LATVIJAS UNIVERSITĀTE

PhD seminar

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e-LADDA

This research is part of the Marie Skłodowska-Curie Action Innovative Training Network Early Language Development in the Digital Age (e-LADDA).

Project at DZC & LU: Usage Analysis of Digital and Analogue Learning Materials

e-LADDA projects

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projects projects projects

Use, features and acceptance of digital learning tools during distance learning – online survey

Impact of alignment on comprehension – online experiment

Gestures in learning – desk research

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Digital learning tool use during the COVID-19 pandemic

How Latvian students experience distance learning

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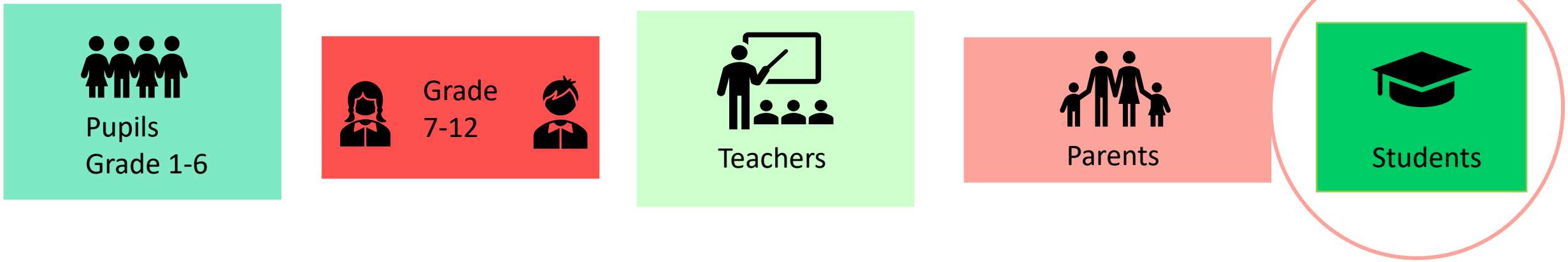


Online questionnaires

about **use**, **features and acceptance** of digital learning tools
during distance learning
in the course of the COVID-19 pandemic in Latvia

digital learning tools = all digital tools which are used for the purpose of education and learning

Sampling strategy student's survey

The links to the surveys were distributed via contact points at different Faculties of the University of Latvia

Data were collected from **November 17th to December 13th 2020**

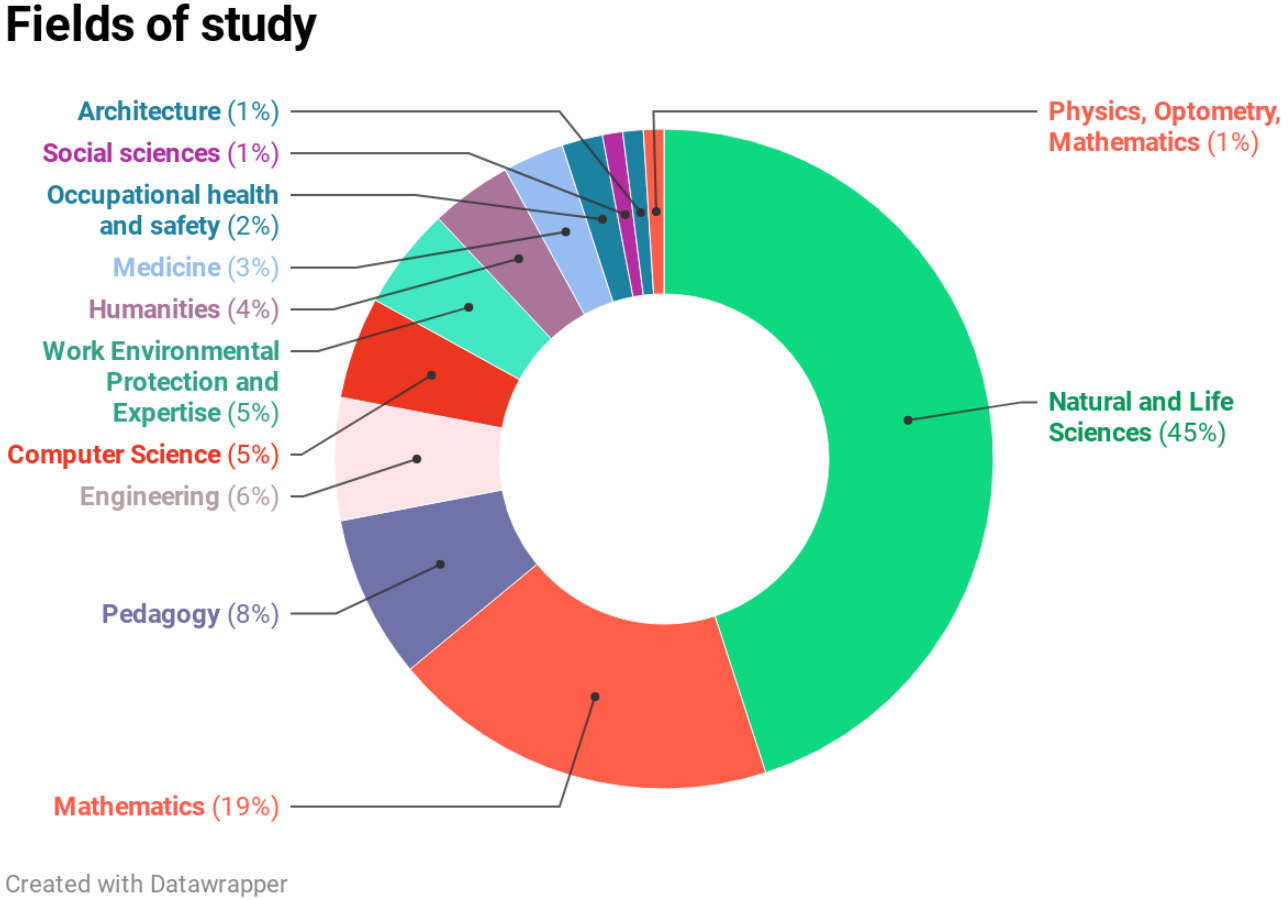
Sample composition

n=104 University students in Latvia

Gender: 58% are female, 41 % male and 1 % other

Mean age: 23.21 (SD 7.69), around **1/3** is 19 years old

87 % BA level, 8 % MA level



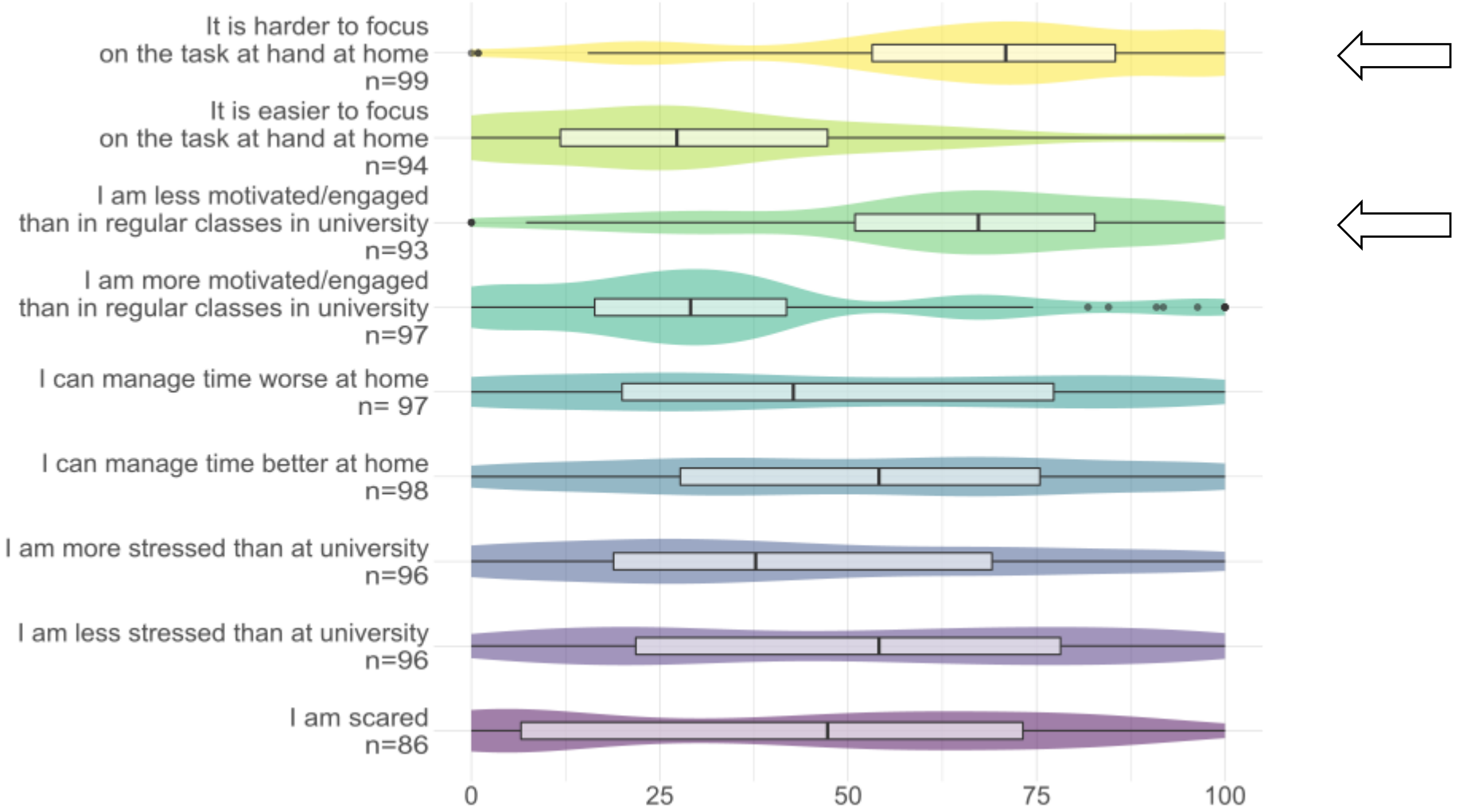
Overall experience with the distance learning scheme

The mean value of overall experience rating was 53.43 (SD 27.00) hinting towards only **weak positive perception**

Students of **Life sciences** (45% of the sample) showed the highest mean satisfaction, with a mean value of 57.30 (SD 25.55),

whereas the overall satisfaction was lowest for **Mathematics** students (19% of the sample), with a mean value of 42.37 (SD 25.55).

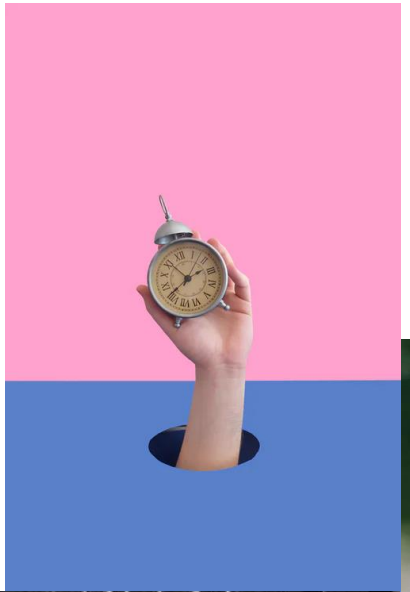
Changes of Behaviour and State of Mind



Association between Change of behaviour and Overall experience with the distance learning scheme

Higher ratings of overall satisfaction are associated with **better time management** (r=0.698), **better focus on tasks at hand** (r=0.605), and higher **motivation and engagement** (r=0.483) .

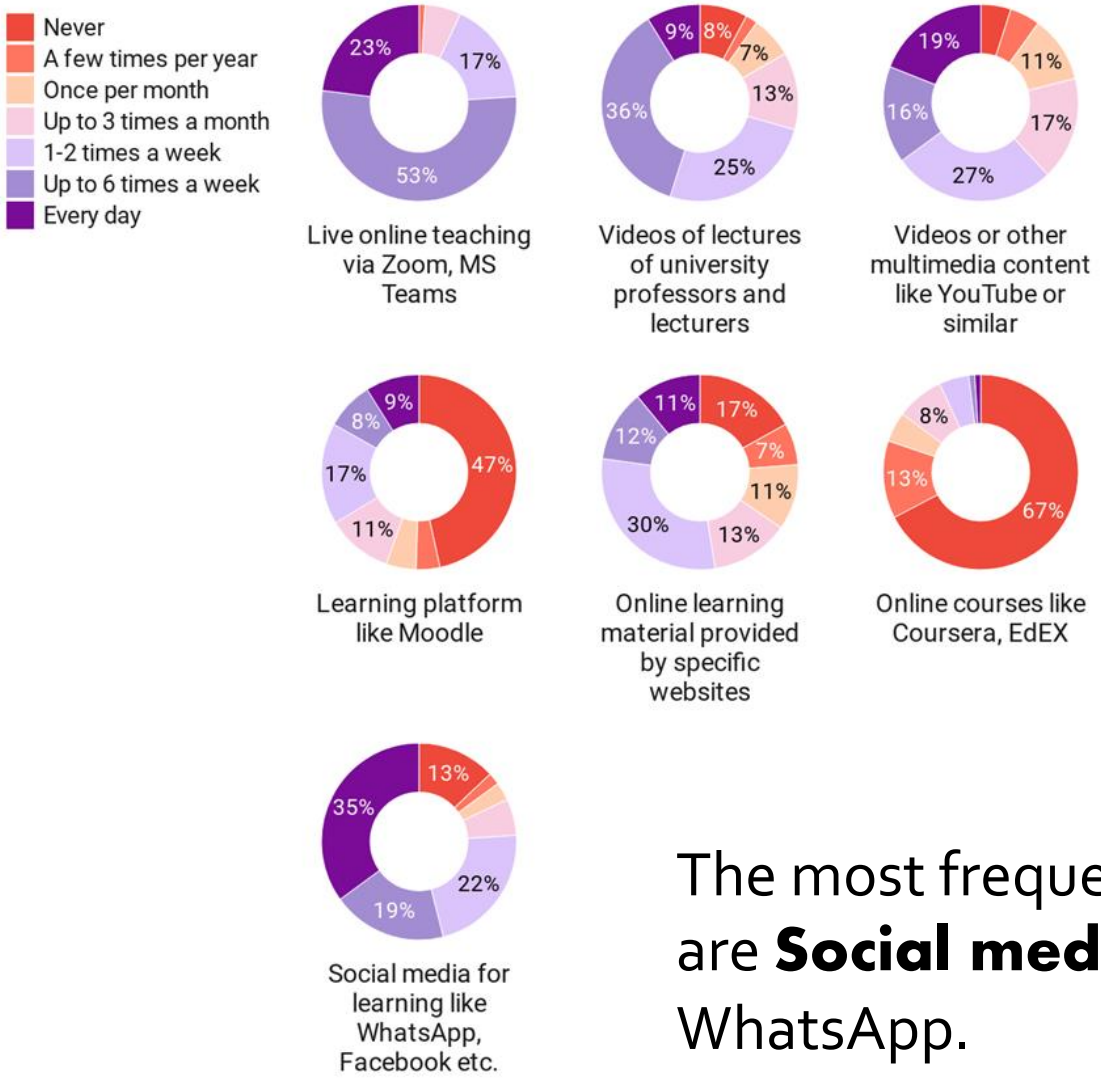
Lower ratings of overall satisfaction are associated with **worse time management** (r=-0.643), **being less motivated/engaged than in regular classes at university** (r=-0.597).



* all p<0.01

Photos by Elena Koycheva, Chase Clark Georg Pagan III

Digital learning tool use



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Live online teaching is the most commonly used method for Latvian students in times of distance learning

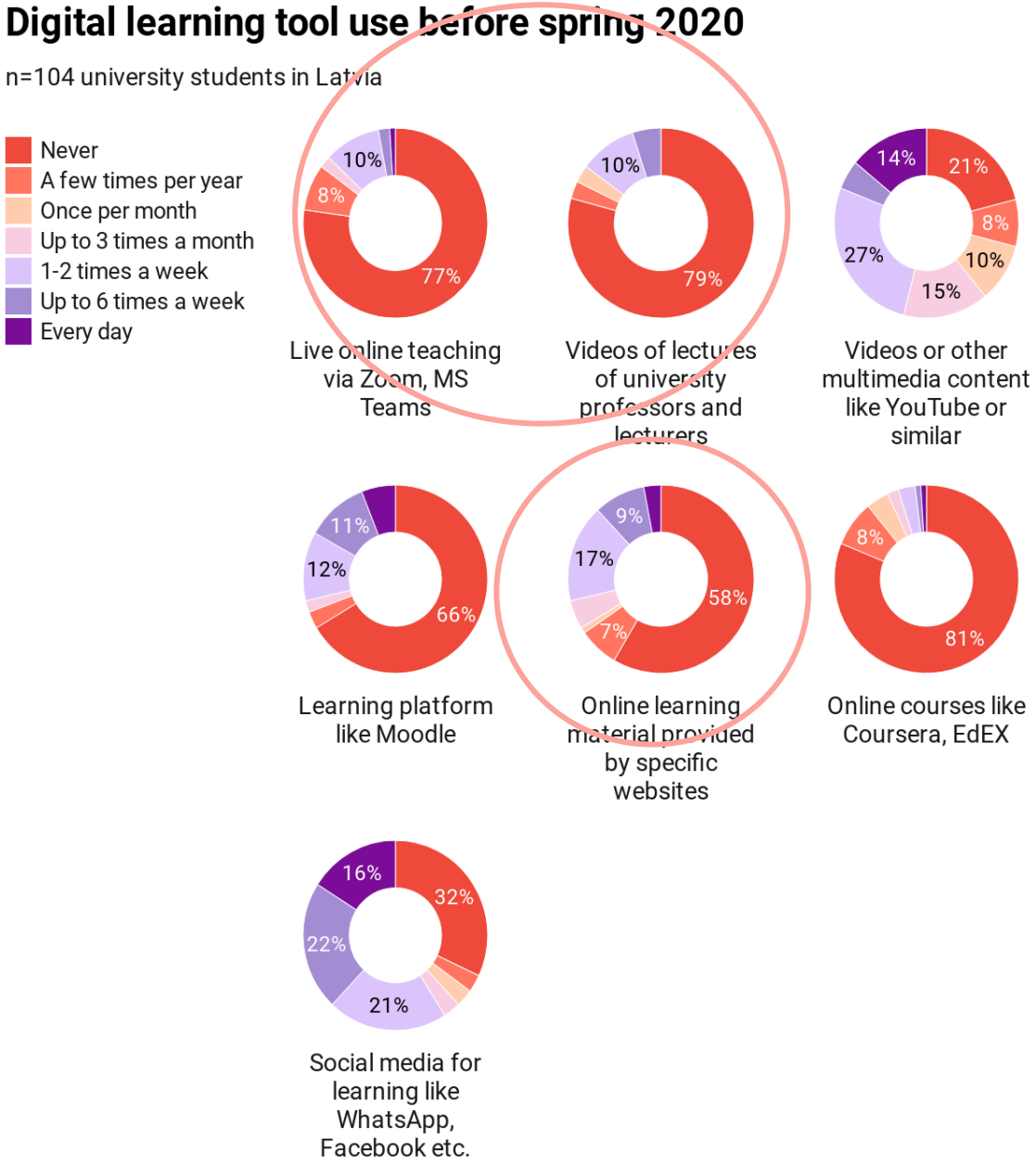
This is followed by **social media for learning** and **videos of lecturers**

Learning platforms are not as widely used

The most frequently used tools - 35% of students use it daily - are **Social media for learning purposes**, specifically WhatsApp.

Digital learning tool use before spring 2020

n=104 university students in Latvia



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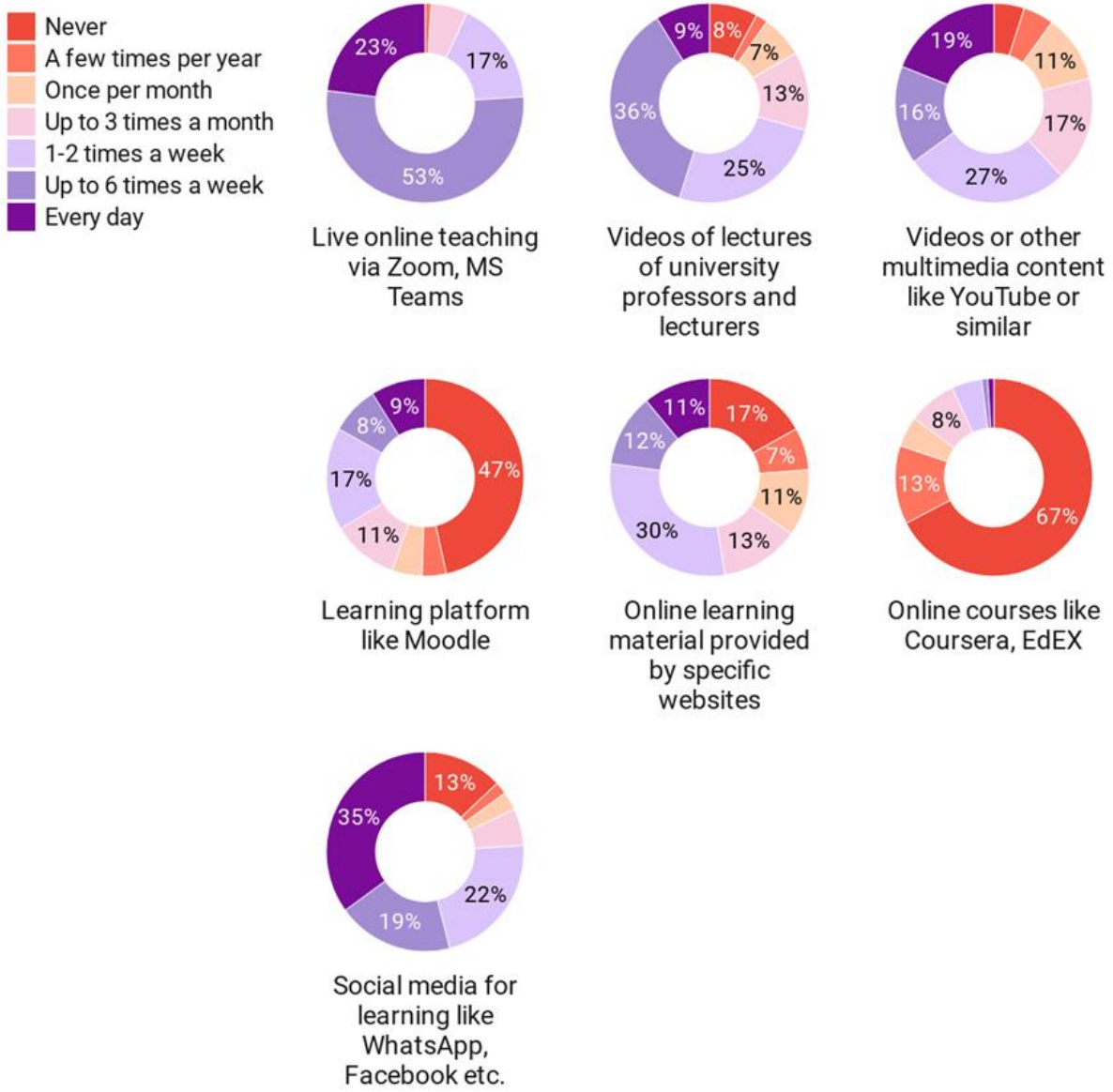
Digital learning tool use



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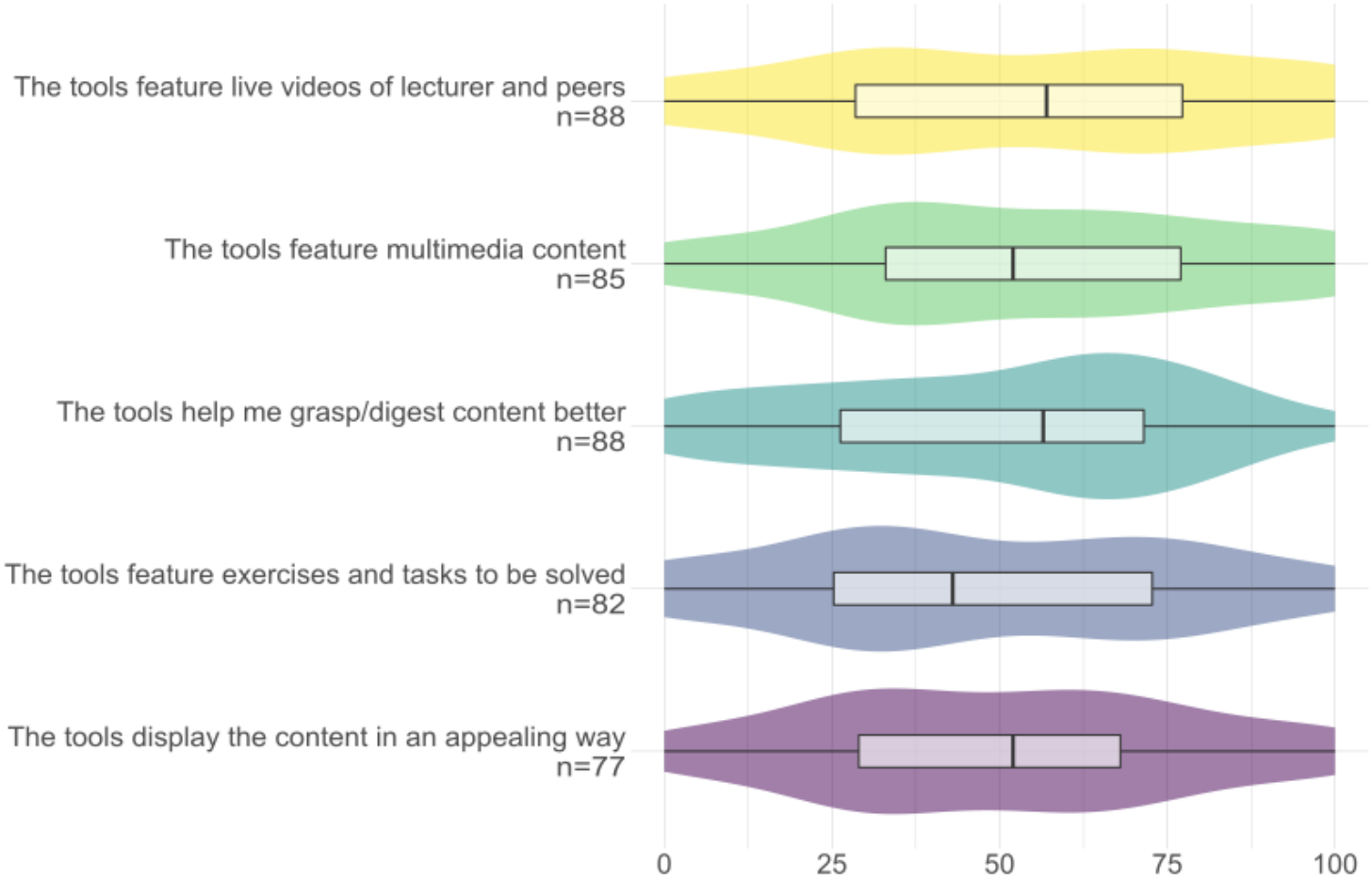
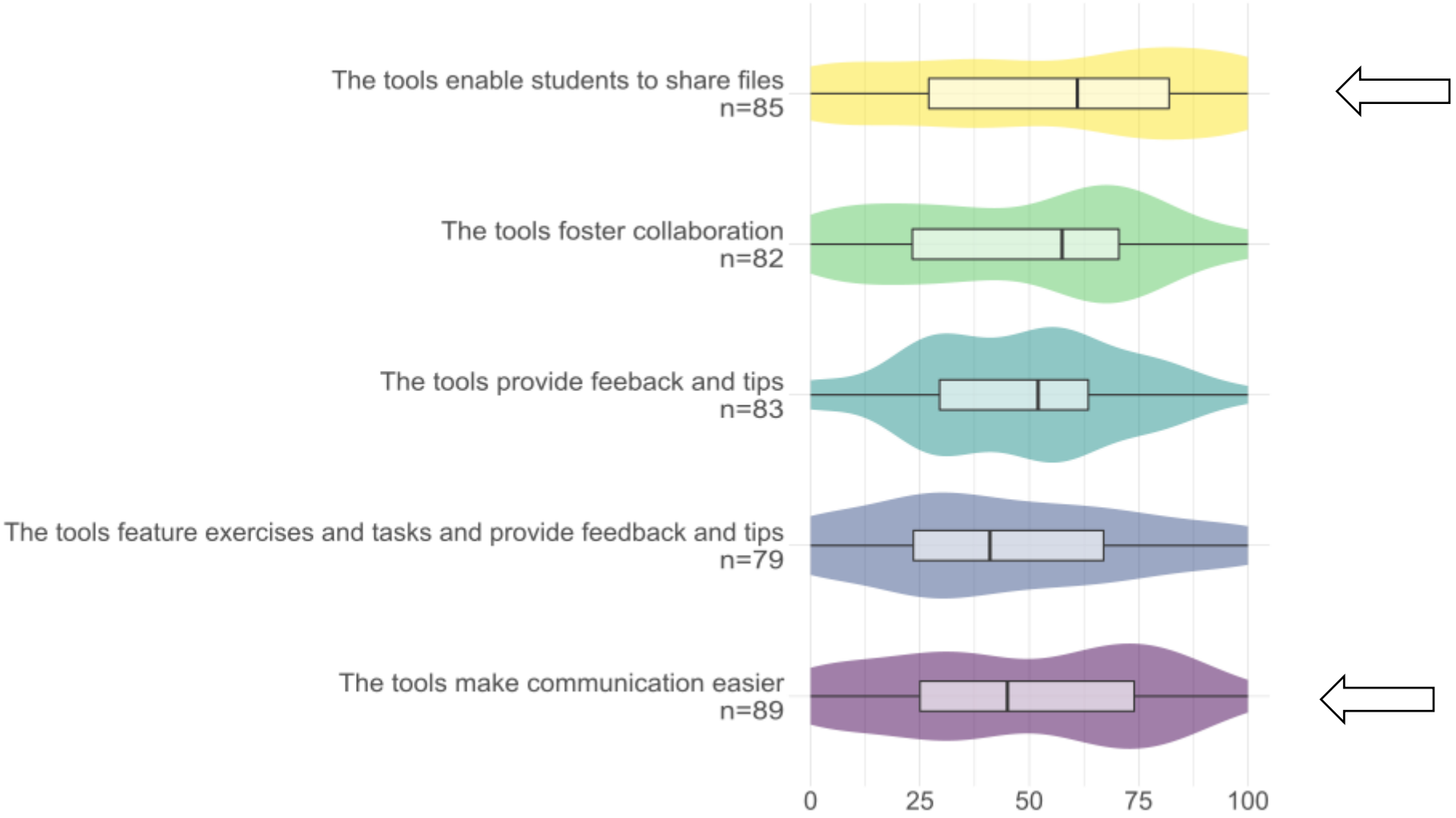
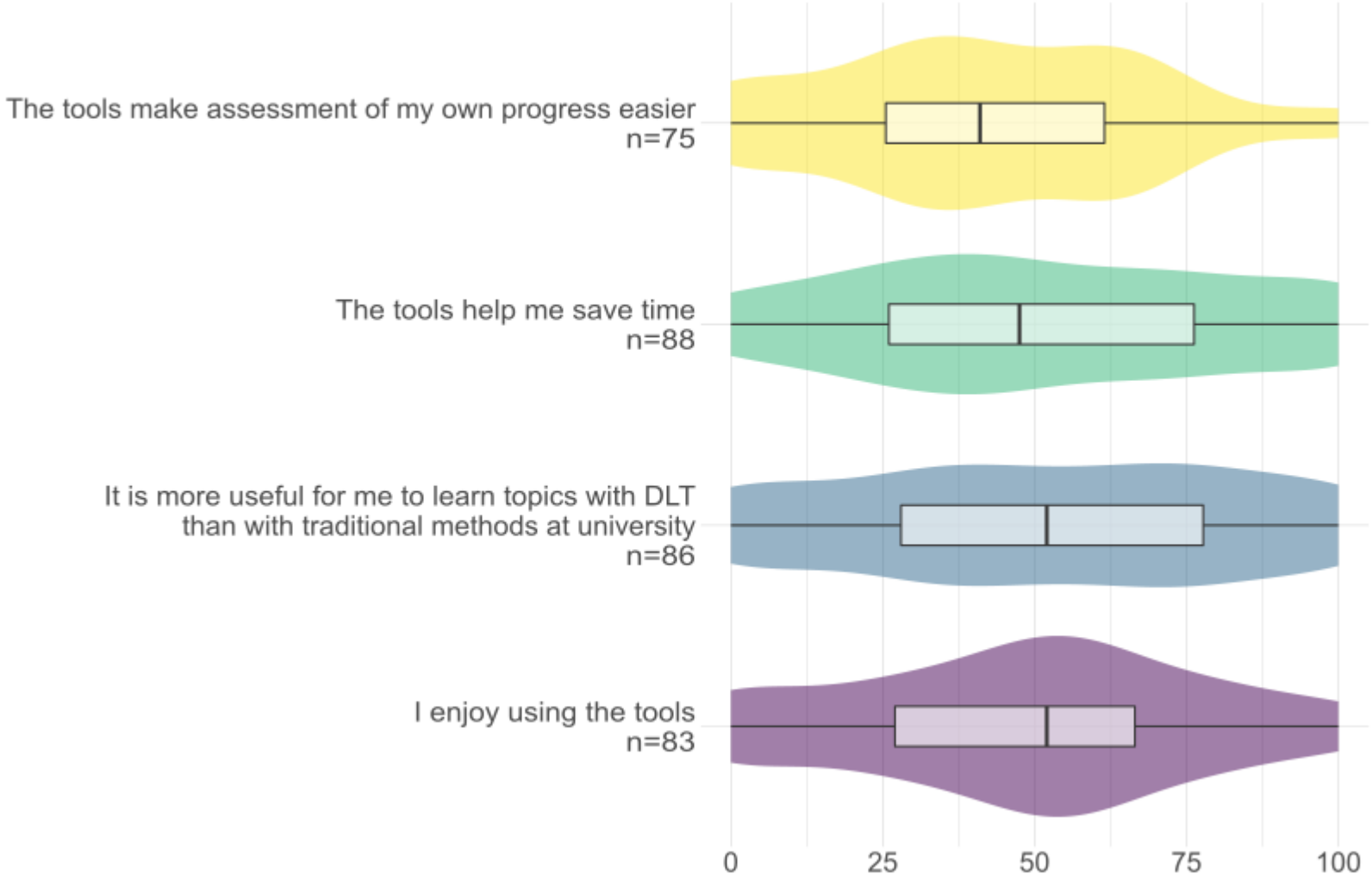
Features of digital learning tools in use display and structure



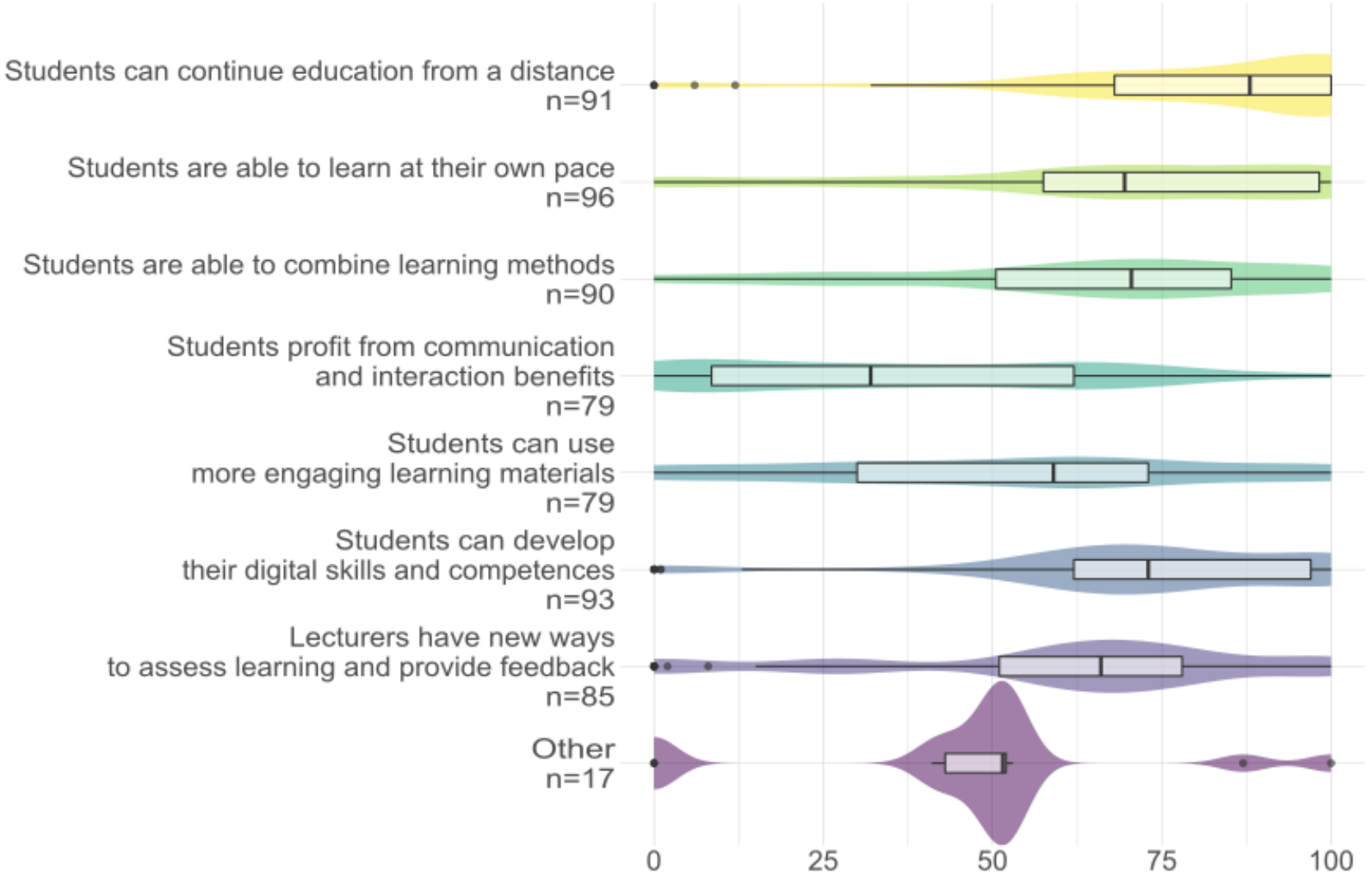
Features of digital learning tools in use communication and collaboration



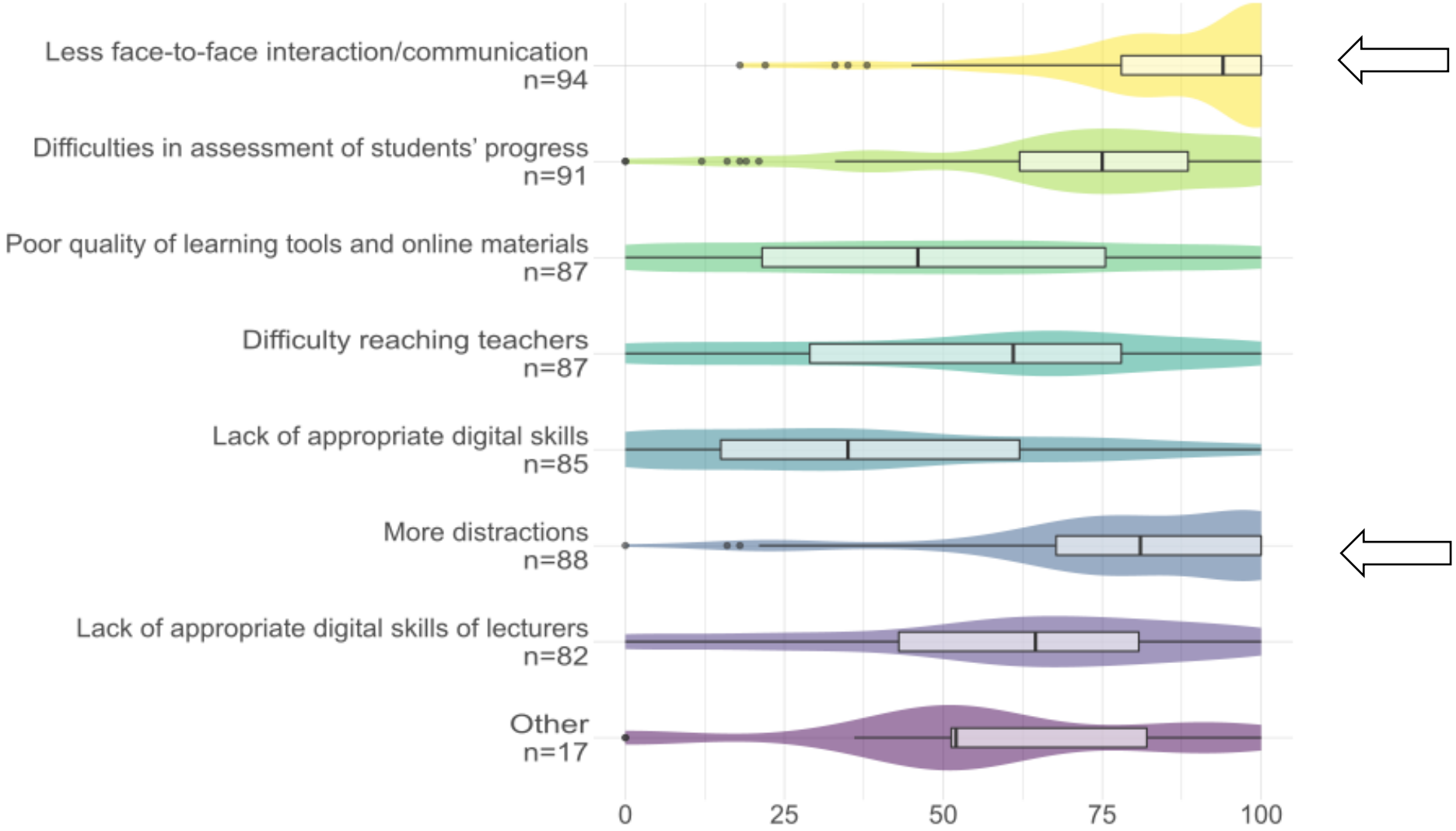
Features of digital learning tools in use
Efficiency and effectiveness



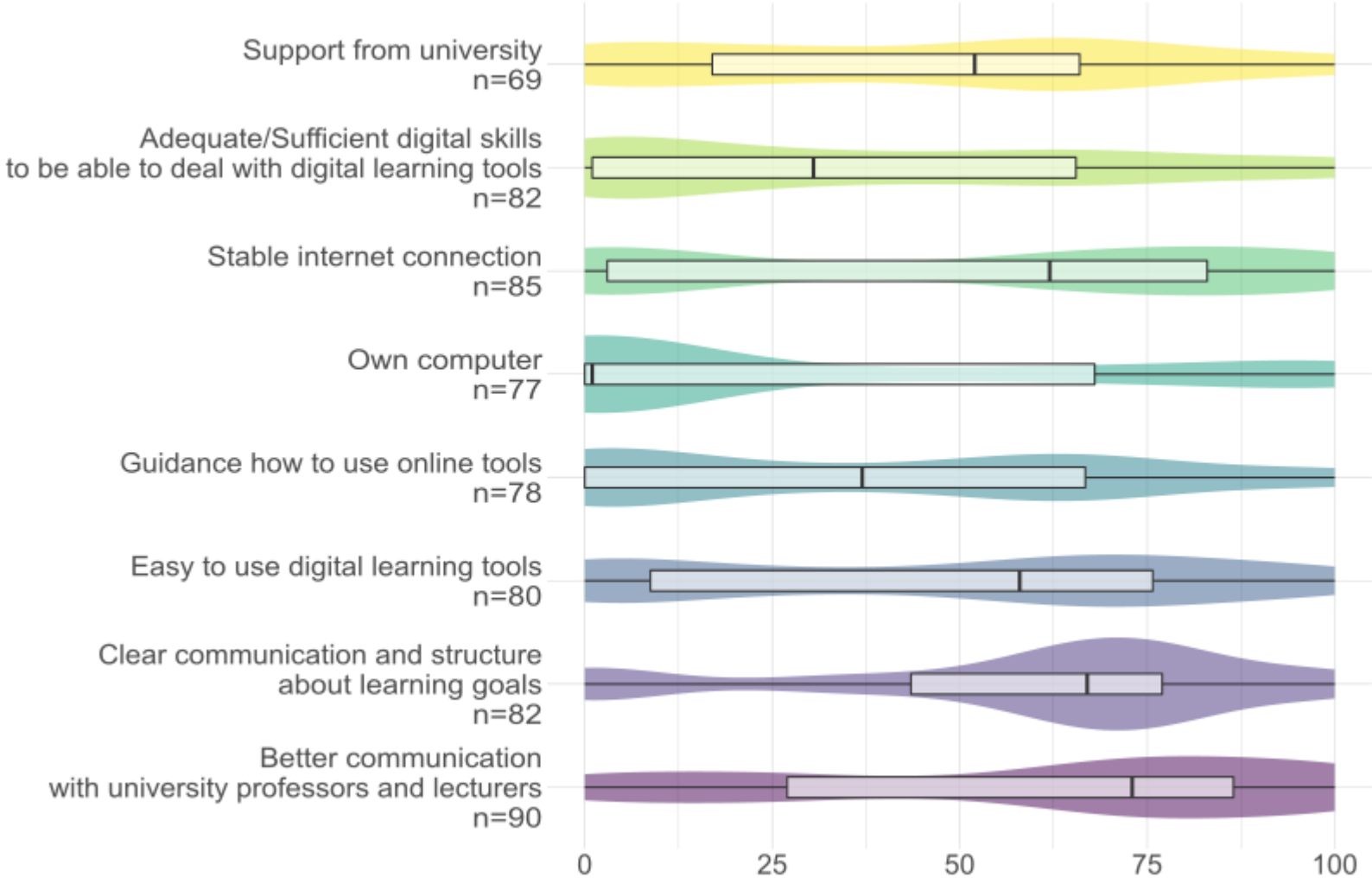
Advantages of digital learning tool use



Disadvantages of digital learning tool use



Needs of students during the times of distance learning



Limitations

cross-sectional study design

- Snapshot of the different aspects affecting the students' experiences with the distance learning mode in the course of the COVID-19 pandemic
- Does not allow inferences about causal relationships between variables
- Biased towards BA-students and students of Life sciences
- Data not corroborated with objective measures

All the presented limitations factor into the findings of this study not being generalisable without reservation.

Preliminary conclusions and outlook

- Digital learning **tool use increased** for students in Latvia, similar to other groups in the educational field such as pupils and teachers

- The most commonly used digital learning tool were **live online teaching**, via tools like Microsoft Teams and Zoom, followed by (recorded) videos of professors or lecturers and social media for learning. **Social media for learning was the most frequently used tool**, more than 1/3 using them daily → Rahiem (2020)

- The most pronounced changes of behaviour noticed by students were their **worsened focus, followed by feeling less motivated or engaged** than in regular classes at university. → Sun, Tang & Zuo (2020) & Aguilera-Hermida (2020)

Preliminary conclusions and outlook

- Higher ratings of overall satisfaction with the distance learning mode are **strongly associated** with **better time management, better focus** on tasks at hand and **increased motivation**

- Then again, **worse time management and motivational issues** are associated with lower ratings of overall satisfaction with the distance learning mode

In the sample, motivation and engagement, as well as communication and interaction are important factors with regards to students' attitudes towards the distance learning mode.

Positive attitude is traditionally linked to **success in learning** in various domains (Chen et al., 2018; Hashemian & Heidari, 2013; amongst other), and also specifically in the online setting (Prior et al., 2016; Aguilera-Hermida, 2020).

But also…. Iglesias-Pradas et al. (2020): attainment was higher in courses where educators perceived the students' attitudes to be more negative

Preliminary conclusions and outlook

▪,The most prominent **disadvantage** of digital learning tool use in times of distance learning, refers to the **decline in face-to-face interaction and communication**

→Tichavsky et al. (2015): interaction with peers and educators to be the most prominent theme impacting preference for face-to-face learning

Needs of students - shortcomings with regards to communication,
concretely with their professors and lecturers,
but also concerning comm. about the structure of classes and learning goals

! Shortcoming in communication → can be hypothesised to generalise to other populations in the educational sphere: Daniela, Rūdolfa, & Rubene (in press)

Online experiment - tentative n=300

Text comprehension

in different domains of knowledge – History vs. Statistics

depending on different presentation alignments

Three degrees of complexity → 4th graders, 7th graders, 10th graders

Alignment 1

Text	

Alignment 2

Text	

Control for .... Reading comprehension, Spatial and Verbal Working Memory

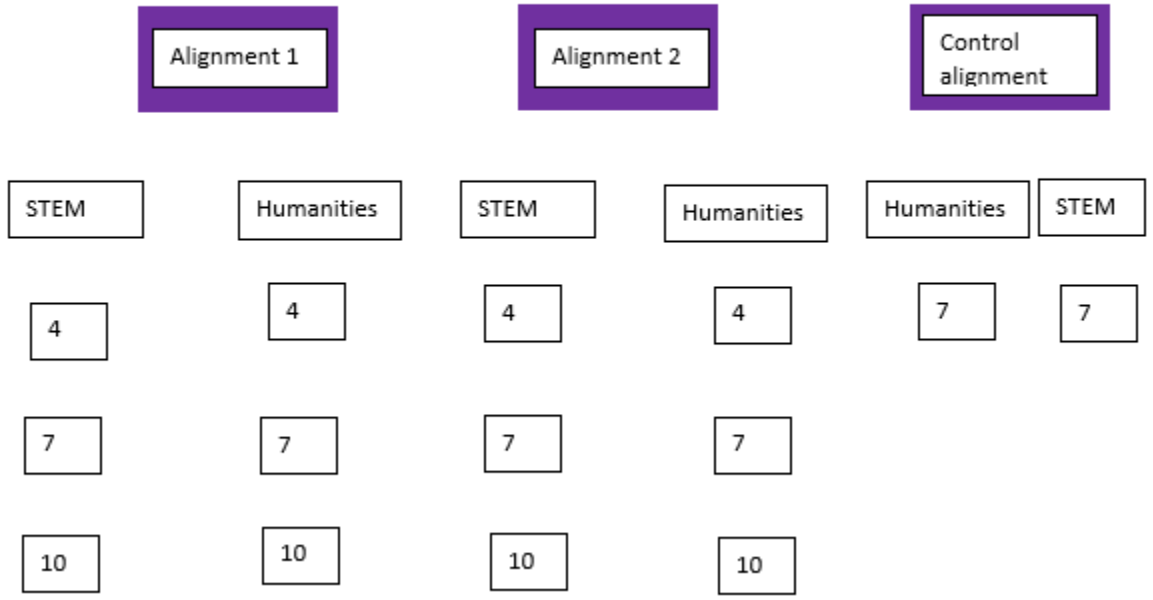
Statistika. Ģeometriskais vidējais.

Statistika ir zinātne, kas iegūst, apstrādā un analizē dažādus datus. Visbiežāk tos var redzēt atspoguļotus skaitliskās vērtībās. Statistiskos datus izmanto plaši: gan valsts iestādes, gan pētnieki, gan arī vienkārši iedzīvotāji, lai uzzinātu kādus saistošus faktus par apkārt notiekošām lietām. Cilvēkus interesē dažādas tēmas, piemēram, cik grāmatu cilvēkiem ir mājās, kurā mēnesī cilvēki pērk visvairāk saldējumu vai arī, kāds ir ūdenstilpņu vidējais mikrobioloģiskais piesārņojums. Apskatīsim piemēru par mikrobioloģisko piesārņojumu. Baktēriju daudzums ūdenstilpē katru dienu var krasi mainīties. Var gadīties, ka vienā dienā baktēriju īpatsvars ir tikai 3 baktērijas uz 100 ml, citā dienā tajā pašā ūdenstilpnē sasniegt līdz pat 1200 baktērijām uz 100 ml. Lai iegūtu ticamu vidējo vērtību, ir nepieciešams rādītājs, kas būtiski nemainās pie ļoti augstām vai zemām vērtībām. Šādos gadījumos statistikas speciālisti izmanto nevis vidējo aritmētisko, kas ir biežāk pazīstams, bet gan vidējo ģeometrisko vērtību.

Lai aprēķinātu vidējo ģeometrisko vērtību, vajag sareizināt mērījumos iegūtos skaitļus un pēc tam no reizinājuma izvilkt n-to sakni (kur n ir mērījumu skaits). Piemēram, ja sareizina trīs mērījumu vērtības, ģeometriskais vidējais ir kubsakne no šo trīs vērtību reizinājuma. Mūsu gadījumā mēs vēlamies aprēķināt baktēriju piesārņojuma vidējo vērtību Jūrmalas pludmalē no ūdens analīžu rezultātiem, kas veikti četrās secīgās dienās. Pirmdienas ūdens analīzes uzrādīja 5 baktērijas uz 100 ml, otrdien 50 baktērijas uz 100 ml, trešdien - 13 un ceturtdien - 1000 baktērijas uz 100 ml ūdens.

Tā kā mums ir četri mērījumi un mēs vēlamies aprēķināt vidējo ģeometrisko vērtību, mēs reizinām četru novērojumu vērtības, kuru rezultātā iegūstam 3 250 000, un pēc tam izvelkam ceturtās pakāpes sakni no šī reizinājuma. Tātad, ģeometriskais vidējais lielums ir ceturtās pakāpes sakne no 3 250 000, un tas ir 42,45. Līdz ar to, mēs varam teikt, ka vidējais baktēriju piesārņojums Jūrmalas pludmalē četrās mūsu izmērītajās dienās ir 42,45 uz 100 ml ūdens. Palielināts baktēriju skaits ūdenstilpnē rada bioloģisko piesārņojumu un tas var būt bīstams cilvēka veselībai. Tāpēc svarīgi sekot līdzi regulāro ūdens kvalitātes pārbaužu rezultātiem un nepeldēties ūdenstilpnēs, kur atklāts piesārņojums.

Experimental groups



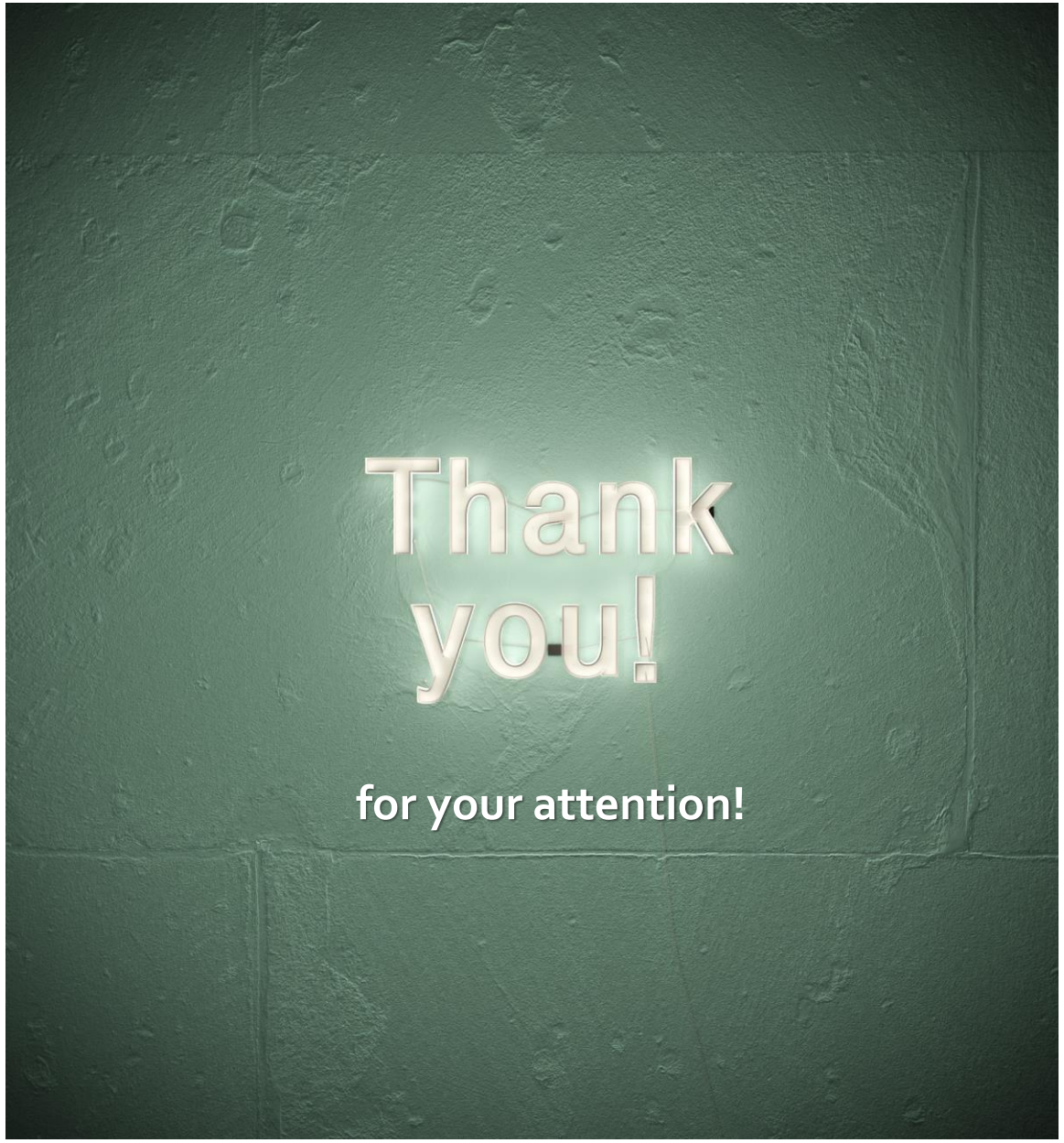


Photo by Morvanic Lee on Unsplash

Any questions?

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