

Learning Sequence “Learning | Growing | Working”: A Helpful Approach to Facilitate the Entry into the IT Faculty

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ABSTRACT

Virtual teams and digital collaborative work have become an integral part of modern university teaching. The demand for suitable methods for group formation in virtual formats has increased, not least due to Covid-19. Even though students at the university have become more confident in using digital exchange options during this time, it has become apparent in recent semesters that first-year students in particular need support during the transition into higher education, with the learning process and with virtual group work. This paper describes how the digital self-oriented learning approach called the learning sequence “Learning | Growing | Working” was set up and used on the LMS platform Ilias, and how it supports students in learning alone and in groups, collaborating online, building group cohesion, pursuing goals and learning to network. The sequence focuses on intensive exchange and networking. The learning sequence has been designed for first-semester students as a twelve-week guided group focusing in different tools and methods to support students in these subjects. The research methodology used to evaluate and analyse the outcomes of the learning sequence was the observational method, the empirical evaluation of the behaviour and constant comparison approach of the structured collected observation notes and responses of the participants. The results indicate positive outcomes, showing growth in goal setting, networking capabilities, attitudes towards learning, and critical reflection. Both participants and project stakeholders recognise the potential of the sequence to support students' personal development. Strategies for future implementation are suggested to enhance the learning experience. Among others, clear guidance on goal setting, emphasising non-academic goals for motivation and maximising engagement within the allotted time, facilitating discussions on interesting topics and addressing group dynamics challenges were observed as suggested approaches.

Keywords: learning sequence, team work, growth mindset, group bonding, networking

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1. Introduction

At universities we firmly believe that we are educating young people for the future. We do this not only by imparting technical knowledge, but by thinking comprehensively about the current and future challenges of these young people and providing them with the best possible tools to succeed. Technology will have a major impact on knowledge-based jobs and learning hard skills such as AI, cloud computing and more is crucial. However, soft skills, rooted in human interaction, are just as important. They counterbalance the digital surge. Knowledge may lose out to technology, but combining it with behavioural skills is key (Cimatti, 2016).

The challenges students face begin during the transition into higher education should also be considered. Thompson et al. (2021) emphasizes the difficulties students encounter in adapting to independent living and coping with independent study at university. They introduced the concept of “Struggles Around Independent Learning and Living” to understand these challenges. Their study highlights the importance of social networks as a source of support for students during this transition.

Education is being adapted with a focus on practical experience (Neill and Mulholland, 2003). Workplaces offer solutions for tomorrow's challenges. However, pure soft skills aren't getting the attention they need. It is often assumed that students acquire them elsewhere, pick them up as they go or that these skills cannot be taught. As such, they are generally neglected.

Gupta and Gupta (2023) focuses on design-based learning and the “plan, do, check, and act” methodology in higher education. Their research mode aims to measure students' skills relevant to the market-driven software industry. Their study attempts to bridge the gap between academia and industry expectations by fostering creativity, critical thinking, collaboration, and communication skills. The application of the method on students through a digital platform yields positive results, indicating a significant impact of C4 (creativity, critical thinking, collaborative decision making, and communication) skills on the SELECTED (society and life-long learning, environment and sustainability, leadership and collaboration, economical, communication and cooperation, thinking and problem solving, engagement, and design and development) aspects. Their research model contributes to understanding the relationship between these skills and program attainment factors, enhancing the suitability of graduates for the software industry.

Vandervelde (2020) believes that the “T-shaped professional” represents the model of the future, where vertical knowledge skills intersect with horizontal behavioural skills. He calls these skills WINGS (Work & Industry Neutral Growth Skills), and lists the five primary skills: creativity, critical thinking, self-management, social intelligence, and attention management. For instance, complex problem solving combines creative and critical thinking. Social intelligence and more contribute to working with others. However, these skills cannot be taught like facts. They need practice and integration into thinking. Creativity, for instance, can be learned and applied like a skill, but behavioural skills require a mindset shift.

The effects on the acquisition of soft skills among Software Engineering university students in Ireland during the COVID-19 pandemic where explored by Brennan et al. (2023). Their study identified a heightened fear for the future, with concerns about job opportunities and loss of time. Despite disruptions, the students reported improvements in soft skills, including resilience, empathy, time management, and organizational skills. Gender and academic level differences were noted, with female students reporting enhanced empathy and postgraduate students displaying better time management and organization skills.

A soft skills course can also address changes in computer science and software engineering students' perceptions of their soft skills, as explored by Ragonis et al. (2020). Their study employed content analysis to categorize and code students' statements. Their findings highlighted individual and team-related soft skills categories, emphasizing the importance of team-based activities in developing reflective thought processes. The recommendations underscored the significance of integrating soft skills into undergraduate training through project-based learning, contributing to increased awareness of soft skills in scientists and engineers' education.

Dowdall et al. (2021) introduced the MIMI (Multinational, Intercultural, Multidisciplinary & Intensive) methodology, focusing on the development of communication and soft skills among computer science students. Their methodology involves short, intensive, multidisciplinary, and multinational team projects, with mentors playing a crucial role. Their program has proven to enhance soft skills, especially among computer science students.

These common themes underline the critical importance of soft skills in higher education and the software industry. Many studies recognise the challenges faced by students during transitions, whether into higher education or in the midst of external disruptions such as the

COVID-19 pandemic, and emphasise the crucial role of social networks, mentorship and practical experience in developing these skills. There is a shared recognition of the dynamic nature of education and the demands of industry, which require ongoing research to understand and address the evolving skills of students.

There are also currently a number of ways to support community building, sharing, content learning and working towards common goals. Stepper (2016) presented “Working Out Loud” (WOL), a method that has already been successfully used in companies to connect employees and guide them towards a cooperative, appreciative, reflective and profitable cooperation (Stepper, 2015). The WOL approach in the learning environment can facilitate the development of student teamwork skills, foster self-organization and collaboration within networks, encourage reflection on individual work, and support the achievement of personal goals. This approach was also investigated by Augner et al. (2024) and the results showed that WOL could significantly increase learners' WOL behaviour and psychological empowerment at work. Finally, the authors highlight the need for research into new, more agile learning frameworks and a discussion of their relevance to the literature.

The WOL method has already been tested with employees and students of the University of Applied Sciences (Ondrusch et al., 2021). The implementation has shown that the method is very helpful in strengthening group cohesion, especially in virtual teams that know each other only slightly or not at all, as is the case with first-year undergraduate students, for example.

The method mentioned above was perceived by participants as lacking in both organizational and content-related aspects, hindering the full achievement of several goals. These goals included fostering a learning-oriented mindset through mutual help and support, promoting group cohesion and contributions to finding solutions, facilitating self-organized and goal-oriented learning within cross-study or cross-university networks, developing the ability to reflect on subject content in one's own context and in the context of peers and colleagues, and learning to present personal goals, ideas, or projects in social media and online or hybrid events for the purpose of contributing to such events and facilitating goal-oriented learning.

As a consequence of this feedback, we at HHN have developed a new addressee-specific sequence for the university, especially student, context: The learning sequence named “Learning | Growing | Working” as a self-oriented learning approach. It is based on a combination and further development of already existing methods such as WOL, LearnOS (Dückert, 2019) and methods from organisational psychology, team communication and agile cooperation. The last sequence was also based on smaller sequences applied in previous semesters.

The aim of the learning sequence is to offer the students a “place” parallel to the seminars where they can regularly exchange with a learning group on the soft skills topics. In doing so, the students will get to know and experience many different tools, using their personal goals as an example which they define during the introductory week. With these tools, they are meant to learn:

- How to formulate and achieve personal goals and help others to achieve their goals.
- How to recognize learning as a process of personal growth, where even failure can be a “positive” thing.
- That all people have an impact on the world around us with our actions and how everyone can shape it.
- Skills that will help them succeed in their profession now and in the future.

Our learning sequence is intended to make it easier to start studying, i.e. to teach “studying how to study”. In this article, we will present and discuss the setting of the sequence, the design

and partial results of our experiment to gain a better understanding of the impact of this approach.

2. Setting

2.1. Research Questions

In this section, the key research questions that guided this work are outlined. These questions are the foundation of this study.

Can the learning sequence “Learning | Growing | Working” and the described set-up support first semester students:

- to actively formulate their own goals (for their studies and beyond) and to pursue them? And are they getting better at this over time?
- to network for the purposes of learning, studying and personal development?
- to develop an active and constructive attitude towards their own learning and studies?
- to reflect critically (on one's own work, studies, ...)?

The research questions outlined above were designed to guide our investigation. The subsequent sections will detail structure of the learning sequence and also the research method employed to address each of these research questions effectively.

2.2. General Structure

WOL is a 12-week methodology designed for individuals to work in small groups (circles of 3-6 people) to pursue self-selected goals, reflect on their work and support each other. Combining elements of individual and group development, WOL draws on established psychological and sociological theories. Autonomy in goal selection, rooted in self-determination theory, increases intrinsic motivation and commitment (Deci et al., 1991), while fostering a growth mindset encourages continuous progress with the support of peer circle members (Dweck, 2015).

Regular group meetings in the WOL framework promote group cohesion and the development of a psychological safe space, allowing members to share setbacks and successes (Schulte et al., 2012). In addition, weekly tasks guide participants to develop goal-related relationships outside their circle, contributing to network building and social capital enhancement (Coleman, 1990). WOL integrates relationship-building activities with the development of social skills to achieve individual goals (Aten, Nardon, & Stanko, 2016; Stepper, 2016).

WOL has gained popularity in organisational settings, acting as a catalyst for cultural change and facilitating informal collective learning structures across departmental boundaries (Schmidt, 2019). In an educational context, WOL has recently attracted attention, particularly in higher education, with the emerging WOL education community compiling initial evidence on the application of the method in classrooms (Huber, 2020).

The WOL methodology was adapted to be applied twice at the Heilbronn University of Applied Sciences and its application and results were reported by Ondrusch et al. (2021). Our learning sequence “Learning | Growing | Working” is based on WOL and considers the results of the last two applications as an improvement. LearnOS (Dückert, 2019), methods and inputs from organisational psychology (Rothmann & Cooper, 2015), team communication and agile cooperation (Masood et al., 2018) were also adapted and used in to learning sequence as

learning processes. Also, Kolb's (2014) learning stages and the cycle were used by our researchers' team to critically evaluate the learning process in the last learning sequence applications, and to develop and enhance the learning opportunities inside the new learning sequence.

Our learning sequence is a mixture of short inputs, information on methods and exercises as well as group reflections. Students can access the learning sequence by registering on the LMS platform Ilias. In a first step, the interested students get together in small groups of five people. So far, the participants have been able to choose their own group. The students are all from the first semester, some with professional experience and some without. The participants start in their groups with an introductory week in which communication channels and schedules are clarified. For the next twelve weeks, their time is divided into 60-minute gatherings, consisting of a 30-minute preparation, follow-ups in individual exercises and possible additional engagement in completing their tasks. A clearly organised structure of the individual sequences makes the process of the gatherings transparent and the groups can work independently on their weekly tasks. The gatherings are divided into group and individual exercises. Work instructions, toolboxes and interactive work plans are provided on Ilias.

For the learning sequence, thirteen working weeks are foreseen (introductory week and twelve following gatherings). All gatherings are already planned in the first week and must be followed as exactly as possible. The gatherings have a time limit of 60 minutes, but may vary according to the need for discussion and the availability of the group members.

Additionally, as each student works towards his or her own personal goals, they need to set aside some time for tasks beside group work. The first task is a task that must be carried out individually after each weekly learning unit. The second task is made up of small work slots, of about five to fifteen minutes daily, where the students work on their personal objectives, making this task a habit.

In order to carry out the learning sequence, members may meet virtually. Therefore, groups need to decide during the introductory week what their weekly communication platform will be and where (or whether) communication will take place outside the meeting times. Additionally, students should check the availability of computers and cameras.

To ensure that the meetings run as smoothly as possible, it is recommended that there are two main roles: a facilitator and a timekeeper. These roles can vary from week to week, or be fixed. Moderators assist in the organisation of the gatherings. They ensure that everyone has the necessary information to participate in the gathering. This should be seen as supporting the group - not as taking responsibility for the group. Timekeepers keep an eye on the time during the gatherings and ensure that the dynamics of the gatherings - a good balance between conversation and activities - are maintained.

To achieve the objectives, students are presented with various tools and methods in each weekly learning unit of the learning sequence during the twelve weeks. They can experience them directly in practice and thus develop useful skills for themselves, their studies, their future career and the future. Participants will receive information in each weekly learning unit, reflect on it, and apply it in exercises during the learning group gatherings. Thematically, the weekly content deals with perspective shifting, communication and growth mindset. The students will get to know the following methods: WOOP (Wish, Outcome, Obstacle, Plan) (Oettingen, 2014), SMART goals (Lawlor, 2012), constructive feedback (Ovando, 1994) and others.

Table 1 gives an overview of the topics and the different weekly learning units that form the learning sequence.

Table 1.

Weekly learning units of the learning sequence “Learning | Growing | Working”

Week	Description
Introduction week	Getting to know each other in the groups and formulating goals
Week 1	Exchange and joint reflection on goals
Week 2	Building trust in networks
Week 3	Growth Mindset - Growth has to be learned
Week 4	Perspective is everything
Week 5	The way is the goal ... this time SMART, please!
Week 6	With good communication, you are more likely to achieve your goal
Week 7	Bringing things (and people) together ...
Week 8	Feedback is a gift
Week 9	Feedback to my (future) self
Week 10	Skills for the future (and now)
Week 11	Impact - Why we learn and grow
Week 12	Reflect and celebrate

In the Ilias system, students access the content week by week. Within each weekly learning unit material, learners receive an agenda, where tasks are divided by time slots. The introduction week, for example, has the agenda division as shown in the Table 2.

Table 2.

Introduction Week agenda

Group exercise 1 (15 min):	Getting to know each other in the groups
Group exercise 2 (10 min):	Comprehension questions
Information (10 min):	WOOP as a method for goal setting
Individual exercise (20 min):	Using WOOP to find, formulate and achieve your goal

For each exercise, there is a specific description, with explanations of examples and methodologies that can and should be applied. All are accompanied by videos, links to texts and diagrams or images. On the Ilias platform, students must also make their submissions according to the request.

2.3. The Example of Week 3

The purpose of this article is not to describe each weekly learning unit in detail, but an overview will help and illustrate the approach. Week 3 will now be described in more detail for better understanding. Students initially have access to the content of this week in Ilias, which is entitled "Growth Mindset - Growth has to be learned". The agenda of the third week and the estimated time of each task is shown in Table 3.

Table 3.

Week 3 agenda

Group exercise 1 (5 - 10 min):	Check-in
Information (10 min):	Growth Mindset
Group exercise 2 (30 min):	Shared reflection
Individual exercise (10 min):	Applying what we have learned today about the achievement of objectives

Now, each agenda topic will be described.

Check-in. A group exercise is planned here. The students receive the information showed in Table 4 and are supposed to execute the discussion within their group.

Table 4.

Content of group exercise 1 – Check-in

You are probably already working on your goal and maybe you have already made some progress. But if you haven't done much since your last meeting, just start today. And if you are still unsure about your goal, that's perfectly fine. It is a normal experience that many have and a natural part of the learning process when developing new habits or behaviours. But it is good to realise for yourself that your goal is still important to you and that it still taps into your curiosity. Talking about it in the group is also good and increases your motivation, because expressing your goals and steps commits you. The check-in questions for this week's exchange are: • How do you currently feel about your goal? • Which strategies have perhaps already worked for you and which ones have not?

Information. An individual study time is foreseen. The summarised content presented to the students is shown in Table 5.

Table 5.

Content of Information Activity

"Becoming is better than being." - Unknown (associated with Dr Carol Dweck, Psychologist and author of "Mindset") Psychology professor Dr Carol Dweck and her team have identified two basic types of mindsets in several studies. These two basic types have a great influence on personal development, potential development and learning success: the "Fixed Mindset" and the "Growth Mindset". In the following video, you will learn the difference between the two mindsets and how you can establish a growth mindset. (Develop Good Habits, 2019) <i>(Together with a video showing The 11 Growth Mindset Strategies, the students receive an extra explanation text about both mindset types.)</i> Summary - In the video, the following strategies are presented that can help you foster a Growth Mindset: • View challenges as opportunities for personal growth • Prioritise learning over recognition • Focus on the process rather than the outcome • Develop a sense of purpose (smaller goals are part of a larger goal) • Choose "deep learning" over "fast learning" • Making mistakes does not mean you have failed • Learn from/about the mistakes of others • Learn to accept constructive criticism • Develop perseverance • Set a new goal as soon as you reach a milestone • Remember that it takes time to achieve something

Shared reflection. In smaller groups of two participants, the students shall discuss the eleven strategies in 30 minutes. Some questions to help their reflection are given, and presented in Table 6.

Table 6.

Content of group exercise 2 – Shared reflection

• Do you have a personal example that confirms this core statement or strategy? • Which of these strategies seems immediately obvious to you? • Which of the strategies do you already implement? • In which area do you find it easy to implement them? • In which area is it still challenging to implement them? • How might these strategies apply to a team or team project? • How would schools, universities, lectures and seminars work if they were geared towards a Growth Mindset? • With what feeling would you "then" go to university?

Individual exercise. Now, the student may know why there is perhaps some truth in the saying: "The way is the goal". And this can also be scientifically confirmed. In the last exercise, the student has to answer the five questions showed in Table 7 individually. These responses are saved in Ilias for future verification of participation and evaluation by the organisers.

Table 7.

Content of the individual exercise – Questions

•	Which one of the strategies could you use to achieve the goal you have already set?
•	How will you use this strategy to achieve your goals?
•	Are you satisfied with how your goal is progressing? If yes, briefly note your feelings of success. If no, then briefly note what makes you dissatisfied.
•	Write down how you will work on achieving your goals by next week.
•	What did you take away from the learning session today?

3. Research Methodology for Evaluating and Analysing the Success of the Learning Sequence

3.1. Data Collection and Evaluation

Data collection throughout the learning sequence was carried out using participant observation. According to Cowie (2009), observation is consciously noticing with a detailed examination of participants' behaviour in a natural environment or context.

In a narrower sense, observation refers to the gathering of experiences through a non-communicative process utilizing all possible means of perception. According to Laatz (1993), it is characterized by the use of instruments that ensure self-reflection, systematicity, and control in the observation process, thereby helping to expand the limits of our perceptual abilities.

Observations are different from the observers' point of view. Reinders (2015) described different forms, that are "Complete non-participation", "Full observer", "Observer as a participant", "Observer with moderate or peripheral involvement" and "Observer as an active participant". Two forms were used in this experiment:

- "Observer as a participant": While the observer is not involved in the interactions most of the time, he occasionally conducts short interviews.
- "Observer as an active participant": In this context, the degree of interaction is further heightened, extending to the central behaviours observed within the group. Social relationships are established with the participants. In the case of complete participation, the researcher becomes part of the social group being observed and acts as an active member.

Each of the groups formed had a research assistant as an observer. Each research assistant had two groups to observe and, in each group, they could choose one of the above-mentioned forms of observation. For each gathering the observers have to fill out a protocol based on an observation template. The template is shown in Figure 1. The questions can be answered directly, or a detailed description can be given for each topic. Specific examples, cases and situations can be reported separately. Participants are made anonymous for the experiment, but are still identifiable.

Organizational data • Own role • Place of observation • Participants, Attendances • Time and date		Target tracking • What has been achieved? • Is the impression of active goal pursuit gained? • Can the students reflect (i.e., do they try to justify or cover up, or are they clear about the goals)?
Gathering collaboration • Distribution of roles • Have there been any changes from the last dates? • Did mutual support take place? In what form? • What did each team member contribute? • Are other topics also discussed in the appointment? • Is the sequence strictly followed?	Networking with others • Did students get the idea to ask others for help or talk to others? • Did new contacts come about? • Did students also make each other aware of supporters* or actively contribute to networking (do talk to....)?	Attitude and contribution • How is the learning sequence perceived? Constructive suggestions for change? Rather simply accepted? Negative criticism? • If necessary, will exercises that do not fit be adjusted? • How do they reflect on their studies and learning experience so far?
More observations • What else has been noticed? • Were there fluctuations in the moods? • Have there been any changes from the last meetings? • Could other external influencing factors be identified?		Notes on the learning sequence • What (which exercises) worked well? Stimulated discussion?... • What could students do little with? • Where were they overwhelmed? • Are there any specific suggestions for improvement? • Are more or less explanations necessary? • Is the time well measured?

Figure 1. Observation template

We had eight groups in summer semester 2022. In each gathering, the observer participated and answered the observation template afterwards. Not all questions had to be answered at each gathering, but each week the protocol had to be handed in.

Data analysis was performed through content analysis, with management and comparison of the structured data, based on the grounded theory (Glaser & Strauss, 2017; Charmaz & Thornberg, 2021). The answers were coded according to the template topics and themes and analysed using a constant comparison approach (Kolb, 2012). Data reduction in qualitative research is a necessary task and portions of the reported data have been selected to illustrate the respondents' views. Participants' own categories were tabulated, as suggested by Silverman (2021).

In this study, three categories were coded from the observations, analysed and compared based on the constant comparison approach:

- "Target tracking";
- "Networking with others"; and
- "Self-attitude and contribution".

The resulting outputs of this approach are showed in the next section, together with some individual responses of delivered tasks that support these outputs.

4. Results and Discussion

This implementation of the "Learning | Growing | Working" learning sequence provided valuable insights into its ability to support first-semester students in various dimensions. As evidenced by the positive participant feedback, the structure of the sequence effectively guided students through a transformative journey encompassing goal formulation, networking, active learning, and critical self-reflection. The approval of the digital format's adaptability, allowing students to engage with the sequence at their convenience, highlighted its responsiveness to the modern learning landscape.

The analysis of the coded category “Target tracking” showed, that participants demonstrated an improved ability over time to actively formulate personal goals for their studies and beyond. Through the learning sequence, students were provided with a framework that enabled them to articulate their aspirations and work towards achieving them. This positive trend suggests that the structure of the sequence effectively supports students in clarifying, pursuing and reflecting on their goals. Even with this support, it was clear in some cases that students had not achieved the goals they had set at the beginning.

In this comparative analysis, various aspects emerged, highlighting the thorough processing of the goals and their clear pursuit. Students demonstrated an ability to identify errors within the goals, and accomplishments were successfully reported. The attainment of goals was acknowledged, accompanied by the formulation of new objectives. Notably, students engaged in reflective practices regarding the objectives, fostering an environment where progress could be effectively communicated.

The analysis of the coded category “Networking with others” showed that the learning sequence facilitated networking opportunities for students, both within their studies and for personal growth. By engaging in a structured environment that encourages collaboration and interaction, participants were able to connect with peers, share knowledge, and enhance their learning experiences. The flexibility of the digital format further contributed to building connections irrespective of time and space constraints. One negative point in terms of team bonding was that the students talked in their groups a lot about subject content they had in common, which was not the aim here. Still outside the comparison methodology, the students reported that the friendly atmosphere was one of the strengths of working in the team.

The first comparisons in the category “Self-attitude and contribution” led us to assume that the learning sequence played a crucial role in encouraging participants to take an active and constructive approach to their own learning and study, and to take responsibility. Through the progression of “Learning | Growing | Working,” students showed themselves to be more engaged and participatory in their educational journey. The sequence's design prompted self-directed learning, leading to a more proactive approach to academic pursuits.

Some comparisons between the here chosen categories revealed that the participants demonstrated capacity for critical self-reflection, particularly in relation to their studies and personal endeavours. The structure of the sequence provided participants with moments dedicated to assessing their own progress, identifying areas for improvement and evaluating their experiences. This reflective aspect, which they performed well, contributed to a deeper understanding of their own work and studies, although it was noted that the students did not develop the ability to be self-organised.

Comparing and analysing some other excerpts from the reports that have not yet been categorised, various suggestions, criticisms and comments have been gathered and are commented on in the following paragraphs.

It became evident that written explanations sometimes fall short in conveying the full understanding of tasks. It might be necessary to explain certain exercises orally to ensure all students interpret them correctly. In addition, the use of long videos (more than 8 minutes) led to a loss of attention among the students. These should be avoided. It was noted that fewer topics could be worked on, but with more emphasis on each one.

To ensure a coherent learning experience, it's crucial to align the objectives with the time frame of the learning sequence, targeting goals achievable within a maximum of twelve weeks. Emphasize that goal tracking is not a central aspect of the learning sequence and is not included in the overall workload. For goal setting, suggest crafting goals unrelated to academics,

focusing on personal aspirations. Such goals often yield higher motivation for committed achievement.

For transparency, the structure of each week should be clearly defined, allocating time for both group exercises and individual tasks. Clear transitions to individual tasks at the end of each week will help maintain a seamless flow. Enhance explanations of individual group exercises by including more content, theoretical insights, and context. Minimize individual exercises within group sessions, favouring group exercises instead. Individual tasks can be incorporated into pre- or post-session work, assigned as homework or individual tasks.

The purpose of the first week's learning unit is to delve into the approach and addressing the „how“ in achieving goals. Transitioning from the "what" to the "how" is the focal point. The learning units of weeks 3 and 4 appear condensed; consider expanding these sections with additional content from previous sequences to avoid rushing through. Variation in individual exercise questions is essential to prevent repetition and to address students' occasional concerns about duplicative content. Consider modernizing the communication in the teams by incorporating messaging apps instead of emails.

Some individual answers and comments have been taken from the delivered tasks and compiled below:

- “I am glad that I have already been able to apply some things in the last few weeks and I think I am on a good path there. I feel better compared to the last months and I have a good feeling and I am looking forward to what is to come.”
- “I have learned what is important in a conversation, and I have already applied many of these methods myself. I have now gained a new feeling for dealing with other people.”
- “For me personally, the video on Growth Mindset was the best topic that helped the most, I already knew the topic but I still think it is one of the most important or even the most important topic because it determines how you approach a thing or a problem and can lead to huge differences.”
- “It takes a lot of time and resources to develop a growth mindset, but it is worth it as it can lead to a lot of personal development.”
- “Making mistakes is okay, I should break down my goals into smaller goals, I should accept mistakes more as a learning process instead of getting upset about them.”
- “There are many ways to improve fundamentally through the many possibilities of the Growth Mindset. In the future, I will also look back at it from time to time and use it as a strategy to solve problems on a very basic level.”

The analysis of these and other student statements revealed a consistent theme of personal development among students. Statements such as "I feel better compared to the last months" and "I am on a good path" suggest a positive impact on the students' self-perception and well-being.

Many students reported applying the acquired knowledge in real-life situations. The statement, "I have already applied many of these methods myself," indicates a successful transfer of theoretical concepts into practical scenarios, showcasing the effectiveness of the learning sequence.

Looking at the answers given by the students in the individual tasks, we can conclude that the students were able to define and reflect on their goals, to improve their communication and soft skills.

Although the importance of the Growth Mindset topic was highlighted, with one student describing it as the most valuable, we concluded that they still needed a lot of training to reach a good level of growth mindset. This concept is a very subjective concept to assess, and we believe that this can be reinforced in the next application of our approach.

5. Conclusion

The implementation of the "Learning | Growing | Working" learning sequence yielded positive results aligned with the research questions. Participants exhibited growth in goal formulation, networking capabilities, attitudes towards learning, and critical reflection. Both, participants and project stakeholders, acknowledged the sequence's potential to support students' personal development.

In order to further improve the learning experience with the Learning Sequence, some ideas and strategies have been considered for the coming semesters and are listed below.

- The initial week holds immense importance. The protocols indicate student's uncertainty about what lies ahead in the next twelve weeks. Some even expect traditional lectures instead of self-directed learning modules. Perhaps we can devise a strategy to help students build confidence in what to expect within the upcoming weeks. Create an environment in the first lesson where students can come together, establish trust, and engage in open conversations. This collaborative atmosphere could encourage them to share their thoughts and uncertainties, ultimately enhancing their understanding of the learning process.
- Provide clear guidance on goal-setting, emphasizing the importance of selecting a goal unrelated to academics. Goals that are enjoyable and personally fulfilling, like a hobby or a skill, might be more motivating than abstract objectives such as time management or weight loss.
- Emphasize using the entire 60 minutes effectively.
- Consider encouraging discussions on interesting topics if students finish their tasks early, to maximize engagement.
- Address the scenario where groups are not functioning optimally or might be shrinking.
- Allow for the possibility of group changes to accommodate students who are enthusiastic and committed to the process, especially when faced with unresponsive or unreliable group members.

We also conclude that the role of observers could be strengthened. This applies not only to the research assistants but also to the organisational team. Another way to improve the observation process could be to implement an online observation form template and to require mandatory responses from observers.

This article showed how the self-oriented learning approach called Learning Sequence was designed, applied and evaluated. The outputs were discussed and some outlooks were given to be applied to future editions.

As interest in the learning sequence expands nationally and internationally, there are plans to develop it into an Open Educational Resource (OER). Additionally, integrating the sequence into General Studies¹ could foster interdisciplinary exchange and expand its impact. This

¹ The General Studies includes (non-curricular) seminars and events of the university that are not included in the curriculum. However, there are students who can count events from the General Studies as part of their degree.

ongoing project holds promise in promoting a growth mindset, intrinsic motivation, and sustainable relationships among participants, as well as exploring the potential of digital and hybrid teaching formats and virtual group dynamics. The application should also be considered for international students and adults from different sectors.

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All students from the first semester onwards as well as all employees of Heilbronn University of Applied Sciences may participate in the General Studies. Some seminars are open to the public, i.e. interested members of the public can participate in these events by applying for guest admission.

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