

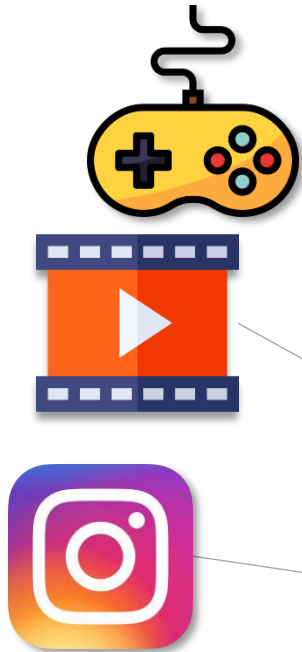
Digitale Lösungen für digitale Ablenkungen während des Lernens

Daniel Biedermann

Selbstkontrollkonflikte durch digitale Ablenkungen

Digitale Ablenkungen

Lernen



Direkte Befriedigung

Langfristiger Erfolg

Übersicht Studienlage

Mehr Medien-Multitasking führt zu:

- **Schlechteren Noten** (*May and Elder, 2018; Sunday et al., 2021*)
- **Geringerem Leseverständnis** (*Liu and Gu, 2020*)
- **Weniger Lerneffizienz** (*May and Elder, 2018; Calderwood et al., 2014*)

Eigene Befragung:

- 63% lenken sich “regelmäßig” oder “sehr oft” ab
 - 0% (!) gaben an, sich “nie” abzulenken
- 64,5% leiden darunter

Biedermann, D., Kister, S., Breitwieser, J., Weidlich, J., & Drachsler, H. (2023). Use of digital self-control tools in higher education – a survey study. *Education and Information Technologies*.

Forschungsziele der Dissertation

Tracking
System

Wie kann Tracking von digitalen Ablenkungen gelingen?

Datenanalyse

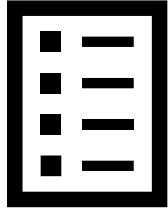
Lit. Review

Befragung

Wie können digitale Interventionen bei digitalen Ablenkungen helfen?

Intervention

Daten zu Mediennutzung



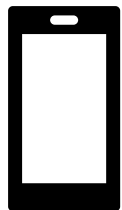
Selbstberichte

Ungenau ($r = .25$, Parry et al., 2021)



Beobachtung

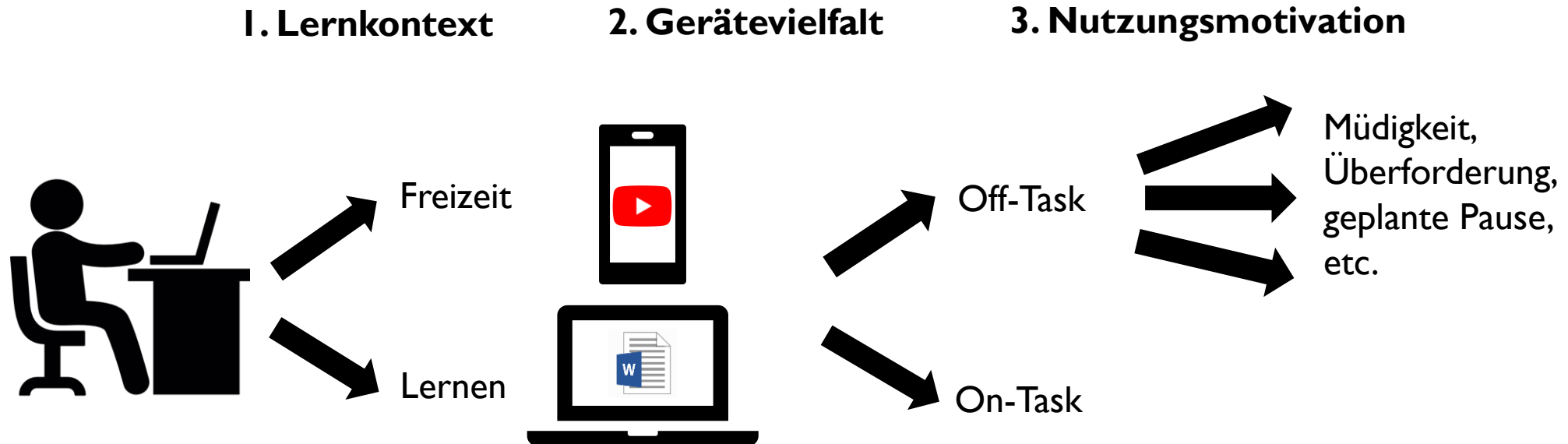
Aufwändig,
Skaliert schlecht
(Calderwood et al., 2014)



Digitales Tracking

Genau richtig ?

Tracking von Mediennutzung



Scrolldatenanalyse:

Biedermann, D., Schneider, J., Ciordas-Hertel, G.-P., Eichmann, B., Hahnel, C., Goldhammer, F., & Drachsler, H. (2023). Detecting the Disengaged Reader—Using Scrolling Data to Predict Disengagement during Reading. *LAK23: 13th International Learning Analytics and Knowledge Conference*, 585–591.

Literature Review:

Biedermann, D., Schneider, J., & Drachsler, H. (2021). Digital self-control interventions for distracting media multitasking - A systematic review. *Journal of Computer Assisted Learning*, 37(5), 1217–1231.

Tracking Paper:

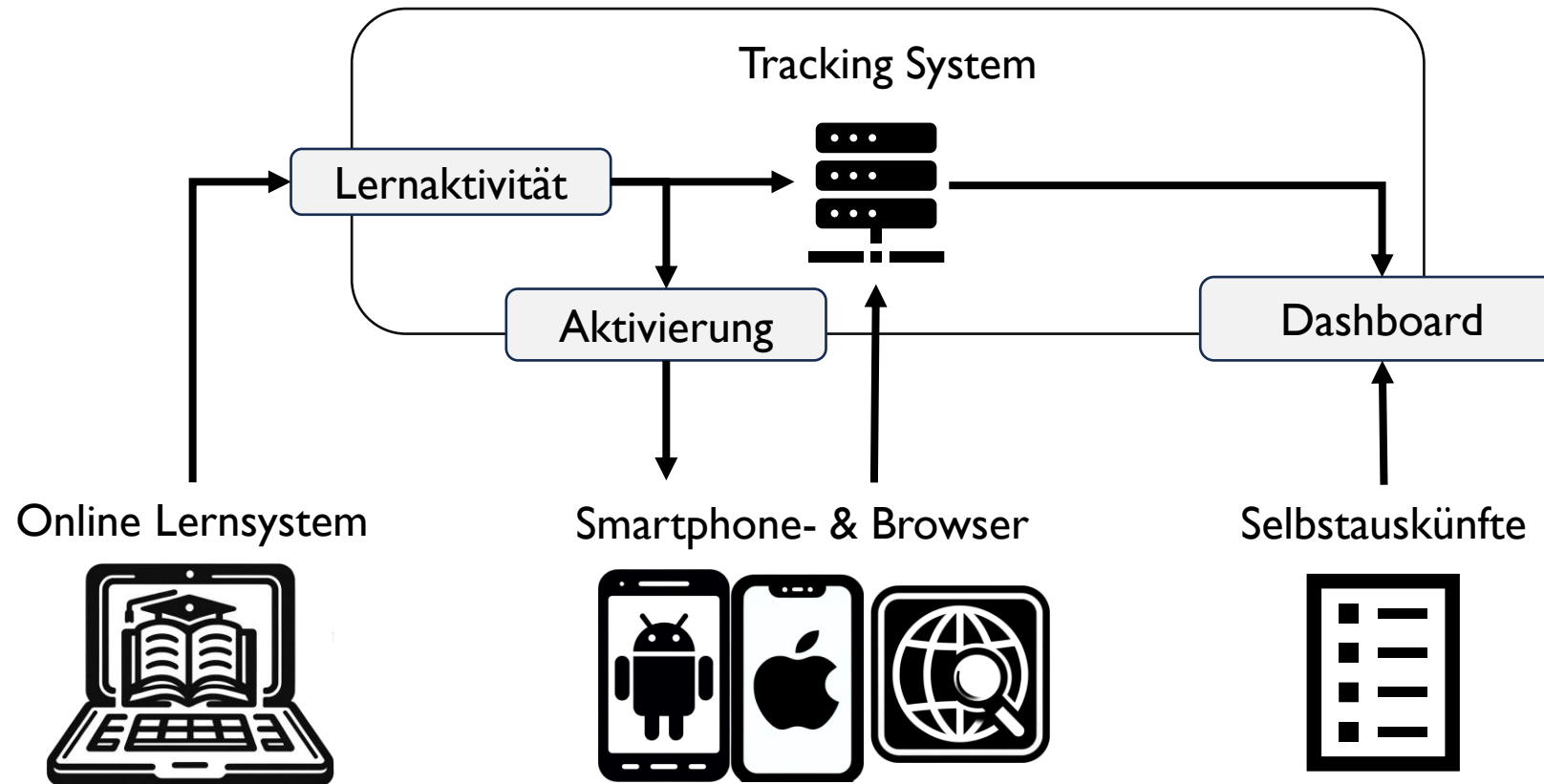
Biedermann, D., Ciordas-Hertel, G.-P., Winter, M., Mordel, J., & Drachsler, H. (2023). Contextualized Logging of On-Task and Off-Task Behaviours During Learning. *Journal of Learning Analytics*, 1–11.

Tracking System

I. Lernkontext erfassen

2. Gerätevielfalt berücksichtigen

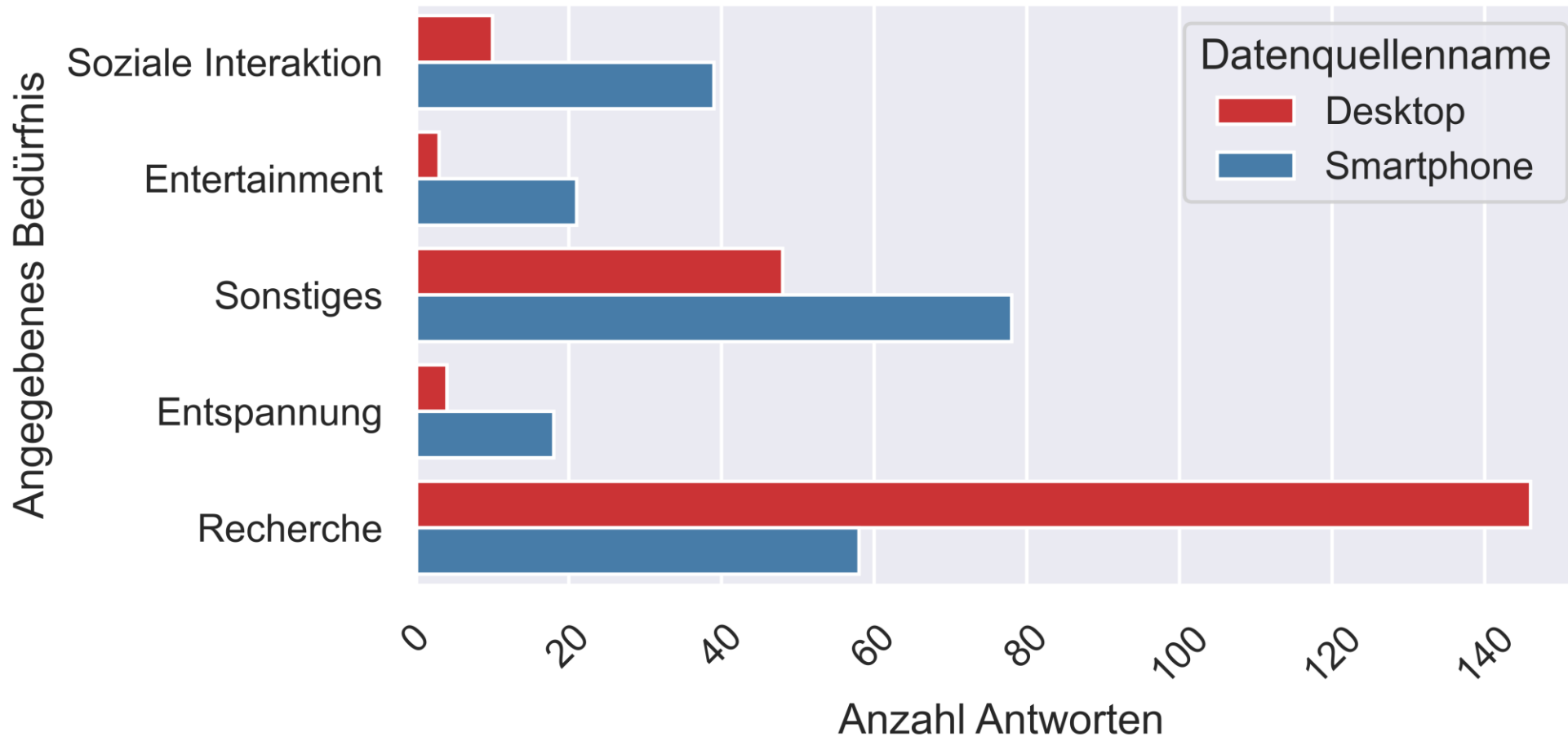
3. Motivationen erfragen



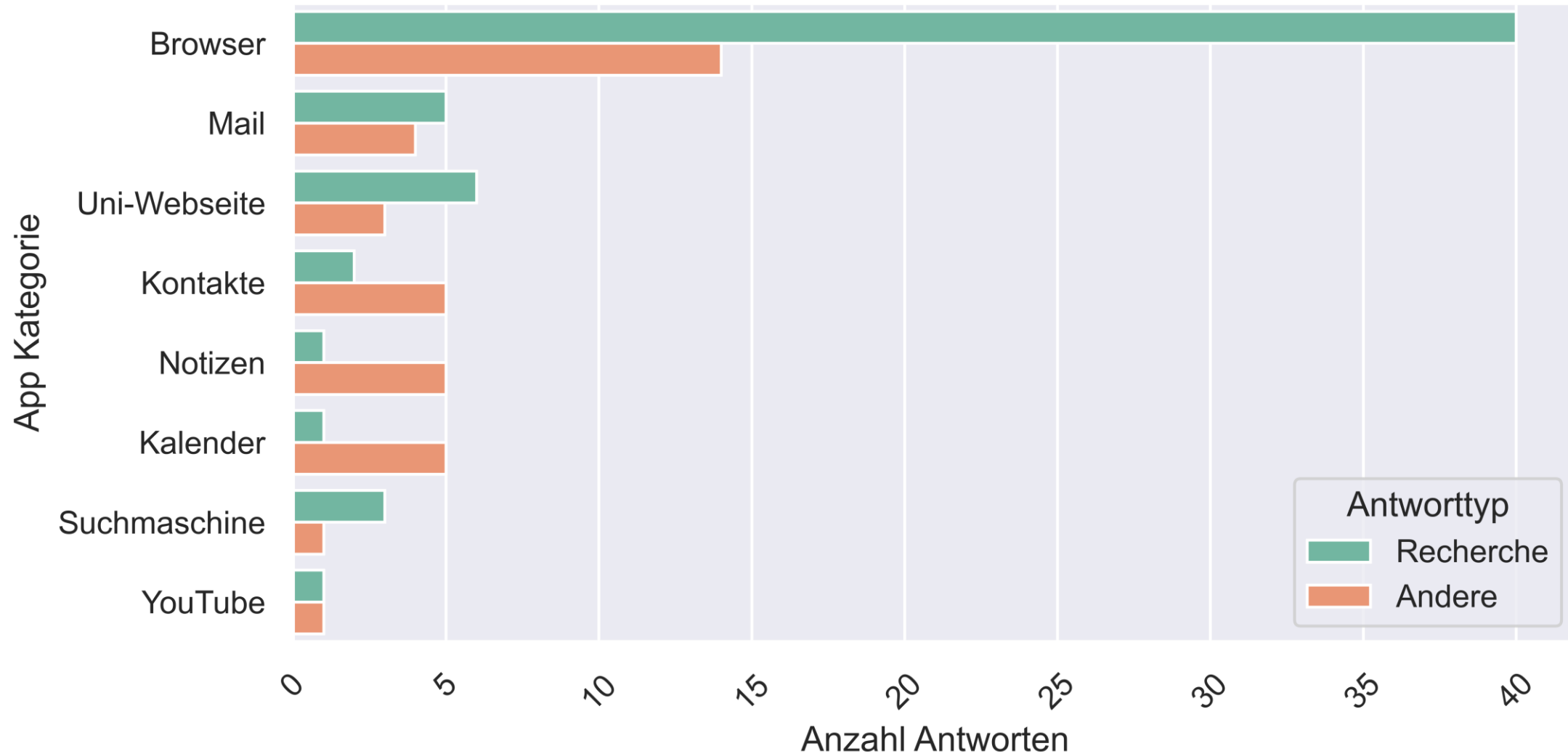
Verfügbar auf
<https://gitlab.com/edutex>

On-Task Aktivität während des Lernens

“Welches Bedürfnis hat die Nutzung von [App/Webseite] primär befriedigt?”



Aktivitäten wurden als On- und Off-Task gelabelt



Zusammenfassung

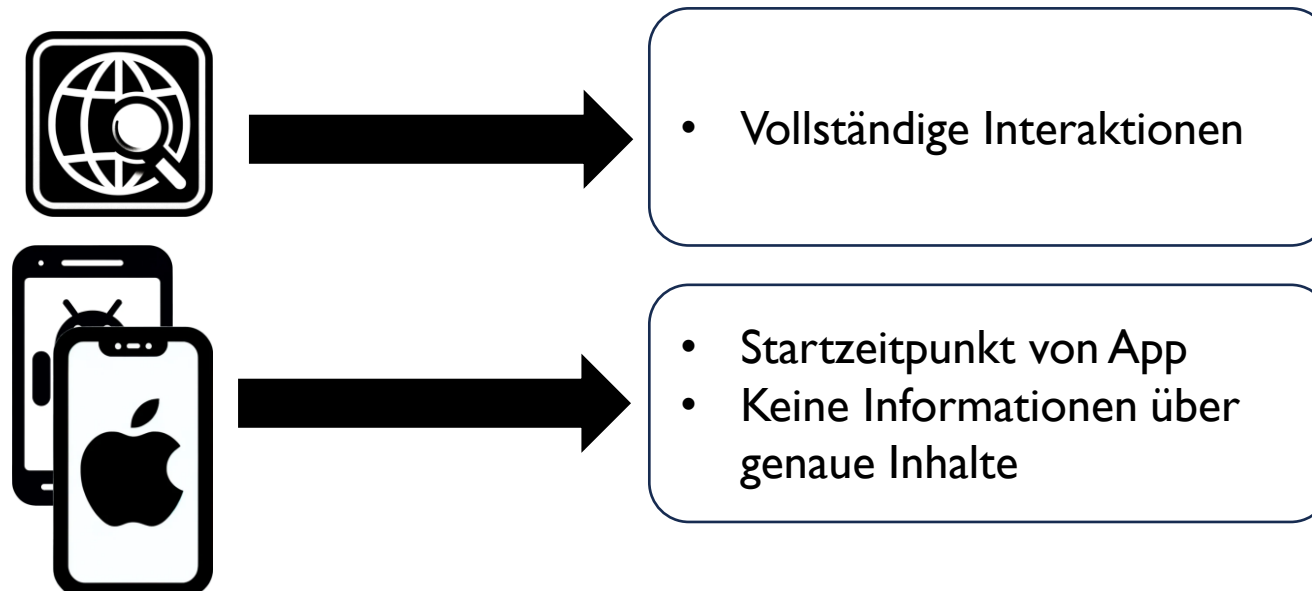
Digitales Tracking kann irreführende Daten liefern

Tracking muss mindestens berücksichtigen:

1. Lernkontext
2. Gerätevielfalt
3. Nutzungsmotivation

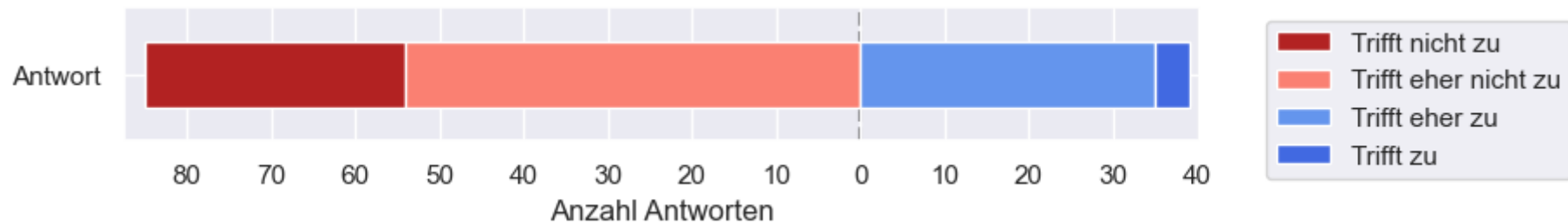
Einschränkungen beim Tracking

- Lernaktivität muss digital detektierbar sein
- Tracking Schnittstellen liefern beschränkte Daten

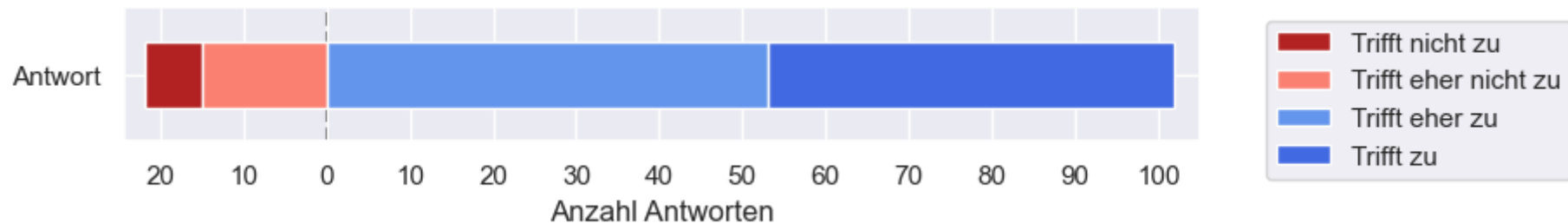


Aufwand und Erinnerung

“Das Labeln war aufwändig.”

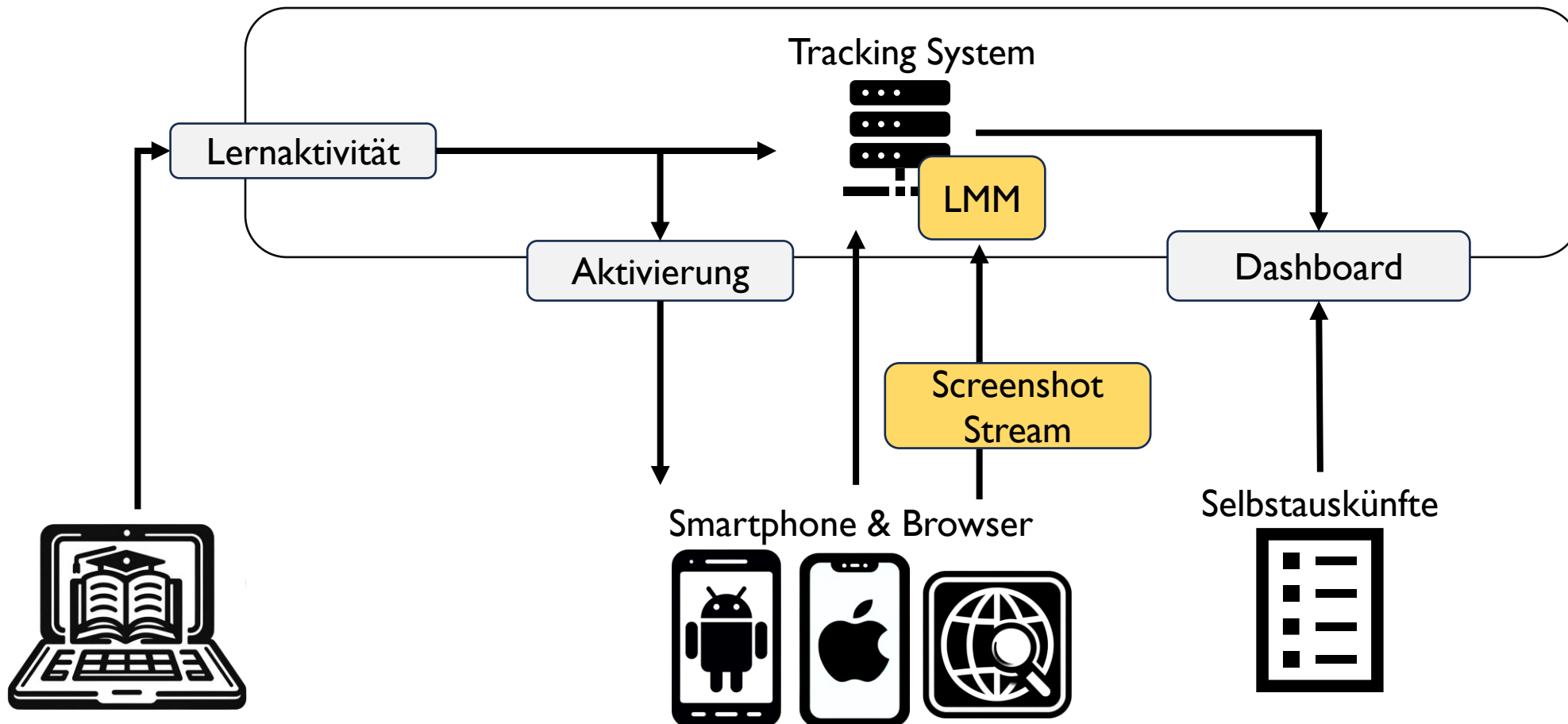


“Ich konnte gut einordnen, aus welchen Gründen ich eine digitale Aktivität gemacht habe.”



Zukunft des Trackings

Automatische Screenshot Analyse (Reeves et al., 2021; Ram et al. 2020)
erweitert durch
Large Multimodale Modelle (z.B. GPT-Vision, CogLVM)



Zukunft des Trackings



The screenshot appears to be from a YouTube video titled 'Lineare Algebra und Diskrete Mathematik für die Informatik' by Prof. Dr. Bastian von Harrach.

The video is part of the 'WS 2022/23: Lineare Algebra und Diskrete Mathematik' course. [...]



Vielen Dank für die
Aufmerksamkeit.

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- Biedermann, D., Ciordas-Hertel, G.-P., Winter, M., Mordel, J., & Drachsler, H. (2023). Contextualized Logging of On-Task and Off-Task Behaviours During Learning. *Journal of Learning Analytics*, 1–11. <https://doi.org/10.18608/jla.2023.7837>
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Eigene Veröffentlichungen

Tracking System	Biedermann, D. , Ciordas-Hertel, G.-P., Winter, M., Mordel, J., & Drachsler, H. (2023). Contextualized Logging of On-Task and Off-Task Behaviours During Learning. <i>Journal of Learning Analytics</i> , 1–11. https://doi.org/10.18608/jla.2023.7837
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Befragung	Biedermann, D. , Kister, S., Breitwieser, J., Weidlich, J., & Drachsler, H. (2023). Use of digital self-control tools in higher education – a survey study. <i>Education and Information Technologies</i> . https://doi.org/10.1007/s10639-023-12198-2
Intervention	Biedermann, D. , Breitwieser, J., Nobbe, L., Drachsler, H., & Brod, G. (2023). <i>Designing an app to enhance children's planning skills: A case for personalized technology</i> [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/ak3d7