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THE CREATION OF BRAIN-STIMULATING ONLINE LEARNING CONTENT FOR A YOUTH MIGRANT AND REFUGEE PROJECT

Nicole Flindt ^{1*}; Miganoush Magarian ²; Gretta Hohl ³

¹ Heidelberg University of Education, Heidelberg, Germany. Email: flindt@ph-heidelberg.de

^{2&3} TeachSurfing gUG, Hamburg, Germany. Email: info@teachsurfing.org

*Corresponding author

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Abstract

Due to the COVID-19 crisis schools and universities all around the world were forced to use digital learning methods. But even assuming a seamless transition to digital platforms, good Online Learning tools do not imply good content and a good presentation of the content. This article describes the approach of a project funded by the European Union to create brain-stimulating Online Learning content which combines elements from classic didactics with elements from neurodidactics and aims to add value to Online Learning. It also suggests that further research should be conducted in other contexts, such as schools and universities, to describe how brain-stimulating Online Learning content could bring more value to Online Learning content.

Keywords: Online Learning, neurodidactics, COVID-19

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Introduction

Online Learning did not first come to the attention of educational research since the COVID-19 pandemic in 2020. It has been popular since as early as the 1990s under other pseudonyms, such as e-Learning, computer-based learning, web-based training etc. (Moore, 1990; Keegan, 1996; Flindt, 2005)^{1,2,3}. But it was not until the corona pandemic that the trend of Online Learning, which had been weakening for a long time, began experiencing a revival. Schools and universities in Germany and around the world had to suddenly relearn and catapult themselves into the digital age at near record speed. Thanks to modern hardware and software solutions (such as ZOOM,

Skype, Edudip, BBB etc.), the switch to digital was easy for many educational providers, but no matter how good digital offers are, good Online Learning tools do not also mean good Online learning.

This article uses the European project "Implementation and transfer of a new youth profile at European level: Volunteer Educator e-Learning Program" to illuminate the approach of brain-stimulating Online Learning, which combines elements from classic didactics with elements from neurodidactics and aims to add value to Online Learning.

Developing a brain-friendly E-Learning platform within a Volunteer Educator Program

About the project

Social and psychological researchers have proven that discrimination and prejudice can be reduced through personal contact and exchange with people of different backgrounds and cultures (Pettigrew & Tropp, 2006; Wright, 2009)^{4,5}. This hypothesis, outlined in the 1950th by social psychologist Allport, is one of the most effective psychological strategies in order to improve relations between heterogeneous groups (Allport, 1954)⁶. Therefore, methods such as personal interaction and group work become useful and are the core part of non-formal training techniques (Brown & Hewstone, 2005)⁷.

The Volunteer Educator Program uses non-formal education and intercultural exchange to overcome intolerance and discrimination as well as to reduce the distance between people of different backgrounds and cultures. The project aims to train young migrants/refugees to become Volunteer Educators: presenters and workshop facilitators who share their knowledge and culture free of charge with local communities interested to learn from them. Other similar training programs are aimed at different target groups (e.g. long-term educators such as professional trainers or teachers), are long-term trainings (e.g. 6-months or 1-year), or else are not affordable/accessible for disadvantaged youth (European Commission Erasmus +, 2020)⁸.

Aims and objectives

The Volunteer Educator Program's aim is to introduce and promote the new role of Volunteer Educators in the civil society non-formal educational system. Volunteer Educators are youth who are passionate to share their knowledge/culture and are trained to become presenters and workshop facilitators in their field of expertise. The program combines online, offline, and practical learning methods: through an online course and onsite group training and coaching, young people - with a specific focus on migrants and refugees - learn how to hold workshops and share their knowledge. Afterwards, they use their newly acquired skills to offer free workshops for youth organisations or educational institutes. After their workshops, they share their teaching material over the platform, creating collaborative educational resources. By sharing their knowledge, Volunteer Educators contribute in making knowledge equally accessible for everyone and help in creating culturally open-minded societies. The workshop participants not only learn new topics but also meet and get to know presenters from culturally diverse backgrounds and build openness for different cultures. Additionally, Volunteer Educators improve their knowledge-transfer, leadership, and communication skills, gain training and volunteering experience, and expand their network in the

country they are settled in, which leads to overall better integration on a personal and professional level (European Commission Erasmus +, 2020)⁸.

Main activities

The main aims of the Volunteer Educator Program are as follows: (1) Designing, developing and implementing an Online platform for execution, management, and scaling of the Volunteer Educator Program. The platform will include features such as online courses, forums, as well as community and event management features. (2) Developing Online Courses with brain-stimulating training content for Volunteer Educators and for Volunteer Educator Trainers (European Commission Erasmus +, 2020)⁸.

Team for developing the Online Courses

The grant is given as a cross-sectoral collaboration between partners (Youth workers and trainers from partner organisations) who bring their expertise to the project:

- TeachSurfing (Germany), a social enterprise, serves as coordinator and brings their expertise in non-formal training for volunteer teachers and software development.
- The Center for Social Innovation CSI (Cyprus), a private company with expertise in designing and developing gamified online courses,
- Vilnius University (Lithuania) with expertise in research focused on teacher education, education policy and management, and cultural and inter-cultural aspects of formal and non-formal educational programs,
- CESIE (Italy), a non-governmental organisation with expertise in creating online and offline educational programs for youth
- GEYC (Romania), a non-governmental association with expertise in offering trainings for youth.

Overall, the target group for the Online Courses are the Volunteer Educators and Volunteer Educator trainers (Teachsurfing, 2020)⁹.

Methods

To develop brain-stimulating Online Learning content for the project we used mainly three methods: (1) Quality indicators for Online Learning, followed by (2) an Online Seminar and (3) Collegial Case counselling that combines classical didactics and neurodidactical methods.

Neuroscience and Neurodidactics

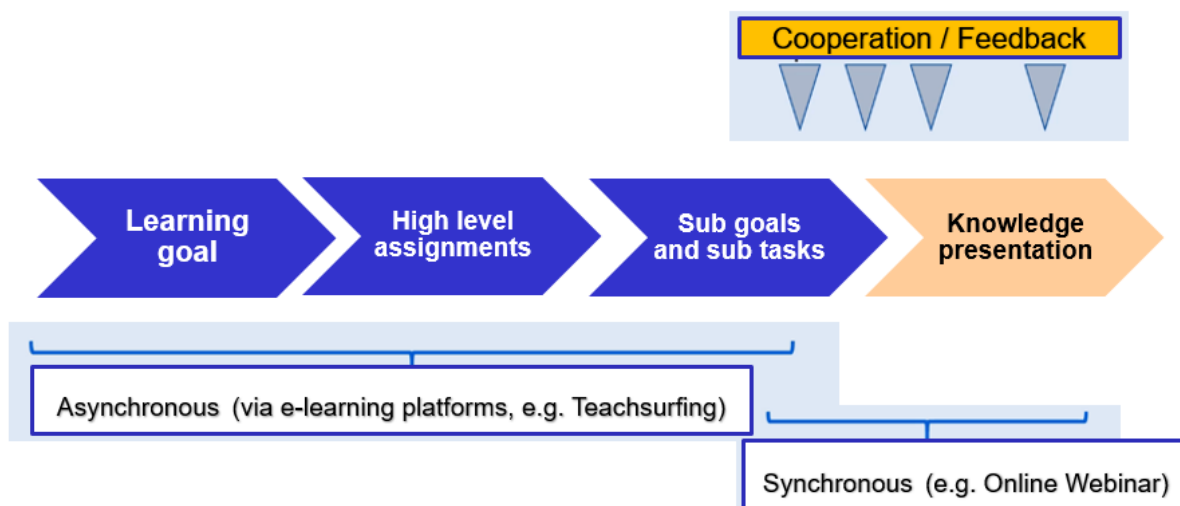
While classical didactical methods are well known and linked to teaching methods (Macke et al., 2016)¹⁰, Neurodidactics is still a relatively young research discipline in which neuro and educational science as well as psychological findings are interlocked (Folta-Schoofs & Ostermann, 2019)¹¹. Educational sciences in particular can benefit from the transfer of neuroscientific findings on neuroplastic changes in the brain and the resulting opportunities for teaching and learning (Flindt, 2020)¹². One of the results of neuroscience is that the brain can change in three different ways to support learning: firstly, by changing its chemical structure, secondly, by altering its structure and thirdly, by modifying its function (Boyd, 2016; Lohse et al., 2014)^{13,14}. If you learn

something new and really think you got it after just hearing it once (e.g. if someone explains to you one time how a collaboration tool like ZOOM works), your brain cells change only in some chemical ways, which means it supports only short-term memory or the short-term improvement of a motor skill. This is why you tend to forget about it after a day or a week. Only if your brain changes by altering its structure or its function lead to long-termed memories (Dayan & Cohen, 2011)¹⁵. To create long-term memories you need time and practice. Neurodidactics ask how we should create good practices to create long-time memories and how we support our brain with it. Because learning takes time, „old" didactic methods to practice every day are actually good for your brain and your long-term memories (Folta-Schoofs & Ostermann, 2019)¹¹. The more you practise, the better your motor-skills become. Neuroscience results leads us to the conclusion that learning happens primarily through quantitatively or qualitatively editing or changing already available knowledge, by classifying existing knowledge into new hierarchies or relationships, by linking knowledge to new/different uses or situations, and, last but not least, by creating interesting tasks that your brain wants to learn more about (Flindt, 2020)¹². This is why neurodidactics is as interested in how to create brain-interesting tasks and learning goals as it is in how to adapt those tasks to available knowledge. Because Online Learning itself is interesting for many students, especially when adapted to be reminiscent of Online Games, neurodidactics works well in the field of E-Learning / Online Learning (Kassyomova et al., 2020)¹⁶.

1. Quality indicators for Online Learning

According to the classic didactical theory of ‘Constructive alignment’, which applies to both online and face-to-face teaching in higher education, teaching should be oriented towards goals that a learner can achieve. After learning goals have been set, they have to be checked by tests, exercises etc. Therefore, university lectures set high- and sub-level assignments/tasks as goals that learners can achieve (Biggs, 1996)¹⁷. According to Hanke (2020)¹⁸, the speciality about Online Learning units are their structure: Learning goals set the task that structures the online teaching unit.

Four steps of quality indicators for Online Learning

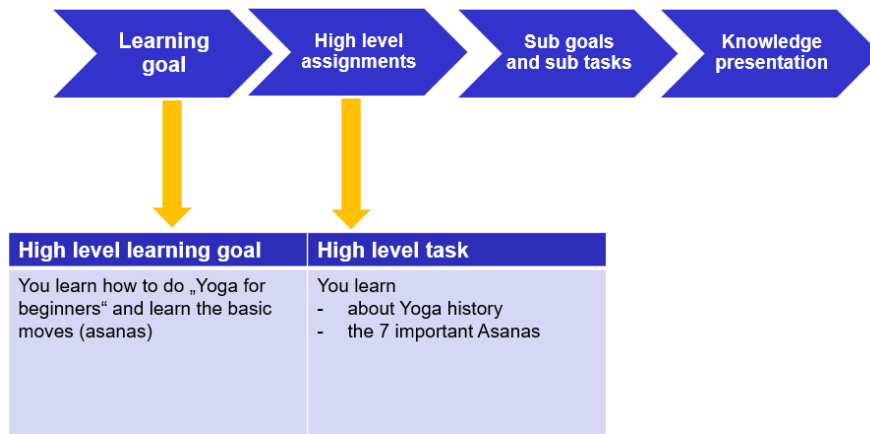


Source: Flindt (2020)¹² based on Hanke (2020)¹⁸

Figure 1 Four steps of quality indicators for Online Learning

Fig. 1 shows the „Four steps of quality indicators for Online Learning“. While the steps „Learning goal“, „High level assignment“ and „Sub goals“ can be taken in the so-called asynchronous learning setting, the last step („Knowledge presentation“) can be shown in synchronous ways, e.g. via an online meeting tool.

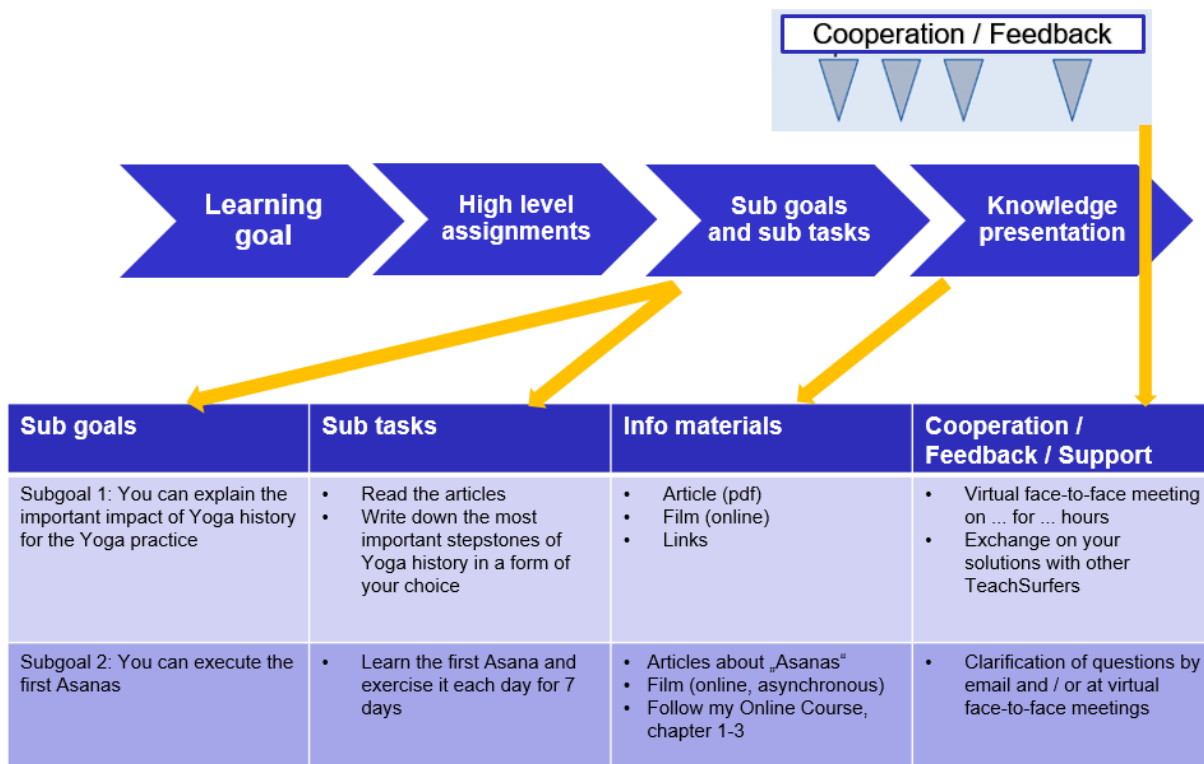
The Volunteer Educators in the project are for the most part not teachers or educators. If we had given them only figure 1 and told them to figure out by themselves how the transfer to their online learning content should work, it would have been a disaster. Our plan was to give them both theoretical but also practical input. In our example Online Learning setting we chose a fictional „Yoga for beginners" online course (see fig. 2) to demonstrate how the four steps of Online Learning work.



Source: Flindt (2020)¹² based on Hanke (2020)¹⁸.

Figure 2 Example of „Learning goal“ and its „High level assignment/task“

To complete the practical step, we sent them figure 3 to demonstrate with the example of the „Yoga for beginners“ how sub goals or knowledge presentation can work.



Source: Flindt (2020)¹² based on Hanke (2020)¹⁸.

Figure 3 Example of referring „Sub goals“, „Knowledge presentation“ and „Cooperation / feedback“

If we had only given the Volunteer Educators the figures, we were sure that they would not have been able to cope with it. Therefore, we also set a learning goal for the Volunteer Educators and followed exactly those four steps. The high level learning goal was „You learn the basics about neurodidactics and can transfer it to your Online Learning content“. As a result, one sub task was to read the figures and to try to transfer to their own course content. Our cooperation and support system was in many ways synchronous: We invited them to an online seminar (2) and created an ongoing Collegial case counselling (3) to clarify questions and have more virtual face-to-face meetings.

2. Online Seminar: Creating brain-stimulating Online Learning Courses

On October 10, 2020 Teachsurfing hosted an Online Seminar called „How to create brain-stimulating Online Learning content that students can actually remember“. It was joined by 20 interested participants from 6 countries. Many of them were youth workers from partner organisations who were responsible for creating our online course content as well as a few Volunteer Educators and Volunteer Educator trainers who wanted to learn more about how to build their own Online Courses (Teachsurfing, 2020)⁹.

The structure of the online seminar followed the Quality indicators for Online Learning: we set main learning goals such as “Get an overview and some tips on how to create brain-stimulating Online Courses” and first level assignments such as “How do we learn and remember the things of an Online Course?” followed by sub level assignments. We used not only simple knowledge presentations like weblinks or articles but tried to create an open cooperation and gather feedback from the start. Therefore, we used break-out sessions to get mixed groups which could learn from their experiences and their good and bad practices concerning the transfer from presence to Online Learning workshops.

The main goal of this online seminar was to give the Volunteer Educators some tips and tricks about creating brain-stimulating online courses which included learning some basics of neurodidactics, i.e. how we should learn and create content that our brains can remember. Some of the neurodidactical results that we worked out are:

- Make it simple for everyone to follow (Every learners’ brain asks during a seminar „Do I get it? Is it interesting? Does it make sense?“)
- Structure your content: Set learning goals
- Create interesting tasks (High level assignments)
- Use interesting exercises for your learners
- Use suitable knowledge presentation
- Use online cooperation / give (synchronous and asynchronous) feedback

The Volunteer Educators were involved in the online seminar from the start. To get to their already available knowledge, they were asked why they think they remember something from their last exam, and their answers created new content, new questions and ideas. At the end, the Volunteer Educators were given the task to read all the material and try to develop new Online Learning content with the help of the materials given and what they learned during this online seminar. Questions which arise while developing their own brain-stimulating content are welcome and will be answered during a series of collegial case counselling sessions.

3. Collegial Case counselling

The last method we used is a form of a collaborative consulting and work session. The collegial case counselling is a systematic consultation in which colleagues in groups of four to nine participants mutually advise each other on practical professional questions, problems, and "cases" according to a given discussion structure, and develop solutions together. After a fixed process, one participant leads the group through the consultation as a moderator and activates the experiences and ideas of the other participants. Communication discipline is required and it is important that all participants adhere to the "rules of the game" (Tietze, 2003)¹⁹. We augmented the collegial case counselling with an expert session.

Considering that questions of different youth workers creating online course content could be the same during the development of different content, we wanted to bring them together with an aim and agenda. They should share their ideas and solutions, help others to move forward with their content creation, bring transparency to the process, and get partners who work on the same chapter to work and align together. Also, we wanted to give them a platform to cooperate and get feedback from their Co-Online Course creators as well as from experts.

Before the first official collegial case counselling started, we collected questions from the partners concerning „What is working well“ and „What is your blocker and burning question in regards to creating content“ and „Do you have any other main problems? E.g. do you have problems with time pressure developing the content? Do you have problems to motivate yourself to work on the content (procrastination)? Others?“. Also we offered an overview figure in English about how Collegial case counselling works.

At the beginning of the workshop we offered an expert consultation and continued with the collegial case counselling. We split into groups during a ZOOM session and worked together on our blockers, supporting each other to move forward and especially to bring together partners who work on the same chapter to exchange information and align.

The structure to set up for this collaborative consulting and work session can be used to offer the synchronized online/offline activities that we plan to offer to Volunteer Educators complementary to their own Online Courses. We can use this model to offer ongoing support to the Volunteer Educators during the whole time they work on their content. This activity will support the Volunteer Educators to provide them interaction and networking which is usually lacking from Online Learning experiences.

Results

Already halfway through the project we can say that the idea of brain-stimulating Online Learning content affected the youth migrant and refugee project in a way we could not have anticipated at the beginning. The more we dived into the neurodidactical thinking, the more we made changes in the project. This means we have an ongoing process of quality control with the new thinking of neurodidactics. For example, the Quality indicators for Online Learning were not implemented in the Online Course concept from the beginning but were added when we were looking for an even

better way to create not only „good“ but „brain-stimulating“ content that our audience - the learner - can actually remember after our Online Workshops that our Volunteer Educators are creating.

Another result came from the online seminar and refers to the points we were figuring out based on the neuroscience perspective - what „good and brain-friendly content“ means for us. This was a joint agreement about what kinds of things our content needs to be based on. The idea of a collaborative consulting and work session was consolidated in the Online Seminar. As the trainer of the Online Seminar I actually learned a lot from the Volunteer Educators. This was one of the most interesting results of the online seminar: the new role of the trainer was not to know everything but to learn as well. Another result from dealing with neurodidactical thinking was the importance of communication and the link to interesting goals and tasks: along with planning synchronized activities such as collaborative consulting and work sessions, we have to identify which forums with what topics we need to create in the Online Learning platform and link them to the related chapters.

Discussion and Conclusion

The aim of this article was to describe the approach of a youth migrant and refugee project funded by the European Union to create brain-stimulating Online Learning content, which combines elements from classic didactics with elements from neurodidactics and aims to add value to Online Learning.

It was shown that the neurodidactical way of thinking affected the project in many ways: not only in the way we planned the project but also in our way of thinking of how we see a new role for trainers (as equal learners) in the light of neurodidactics. It is also interesting if this could bring a new understanding where the dominant role of teachers, trainers, and university lectures could come to an end by using neurodidactical methods.

Online Learning will go on after the COVID-19 crisis, maybe not as the only tool for schools and universities around the world but as a helpful digital learning method. It is in the hands of the schools and universities if they want to invest not only in good Online Learning tools but also in the education of the educators and a good presentation of the content. We suggest that further research in the future should explore how and if brain-stimulating Online Learning content could bring more value to Online Learning content in contexts such as schools and universities.

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