

Facing the Growing Attention Crisis in Higher Education – Learnings from an Action Research-Based Study on Swiss Business Students

Michael Sitte, Ellenor Hunn, Michael Krebs, Christine Kuhn

Institute of Human Resource Management, School of Business, University of Applied Sciences and Arts
Northwestern Switzerland FHNW, Switzerland.

How to cite: Sitte, M.; Hunn, E.; Krebs, M.; Kuhn, C. (2025). Facing the Growing Attention Crisis in Higher Education – Learnings from an Action Research-Based Study on Swiss Business Students. In: 11th International Conference on Higher Education Advances (HEAd'25). Valencia, 17-20 June 2025. <https://doi.org/10.4995/HEAd25.2025.19936>

Abstract

This paper presents the results of a study investigating the impact of a focus- and attention-based learning intervention on the ability of higher education students to concentrate in several dimensions. The intervention, which was implemented with four bachelor classes at a Swiss university, combined instructional materials, a playbook, and reflection practices. An action research approach was used to collect quantitative data through pre- and post-semester surveys and qualitative insights through structured focus interviews. Results showed significant improvements in students' concentration, reduced fear of missing out, and decreased dependence on smartphone. Students reported increased self-awareness and perceived benefits to their academic and personal lives. The study highlights the potential of targeted interventions to address the 'attention crisis' in digitalized learning environments and underlines the need for interdisciplinary research and institutional dialogue to promote media literacy and self-regulation in higher education.

Keywords: *focus; attention; social media; digitalized learning environments; action research; intervention*

1. Introduction

Digitisation in higher education is both an opportunity and a challenge. While many focus on the application of technological innovations in the classroom, something else is becoming increasingly apparent. The proliferation of distractions, such as social media and the 'attention economy', is reducing students' uninterrupted attention in the classroom. This critical asset for students' learning success in higher education is at risk.

Recent studies give an insight into the extent of this so-called attention crisis. Hari (2022) found that the attention span of American students is only about 60 seconds. Recently published findings by Mark (2023) show that the average attention span on a screen has dropped from 2.5 minutes in 2004 to just 47 seconds in 2023. When students lack attention and practice multitasking, so-called switching costs further reduce productivity (Gazzaley & Rosen, 2018). The consequences are not only visible in the classroom, where we see that students are finding it increasingly difficult to read longer texts (Goleman, 2014) and to stay focused. The side effects of this attention crisis and time fragmentation can also be seen in a decrease in well-being (Newport, 2022), higher levels of stress that can even lead to depression (Schuler et al., 2020), and a decrease in IQ (Hari, 2022; Eyal et al., 2021).

Higher education institutions are therefore called upon to find solutions to this challenge. Nevertheless, there remains a lack of training programmes or specialised courses designed to meet it. Solutions need to be developed and tested for the future success of higher education effectiveness. Educators should help future generations improve their self-efficacy through increased media literacy, attention, focus, and deeper learning.

This paper therefore addresses the following question: ‘Can a learning unit based on focus and attention help students improve their ability to concentrate, reduce their fear of missing out and dependence on smartphones and social media, and thereby provide insight into tackling the attention crisis?’.

2. Research Setting

The first stage of the research project was to develop teaching materials that could form the basis of the project itself. The intention was to design a learning unit that business students could work on in groups over the course of an entire semester.

In order to address the above-mentioned situation, a teaching design with several components was developed, consisting mainly of online and offline teaching material and a playbook. The teaching materials introduce the topic of focus and attention, presenting and explaining the basic theories, related background information and insights into recent research findings. The aim is to arouse students’ interest and curiosity about the topic, and to make the importance and benefits of increased attention and focus tangible.

The playbook forms the centrepiece of the teaching design and consists of a series of steps and concrete exercises (e.g. mindfulness practices, pomodoro-technique etc.) based on scientific evidence. It aims to provide students with strategies and tools to better cope with the accelerated and digitalised world. It also promotes mental health and aims to increase students’ well-being. The playbook is divided into 6 chapters, each dedicated to a specific topic, ranging from homo digitalis over internal and external triggers for distraction, mindfulness to deep work. Each

chapter is enriched with exercises to increase self-awareness, awareness of internal and external distractions and stressors, and use of electronic tools by students.

The teaching materials were tested in two bachelor programmes at the University of Applied Sciences and Arts Northwestern Switzerland in the spring semester of 2024. Integrated into a mandatory module on Human Resources Management and Organisational Behaviour, students attended introductory classes and worked through the playbook in groups throughout the semester. After an initial introduction by the lecturers, students worked individually on the first three chapters and met biweekly for guided reflection. A mid-semester sharing session allowed students to share experiences, ask questions, and receive additional theory and tips from the lecturers. They then moved on to the second half of the playbook.

3. Methods, data collection and analysis

The action research involved a cyclical process of planning, acting, observing, and reflecting in order to improve the relevant situation or address the problem of focus and attention within the lecture setting. This approach was chosen because it is commonly used in similar contexts in the social sciences, education, and organisational development to bring about practical change in the relevant settings. Furthermore, by involving the lecture and students in the research process and focusing on collaboration and participation, this action research approach can promote ownership and sustainability of change (Krebs et al., 2023). Quantitative and qualitative methods were used to collect the data for this study. The quantitative method is based on a pretest-posttest control group design in a quasi-experiment.

Four bachelor classes were selected non-randomised as experimental group: three German-speaking business administration programmes and one English-speaking programme in International Management. Three classes were on campus, and one was online. Three other, non-randomised selected classes served as a control group. All students completed an initial survey via a link or QR code using Tivian at the beginning of the semester (t_1). The intervention took place during the semester. A second survey and focus interviews were conducted with all students during the last week of the semester (t_2).

As no suitable scales were found that explicitly measure focus and attention, this study measures five individual constructs that seem relevant in the context of the intervention: ability to concentrate, fear of missing out, dependence on the smartphone, self-control, and individual commitment. Each of these constructs forms the dependent variable. The independent variables are time of measurement and group assignment to the experimental or control group. All items could be answered on a five-point Likert scale (1=doesn't apply, 2=rather not applies, 3=partly-partly, 4=rather applies, 5=applies). The constructs are measured using items that are newly formulated or adapted from established scales (Table 1). For concentration, the short focusing subscale of the 'Attention Control Scale' (Judah et al., 2014) was adapted and two self-

formulated items were integrated. Fear of missing out was measured using modified items from Przybylski et al. (2013). Smartphone addiction was assessed with items from Montag's (2018) self-test and a self-formulated item. Self-control was measured with a modified version of the short 'Self-Control Scale' (Singh, 2022). The items on individual commitment are based on the 'Employee Experience Questionnaire' (Fischer et al., 2021), two self-formulated items and two further adapted items from the Swiss HR barometer 2014 (Doden et al., 2014).

Table 1: Scales used to measure the ability to concentrate, fear of missing out, smartphone dependency, self-control and individual commitment.

Scales	Number of items	Cronbachs α
Concentration (e.g. It's hard for me to concentrate on a difficult task when there are noises around.)	8	0.75
Fear of missing out (e.g. I get worried when I find out my friends are having fun without me.)	7	0.77
Smartphone addiction (e.g. I even think about my smartphone when I'm not using it.)	10	0.81
Self-control (e.g. I am able to work effectively toward long-term goals.)	8	0.76
Individual commitment (e.g. I invest a lot of energy in my studies.)	10	0.85

The survey data were analysed in RStudio, with scales created using mean item scores. Internal consistency was assessed using Cronbach's alpha. Experimental group scales were compared at the beginning and end of the semester using dependent samples t-tests. The same procedure was used for the control group. Experimental and control group samples were compared at t_2 using an independent samples t-test. Qualitative findings were gathered through structured focus interviews. After the t_2 survey, students in the experimental group reflected on the semester and the playbook using the 4L method (Liked, Learned, Lacked, Longed for). Contributions were documented, and qualitative content analysis was used to categorise the data.

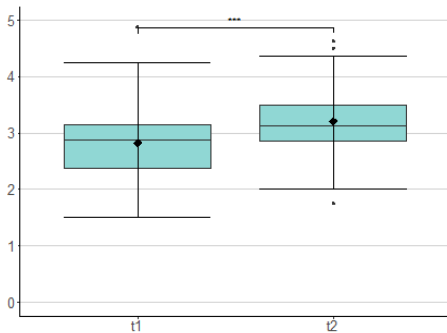
4. Results

A dependent sample of $n=109$ students was analysed. Table 2 shows the mean values and standard deviations of the experimental and control groups at t_1 and t_2 . This sample is obtained after careful adjustment to ensure the students completed the survey at both times.

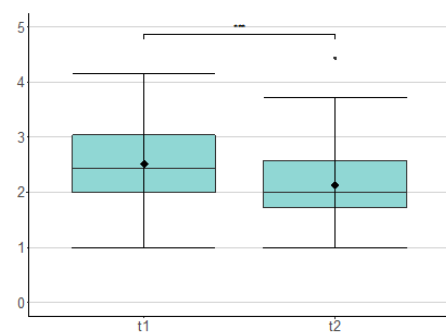
Table 2: Mean values and standard deviations of the experimental and control groups at t1 and t2.

Scale	Time	Experimental group ($n=88$)	Control group ($n=21$)
		$M (SD)$	$M (SD)$
Concentration	t1	2.8 (0.6)	3.1 (0.6)
	t2	3.2 (0.5)	3.1 (0.8)
Fear of missing out	t1	2.5 (0.8)	2.4 (0.7)
	t2	2.1 (0.7)	2.3 (0.6)
Smartphone addiction	t1	2.8 (0.7)	2.2 (0.6)
	t2	2.5 (0.6)	2.4 (0.7)
Self-control	t1	2.9 (0.6)	3.2 (0.8)
	t2	3.2 (0.6)	3.0 (0.6)
Individual commitment	t1	3.5 (0.6)	3.8 (0.6)
	t2	3.5 (0.6)	3.6 (0.5)

The experimental group shows significant differences from t_1 to t_2 on almost all scales of interest, except individual commitment. While about 44% of the students rated their *ability to concentrate* as partly good to good at the beginning of the semester, 64% did so at the end of the semester. A t-test for dependent samples shows that the mean difference of the ability to concentrate between the experimental group at t_1 ($M_{t1}=2.8$, $SD_{t1}=0.6$) and at t_2 ($M_{t2}=3.2$, $SD_{t2}=0.5$) is significant ($t(87)=6.8$, $p<0.001$) (see Figure 1). *Fear of missing out* was rated as partly high to high by 30% of the students at the beginning of the semester. At the end of the semester, this value was 15%. The difference in the experimental group from t_1 to t_2 was tested using the parameter-free Wilcoxon test. The mean difference between t_1 ($M_{t1}=2.5$, $SD_{t1}=0.8$) and t_2 ($M_{t2}=2.1$, $SD_{t2}=0.7$) was significant ($Z(n=88)=2593$, $p<0.001$) (see Figure 2).



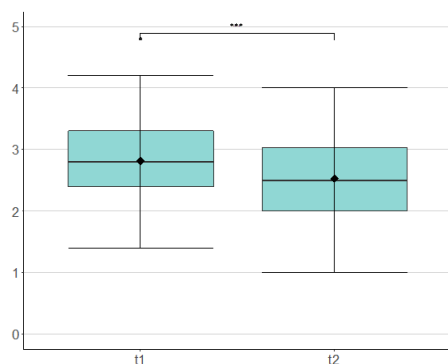
Note: Scale: 1=doesn't apply to 5=applies, $n=88$



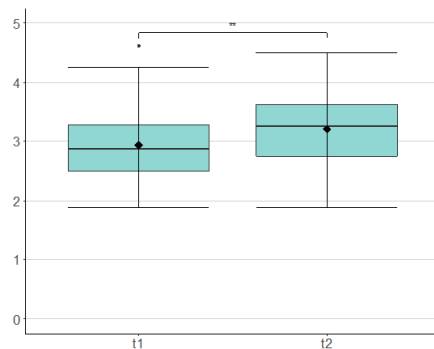
Note: Scale: 1=doesn't apply to 5=applies, $n=88$

Figure 1 (left). Experimental group's ability to concentrate at time t_1 and t_2
 Figure 2 (right). Experimental group's level of fear of missing out at time t_1 and t_2

Finally, at the beginning of the semester, 35% rated their *dependence on smartphones* as partly high to high, compared to 31% at the end of the semester. The mean difference between the experimental group at t_1 ($M_{t1}=2.8$, $SD_{t1}=0.7$) and at t_2 ($M_{t2}=2.5$, $SD_{t2}=0.6$) was shown to be significant using a t-test for dependent samples ($t(87)=5.2$, $p<0.001$) (see Figure 3).



Note: Scale: 1=doesn't apply to 5=applies, $n=88$



Note: Scale: 1=doesn't apply to 5=applies, $n=88$

Figure 3 (left). Experimental group's dependence on the smartphone at time t_1 and t_2

Figure 4 (right). Experimental group's level of self-control at time t_1 and t_2

At the beginning of the semester, 43% of the students rated their *self-control* as partly good to good, at the end of the semester the figure was 64%. The mean difference at t_1 ($M_{t1}=2.9$, $SD_{t1}=0.6$) and at t_2 ($M_{t2}=3.2$, $SD_{t2}=0.6$) is significant ($t(87)=4.9$, $p<0.01$) (see Figure 4).

The control group's results differ at t_1 compared to the experimental group's values. However, there was no significant difference between t_1 and t_2 for any of the scales of the control group. Also, there was no significant difference between experimental and control group at time t_2 .

The experimental group's feedback provides reliable insight into the project's impact. At the end of the semester, 93% of students reported completing the playbook exercises regularly and conscientiously, and 91% would recommend what they learned to friends. Students reported for example: *'It has given me a lot of time and, above all, time to reflect on my own actions'*, *'It is a document that can be used over a long period of time. It also shows the struggles of using technology in effective ways to combat distractions'*, *'Because it is useful not only for my studies, but for my whole life [...]'*. The structured focus interviews provided deeper insights into these quantitatively assessed changes. They reveal a multifaceted impact of the program on participants' perceived productivity, focus, and attitudes toward technology and learning. One participant noted, *'I was able to significantly improve my attention span and concentration through the exercises'*. This was echoed by others, who highlighted the tangible benefits of adopting new strategies. For instance, another participant shared, *'I've been much more productive since I stopped multitasking'*. These reflections suggest that the program successfully facilitated a shift in cognitive habits, promoting a more focused and deliberate approach to tasks.

Moreover, the program appeared to influence participants' perceptions of technology in the context of learning. As one interviewee stated, '*The program has radically changed my attitude towards smartphones and learning*'. In addition to individual benefits, the social dimension of the program emerged as a significant factor. One participant remarked, '*It was good to see that the others in the learning group feel the same way as I do and that we can also make a difference together*'. This underscores the importance of peer support in reinforcing behavioural changes and fostering a sense of collective efficacy.

5. Discussion

Results of the experimental group showed significant improvements in students' concentration, reduced fear of missing out, and decreased smartphone dependence. Students reported increased self-awareness and perceived benefits to their academic and personal lives. The findings suggest approaches for discussing the future applicability of such learning content in higher education. The learning content provided guidance to students during a challenging period of flexibilisation and individualisation. By addressing the issue of focus and attention in the context of digitalisation and acceleration, students learned to be more self-directed and responsible. Many students demonstrated how deep work enhanced learning success, while shallow, distracting activities were reduced.

Qualitative findings highlight key questions for future research, such as sustaining positive change over time and identifying effective long-term interventions. In addition, the findings highlight the need for dialogue in higher education about two opposing trends: smartphone bans versus the promotion of self-regulation and media literacy. We hope that this research can make a meaningful contribution to this ongoing and multifaceted discussion.

Despite careful data cleansing, the quantitative survey covers a relatively small sample. The mean values were calculated without considering the individual differences between the students or classes. In addition, the focus and attention, based on self-assessments, could be enhanced by external evaluations. Nevertheless, the pretest-posttest control group design in a quasi-experiment provides a solid basis for analysis of key factors.

References

- Doden, W., Morf, M., Arnold, A., Feierabend, A., Grote, G., & Staffelbach, B. (2014). *Schweizer HR-Barometer 2014. Schwerpunktthema Arbeitserleben und Job Crafting*. Universität Zürich und ETH Zürich. <https://doi.org/10.5167/uzh-104343>
- Eyal, N. & Li, J. (2020). *Indistractable: How to Control Your Attention and Choose Your Life*. BenBella Books.

- Fischer, J. A., Hüttermann, H., & Werther, S. (2021). *Employee Experience Questionnaire (EXQ): Fragebogen zur Messung von Zufriedenheit, Commitment und Engagement*. Gesis. <https://doi.org/10.6102/zis304>
- Gazzaley, A., & Rosen, L. D. (2018). *Das überforderte Gehirn: Mit Steinzeitwerkzeug in der Hightech-Welt*. Redline.
- Goleman, D. (2014). *Focus: The Hidden Driver of Excellence*. Bloomsbury.
- Hari, J. (2022). *Abgelenkt: wie uns die Konzentration abhandenkam und wie wir sie zurückgewinnen*. Riva.
- Judah, M. R., Grant, D. M., Mills, A. C., & Lechner, W. V. (2014). Factor structure and validation of the attentional control scale. *Cognition & Emotion*, 28(3), 433–451. <http://dx.doi.org/10.1080/02699931.2013.835254>
- Krebs, M., Kuhn, C., & Sitte, M. (2023). Success factor focus and attention in study and in the work context - a call for action at institutes of higher education in a more and more digitalized world. *EPiC Series in Computing*, 93, 97–104. <https://doi.org/10.29007/h3rc>
- Mark, G. (2023). *Attention Span: A Groundbreaking Way to Restore Balance, Happiness and Productivity*. Hanover Square Press.
- Montag, C. (2018). *Homo Digitalis. Smartphones, soziale Netzwerke und das Gehirn*. Springer. <https://doi.org/10.1007/978-3-658-20026-8>
- Newport, C. (2022). *Konzentriert arbeiten: Regeln für eine Welt voller Ablenkungen* (6th ed.). Redline.
- Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in Human Behavior*, 29(4), 1841–1848. <http://dx.doi.org/10.1016/j.chb.2013.02.014>
- Schuler, D., Tuch, A., & Peter, C. (2020). *Psychische Gesundheit in der Schweiz. Monitoring 2020* (Report No. 15/2020). Obsan. https://www.obsan.admin.ch/sites/default/files/obsan_15_2020_bericht_2.pdf
- Singh, R. K. (2022). Normierung und testtheoretische Überprüfung der deutschen Adaptation der Kurzform der Self-Control Scale (SCS-K-D). *Diagnostica*, 68(2), 76–87. <https://doi.org/10.1026/0012-1924/a000284>