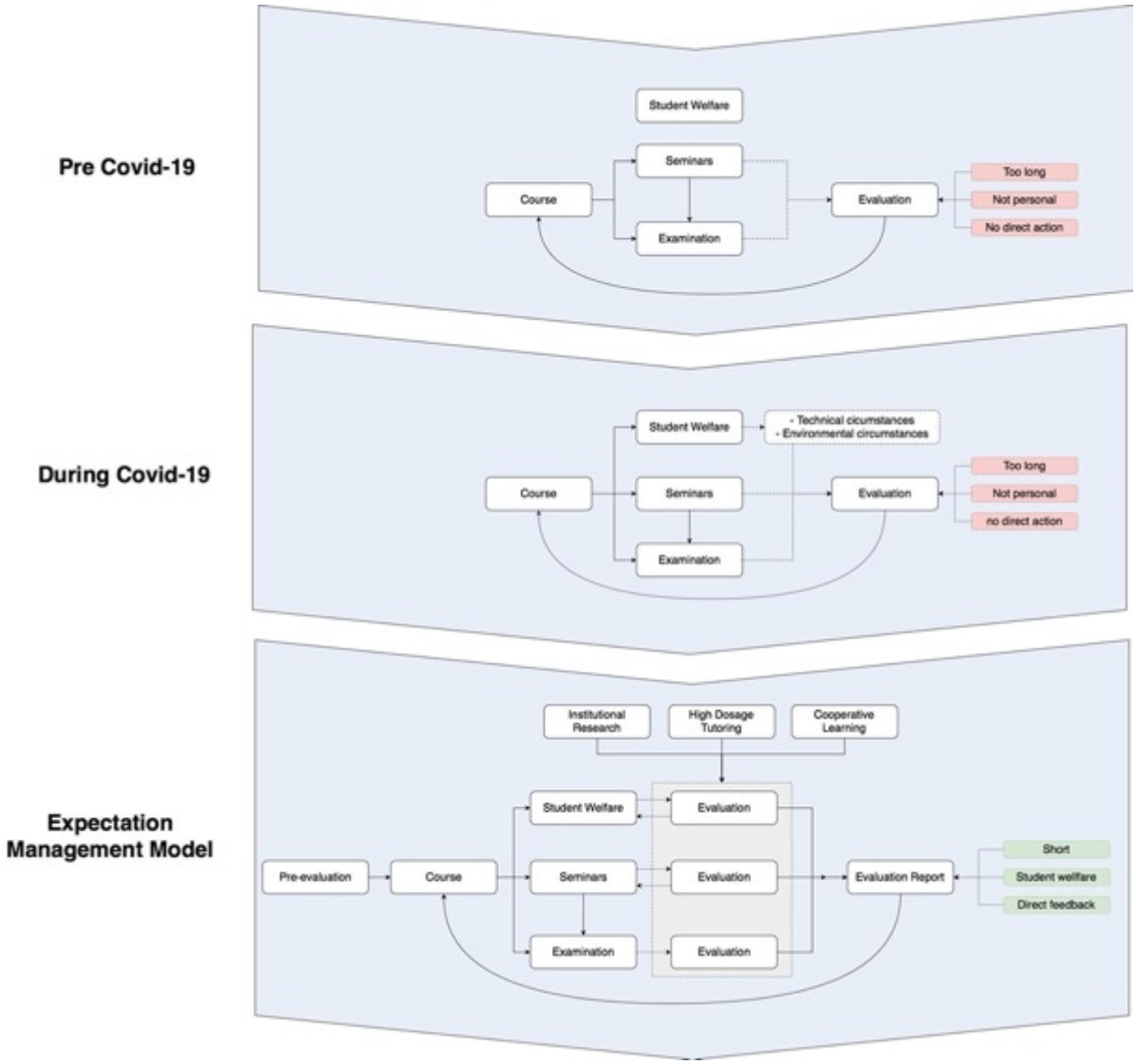


Figure 4: Expectation Management Model (own work)

This evaluation consists of four parts:

1. Pre-evaluation. Students were asked what they expected from the course and to learn.
2. Weekly evaluation. Students were asked if they had understood the subject and found the materials suitable. They could give recommendations on what to change. Furthermore, we have come back every week to see whether the students' feedbacks were dealt with properly.
3. Mid-term evaluation. Students were asked how they felt about the examination, and the first part of the course.
4. Final evaluation. We have asked students what they thought of the course, the tests, the assignments, and the topics. In addition, students could give feedback and suggestions for improving the course for the following year.

Our model (figure 4) contains short cyclical approaches that make it possible to respond immediately as a teacher by interacting with the students. It gathered information and insights for a final evaluation report at the end of a course, including suggestions for changes for the future. But the real benefit of

the model is that it improves education during the course itself and takes special attention on the students.

In many cases, the final evaluation does not work well if the pre-evaluation and the interim assessments fail to be carried out or carried out poorly. We summarise the objectives and working methods of the different types of evaluation in the following table.

Table 1: Evaluation Flow

Evaluation flow	WHY	WHO	GOAL	MONITORING	HOW
Pre-evaluation	Set goals Current knowledge Determine expectations Identify risks	Current students Teacher	Increase personal involvement Increase motivation	Expectations Current knowledge	Informal education Experience Research Experiment
Weekly evaluation	Adaptation options See certain concerns	Current students New students Teacher	Increase personal involvement	Welfare Experiences Individual perspective Learning outcome	Informal education Experience Research Experiment
Mid-term evaluation	Check if students understood the learning materials	Students Teacher	Increase motivation Clarification of ambiguities	Learning outcome Time spent on learning	Informal education Experience Research
Final evaluation	Check whether the goals have been achieved Check if students have reached their expectations	New students Teacher	Guaranteeing the quality of education	Perception course Check whether the goals have been achieved	Informal education Experience Research

The evaluations and the results of students must reflect the objectives set (Tombak & Altun, 2016). We must consider that not every student is the same and that a standardised plan for achieving the goals does not work for every student (Abcouwer, Takács & Solymosy, 2020).

V. PRACTICE

After a careful comparison and test, we chose Qualtrics to use for the evaluations for this research. This software has a dashboard with filtering options to perform a proper analysis, and it also safeguards privacy conditions, security and GDPR rules.

By adopting the newly planned and evaluation methods and focusing on interim evaluations instead of a single focus on final assessment, the education and well-being of students could be verified, including personal involvement and cooperative learning.

It was essential to use an electronic environment. A study by Dowling (2005) shows that there are many advantages to an electronic learning environment. In digital education the involvement from students is positively increased. The students want to present themselves to the group in a certain way and can interact in a different way within the group. In addition, an electronic environment entails a lot of flexibility. Students can be anywhere to participate in the course. This also applies to gauging student feelings regarding the study. The threshold is very low. As last, we identified increased attractiveness an advantage. Today's youths are often occupied with information and communication skills. Due to the digital age, digital lessons and surveys fit in well with the perception of today's students. In short, social interaction takes shape differently in an electronic environment. This applies to teachers and students, too.

A convenience sampling involved the students participating in the research because the courses chosen to test this pilot were the courses provided by the thesis supervisors. The experiment has been carried out throughout the courses delivered in 2020-2021. The surveys in the two courses have been carried out differently, adapting the changes and improvements gained in the test 1.

Course 1: Before the course started, students received a preliminary evaluation about what they expected from the course and what they hoped to learn. The pre-survey began with an introduction

about the research and made it clear to the students that participation is not mandatory; however, we indicated the relevance of full participation. We shared all the results with the students in the following lecture. Each lecturing week the students received a survey with questions about their experiences of the weekly engagements. In mid-term, we combined the survey, extending it with questions related to the experiences of the exam. At the end of the course, the students received questions about the entire course.

Course 2: Before the course started, a preliminary evaluation asked students about their expectations. It introduced the research, its goals and its relevance. Each week, we provided the students with a survey about their experiences. We shared the results every week with the participants. After the mid-term exam, the survey was combined with the weekly survey, extended with the experiences of the exam. The final evaluation focused on receiving answers about the entire course.

The Qualtrics Surveys were used to gain a better insight into the results. The data were further analysed with IBM SPSS Statistics (version 24) and sentiment analysis was executed. For the analyses, there are several remarks to be made: The surveys that have not been completed were not included in the research. There were some issues regarding incorrect identification. Unfortunately, not everybody participated every week.

VI. RESULTS

In the appendix, we provide an overview about the outcomes of this research. We expected a correlation between the number of hours spent learning a subject, which correlates with the grade achieved before class. The analysis shows that this is not the case and that other factors appear to play a role. We still expect the results from the ANOVA. In week 3, students spend a lot of time preparing for the mid-term and the students have a clearer picture of what the course expects from them and where they should work towards their project. In addition, the ANOVA shows that week 6 has a high significance, which makes sense because week 6 is the week before all assignments and projects are completed.

We have realised during this research that we only reach positive students and better performance through positive motivation. Motivation is expected to correlate with the final grade, but the correlation matrix shows that this is not the case. The teachers of the course influence motivation. That is why it is important that the teachers also take the students into account and can teach well. It turns out that a student values a teacher. Another correlation that would be expected is the correlation about whether a question is clearly found, and the grade obtained. If someone sees a question unclear, the student is expected to be less able to correct this question, but regardless of the vagueness of an exam, this does not affect the grade. It is striking that there is a low, negative visible link between understanding the questions and the grade. This suggests that people who find the questions clear either underestimate them or answer them too detailed.

The analysis about an unpleasant feeling during the exam and the mark obtained for the test showed no correlation, although this is expected. Since the figure even shows that people with unpleasant feelings have achieved the highest mark, one must ask how this kind of information can be handled. From the Sentiment Analysis, we can conclude that the higher the grade is, the fewer negative words are to the course. In addition, it appears that in the second week, the week that the course has just started, and the last week, when the course has ended, no negative words are given. At the start, students do not yet know what to expect, and in the last week they are ready, happy that they finished and do not have much to say.

There is also a difference in student response between the two subjects (course 1 and 2). During the course 1 course, the students had to complete the survey during class, in contrast to course 2, where the surveys were emailed to the students after the lessons and at the end of the week. Because it was not asked to the students in class, the students of course 2 hardly completed the surveys and because it was not obligatory. A test was done to verify this, for one week, the surveys were given during the lecture and 43 students finished the survey, instead of 12. But even this difference cannot disguise the experience that today's online and hybrid form of organising our education shows that the intensive way of evaluating is only possible with high-quality IT support.

Based on the above mentioned outcomes, one of the conclusions was that we should enforce students to fill in the questionnaires. Technically spoken this can be realised by including the surveys as obligatory assignments in our ELO environment Canvas. Whether this obligation influences the outcomes of the survey needs further research.

VII. CONCLUSION

There is no hard evidence that this survey method has helped much to involve students personally. Still, the emerging results show that we need to deal with the surveys and the questions in the survey itself in a completely different way. The following factors appeared from the data analysis to answer the research question: “To what extent can the incorporation of student well-being into course evaluation provide a foundation to support student and teacher commitment?”. There is no consistency found whatsoever between what students think of the subject and their well-being. For example, you would expect that if a teacher does not teach well, the subject's grade will drop, but this does not happen. By turning it around a bit about the old evaluations, apparently, one is assessed independently of a student's well-being. From this, we could deduce that when completing the old assessments, the students do not make the assessments based on their well-being. This gives extra strength to the fact that you cannot look at a subject's grade or see whether the students are doing well; they assess the course positively, even though they are not motivated.

The model of how we design it now is not yet finished or perfect, but it works better than the previous ways of evaluation. The evaluation method before Corona played a role was hardly completed by the students. In these times, we have made minor adjustments to the evaluation method, making it more focused on the well-being of the students. These evaluations also show that not enough students complete these evaluations, but more students have completed them than the original evaluation method. The teachers want to help, improve, and commit to the cause, but students should also put effort into it. Currently, the students do not even care to answer, so why should teachers care?

The advice about the surveys is that they should take place every week for a precise monitoring process. The previous results show that making the surveys an obligation ensure high participation and better results. We may agree with Qualtrics to integrate Qualtrics with Canvas and turn the surveys mandatory to the course. For now, it is not yet possible to formulate definite outcomes about it. This new suggestion for an evaluation method is a step towards incorporating well-being, which potentially increases response rates into weekly evaluations.

LIST OF REFERENCES

Abcouwer, T., Takács, E., & Banga, O. (2020). Adaptive information management. [Amsterdam]: published by A.A.A. & O.

Abcouwer, T. & Smit, B. (2020). Challenges and innovativeness in education.

Abcouwer, T., Takács, E., & Solymosy, J. (2020). Evaluation focus changes in the university cooperative learning model in relation to the pandemic [Ebook] (pp. 123-132). Amsterdam: Communications of the association for Information Systems.

Alshamrani, M. (2019). An Investigation of the Advantages and Disadvantages of Online Education. Doctoral dissertation, Auckland University of Technology.

Arambault, I., Janosz M., Fallu, J.S., & Pagiani, L.S. (2009). Student engagement and its relationship with early high-school drop-out. Journal of Adolescence, 32, 651-670.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job resources buffer the impact of job demands on burnout. Journal of Occupational Health Psychology, 10, 170–180.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. Psychological review, 84(2), 191.

Braun, E., & Leidner, B. (2009). Academic course evaluation: Theoretical and empirical distinctions between self-rated gain in competences and satisfaction with teaching behavior. European Psychologist, 14(4), 297.

Cohn, M.A., Fredrickson, B.L., Brown S.L, Mikels J. A. , & Conway A.M. (2009). Happiness unpacked: Positive emotions increase life satisfaction by building resilience. Emotion, 9, 361–368.

Dandy, K. L., & Bendersky, K. (2014). Student and faculty beliefs about learning in higher education: implications for teaching. International Journal of Teaching and Learning in Higher Education, 26(3), 358-380.

Deci, E. L., & Ryan, R. M. (2008). Self-Determination Theory: A Macrotheory of Human Motivation, Development, and Health. Canadian Psychology, Vol. 49, No. 3, 182–185

Dowling, C. (2005). Social learning within electronic environments. In e-Training practices for professional organizations (pp. 205-212). Springer, Boston, MA.

Evasys. (2020a). Survey Automation Software - EvaSys and EvaExam. Retrieved 13 July 2020, from https://en.evasys.de/main/home.html

Evasys. (2020b). EvaSys Suite - EvaSys and EvaExam. Retrieved 13 July 2020, from https://en.evasys.de/main/products/evasys/evasys-suite/evasys-suite.html

Evasys. (2020c). EvaSys Education - EvaSys and EvaExam. Retrieved 13 July 2020, from https://en.evasys.de/main/products/survey-and-evaluation-software/evasys-suite/evasys-education.html

Froiland, J. M., Oros, E. , Smith, L., & Hirchert, T. (2012). Intrinsic Motivation to Learn: The Nexus between Psychological Health and Academic Success. Contemporary School Psychology, 16, 91-100.

Fryer Jr, R. G., & Howard-Noveck, M. (2020). High-dosage tutoring and reading achievement: Evidence from New York City. Journal of Labor Economics, 38(2), 421-452.

Gonyea, R. M. (2005). Self-reported data in institutional research: Review and recommendations. New directions for institutional research, 2005(127), 73-89.

Heckert, T.M., Latier, A., Ringwald-Burton, A., & Drazen, C. (2006). Relations among student effort, perceived class difficulty appropriateness, and student evaluations of teaching: Is it possible to "buy" better evaluations through lenient grading? College Student Journal, 40, 588-596.

Hiranrithikorn, P. (2019, October). Advantages and disadvantages of online learning. In international academic multidisciplinary research conference in berlin 2019, pp. 14-17.

James, G. (2002). Advantages and disadvantages of online learning. Retrieved July, 1, 2006.

Johnson, D. W., & Johnson, R. T. (1999). What Makes Cooperative Learning Work.

Johnson, D. W., Johnson, R. T., & Smith, K. A. (1998). Cooperative learning returns to college. What evidence is there that it works? Change: the magazine of higher learning, 30(4), 26-35.

Kizilcik, H., & Daloglu, A. (2018). Implementing an Interactive Reflection Model in EAP: Optimizing Student and Teacher Learning through Action Research. Australian Journal of Teacher Education, 43(9), 1-27.

Nielsen, T., & Kreiner, S. (2017). Course evaluation for the purpose of development: What can learning styles contribute?. Studies in Educational Evaluation, 54, 58-70.

Paulle, B. (2020). High Dosage Tutoring shows again that it works. Retrieved 3 August 2020, from https://www.uva.nl/shared-content/faculteiten/nl/faculteit-der-maatschappij-en-gedragswetenschappen/nieuws/2020/06/high-dosage-tutoring-toont-wederom-dat-het-werkt.html?origin=Y33xdHM2T0uLM19x1QzuFA

Paulle, B., de Ree, J., & Kielman, A. (2019). 6. High Dosage Tutoring: a remedy for inequality of opportunity in Amsterdam?

UvA (2020). Educational evaluation with UvA Q. Retrieved 7 July 2020, from https://medewerker.uva.nl/content-secured/az/uva-q/uva-q.html.

Reschly, A. L., Huebner, E. S., Appleton, J. J., & Antaramian, S. (2008). Engagement as flourishing: The contribution of positive emotions and coping to adolescents' engagement at school and with learning. Psychology in the Schools, 45(5), 419-431.

Schilstra, T. Abcouwer, T. & Takács, E. (2019). Cooperative learning in a higher educational setting [PDF]. Amsterdam: Proceedings of the AIS SIGED 2019 Conference.

Shute, V. J. (2008), 'Focus on formative feedback', Review of Educational Research, 78, 1, 153-89.

Takács, E. & Abcouwer, T. (2020). Report - C.2324.0418 [PDF] (p.1-92). ERI Hungary: European Research Institute and University of Amsterdam.

Tombak, B., & Altun, S. (2016). The Effect of Cooperative Learning: University Example. Eurasian Journal of Educational Research, 64, 173-196.

Volkwein, J. F. (2008). The Foundations and Evolution of Institutional Research. New Directions for Higher Education, 141, 5-20.

WHO (2012). HEALTH 2020: Leadership For Health And Well-Being In 21St Century Europe. Europe: World Health Organisation.

Appendix: *SPSS Statistics*

SPSS Analysis

In the figure below (figure 1) it seems to be quite random what grade you get, due to the number of hours you put into it. there is no consistency in determining that a certain number of hours can result in a high grade. Someone who learns 40 hours before the exam gets the same mark as someone who only learns 13 hours before the exam. According to Pearson Correlation (see figure 2 below), there is a correlation of 0.047. This shows that there is no correlation between the number of hours a student puts into learning for a subject and the grade obtained.

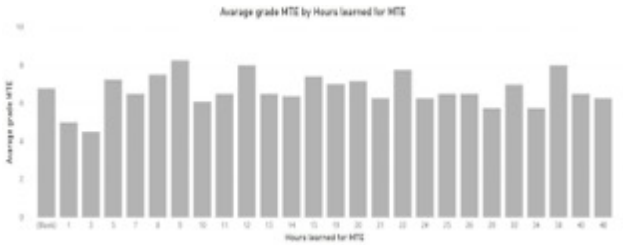


***Figure 1*:** "Bar chart grade in comparison with hours"

Correlations

		Grade MTE	Hours learned for MTE
Grade MTE	Pearson Correlation	1	,047
	Sig. (2-tailed)		,747
	N	81	49
Hours learned for MTE	Pearson Correlation	,047	1
	Sig. (2-tailed)	,747	
	N	49	49

***Figure 2*:** "Grade correlation with hours learned MTE"

An inter-item Correlation Matrix has also been created. Various things can be seen in this Matrix. When looking at motivation, it is important to know which aspects correlate with motivation (see figure 3). For example, motivation does not correlate with the final grade r = 0.195. On the other hand, a slight correlation can be seen when motivation is compared with the seminar teacher who gives pleasant lessons r = 0.692, the lecturer gives clear explanations r = 0.652, and that students dare to ask questions during the work group r = 0.652.

Inter-Item Correlation Matrix

	Final_grade	FinalGradeScaled	Assignments_were_difficult_w2	Motivated_to_participate_w2	Seminar_Teacher_Gave_Nice_Lessons_w2	Lecturer_Explains_Clearly_w2	Dare_Asking_Questions_During_Seminars_w2	Grade_w2	Hours_Spent_On_Course_w2
Final_grade	1,000	,870	-,129	,195	-,009	-,021	,212	,210	,086
FinalGradeCode	,870	1,000	-,102	,212	,017	-,036	,201	,164	,137
Assignments_were_difficult_w2	-,129	-,102	1,000	-,072	,203	,213	-,160	-,230	,057
Motivated_to_participate_w2	,195	,212	-,072	1,000	,692	,652	,591	,195	,043
Seminar_Teacher_Gave_Nice_Lessons_w2	-,009	,017	,203	,692	1,000	,724	,629	,039	-,159
Lecturer_Explains_Clearly_w2	-,021	-,036	,213	,652	,724	1,000	,428	,181	-,155
Dare_Asking_Questions_During_Seminars_w2	,212	,201	-,160	,591	,629	,428	1,000	,146	,049
Grade_w2	,210	,164	-,230	,195	,039	,181	,146	1,000	,091
Hours_Spent_On_Course_w2	,086	,137	,057	,043	-,159	-,155	,049	,091	1,000

***Figure 3*:** "Inter-Item Correlation Matrix"

This one-way Anova, compares hours spent on course with final grade (see figure 4). It can be seen in this Anova that weeks 3, 5 and 6 show a low significance with the number of hours spent during the same week. For example, it can be seen that week 3 has as = 0.813 with the number of hours spent on the course, in week 5 as = 0.665, in week 6 s = 0.913.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Hours Spent on course_w1	Between Groups	555,040	28	19,823	1,970	,036
	Within Groups	301,807	30	10,060		
	Total	856,847	58			
Hours Spent on course_w2	Between Groups	500,043	30	16,668	1,343	,209
	Within Groups	384,667	31	12,409		
	Total	884,710	61			
Hours Spent on course_w3	Between Groups	390,983	28	13,964	,709	,813
	Within Groups	512,217	26	19,701		
	Total	903,200	54			
Hours learned for MTE	Between Groups	3625,283	26	139,434	,830	,678
	Within Groups	3696,717	22	168,033		
	Total	7322,000	48			
Hours Spent on course_w5	Between Groups	1231,470	25	49,259	,838	,665
	Within Groups	1058,417	18	58,801		
	Total	2289,886	43			
Hours Spent on course_w6	Between Groups	379,026	27	14,038	,574	,913
	Within Groups	513,750	21	24,464		
	Total	892,776	48			
Hours Spent on course_w7	Between Groups	446,638	20	22,332	,919	,579
	Within Groups	340,333	14	24,310		
	Total	786,971	34			

Figure 4: "One-way ANOVA"

The previous analysis concerned a student's motivation and well-being. Being motivated is an aspect that can be influenced by well-being. Figure 5 looks at the clarity and lack of clarity of the questions with regard to the grade of the exam. The figure shows that people who found the questions unclear do not necessarily score lower. Pearson's Correlation p = -0.368, shows that there is a low negative correlation. (see figure 6).

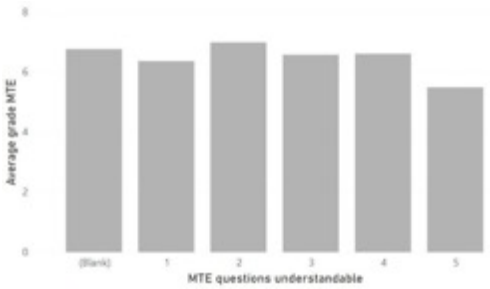


Figure 5: "Bar chart grade compared to questions"

Correlations

		Hours learned MTE	MTE Questions Understandable
Hours learned MTE	Pearson Correlation	1	-,368**
	Sig. (2-tailed)		,009
	N	49	49
MTE Questions Understandable	Pearson Correlation	-,368**	1
	Sig. (2-tailed)	,009	
	N	49	49

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 6: "Correlation grade compared to questions"

Another aspect of well-being is having a good feeling during the exam. During COVID-19, students have to take exams at home. It may be the case that the home situation does not lend itself to a test for the student, so it is important to look at this. In figure 7 below, it soon becomes clear that an unpleasant or pleasant feeling has little influence on the mark obtained for the exam. To further confirm this, a statistical analysis has been performed in which the Pearson Correlation is p = 0.216, and therefore also showed that there is no correlation (see figure 8). Based on the figure, the people with an unpleasant feeling seem to have achieved the highest grades.

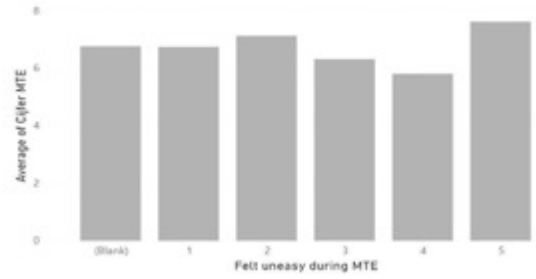


Figure 7: "Bar chart grade compared to uneasy feeling"

Correlations

		Hours learned MTE	Felt Uneasy During MTE
Hours learned MTE	Pearson Correlation	1	,216
	Sig. (2-tailed)		,136
	N	49	49
Felt Uneasy During MTE	Pearson Correlation	,216	1
	Sig. (2-tailed)	,136	
	N	49	49

Figure 8: "Correlation grade compared to uneasy feeling"

Sentiment analysis

The surveys ask weekly what students think of the course. They give a number of words to describe the subject, positive, neutral and negative words. As a result, a Sentiment Analysis was carried out (see figure 9). In this Sentiment Analysis, the given weekly grade for the course is compared with the given words of that week. During the second week and the last week of the course, no negative words were given to the course. The rest of the course received some negative words from students. To reinforce these findings, an analysis was performed in SPSS with Crosstabs and the Chi-Square (See Appendix 3:

SPSS Crosstabs and Chi-Square Tests). According to the Crosstab of the numbers from week 3 that gives 100 percent negative words, has a correlation with the given number to the box, a 4. As can be seen in the Chi-Square Test that P_S = 0.028 is Significance. The same goes for week 5 with a P_S = 0.097, and in week 6 a P_S = 0.005. The weeks show that the words given are significant to the given grade.

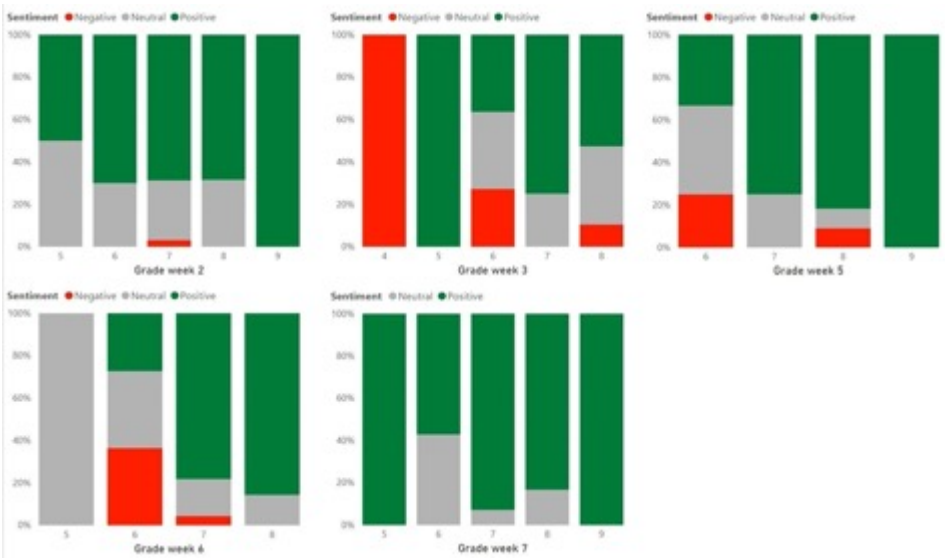
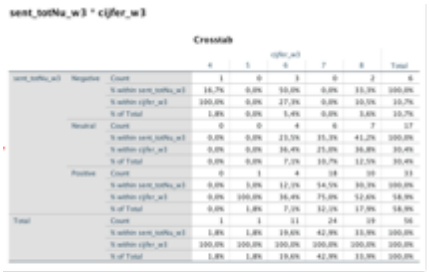
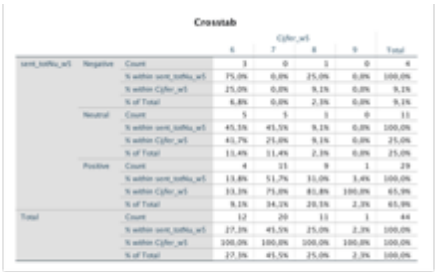
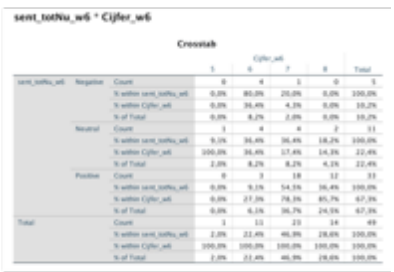


Figure 9: "Sentiment Analysis"

Crosstabs and Chi-Square Tests







Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	17,168[a]	8	,028
Likelihood Ratio	15,444	8	,051
N of Valid Cases	56		

a. 10 cells (66,7%) have expected count less than 5. The minimum expected count is ,11.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	10,729[a]	6	,097
Likelihood Ratio	12,303	6	,056
N of Valid Cases	44		

a. 8 cells (66,7%) have expected count less than 5. The minimum expected count is ,09.

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	18,391[a]	6	,005
Likelihood Ratio	17,227	6	,008
N of Valid Cases	49		

a. 8 cells (66,7%) have expected count less than 5. The minimum expected count is ,10.