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"Fostering Socially Distanced and Inclusive on Campus Education in Armenian HEIs"

YEREVAN STATE UNIVERSITY (YSU)

NEEDS ANALYSIS REPORT

Results of the Surveys on Teaching Staff Digital Competence Needs Assessment and Students Digital Learning Needs Assessment

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YEREVAN 2025

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Introduction

The following report presents the results of the survey carried out in April 2025 as part of the Erasmus+ eCAMPUS project with the following aims:

(a) To assess YSU teaching staff digital competence needs; and
(b) To assess YSU students digital learning needs.

For this purpose, two different questionnaires, with many identical/similar, but also some different questions were developed, for teaching staff and students respectively. Both questionnaires included the following main sections:

Section 1: General Information

Section 2: Digital Competencies and Technologies in Teaching, Learning & Assessment (TLA)

Section 3: Technologies and Facilities Supporting Digital TLA

Section 4: Teaching and Learning (Study) Materials

Section 5. Main Obstacles to Digital TLA

The questionnaires were prepared in google forms and circulated to all YSU teaching staff and students via YSU mailing list. The teaching staff questionnaire was sent to over 2,196 people or the entire teaching community of YSU, including lecturers, assistant professors, associate professors, and professors from all university departments. The student questionnaire was sent to over 12,431 YSU students, including BA, MA and PhD students from all university departments.

This approach also imposed some limitations. First, as the selected survey mode was online/digital, this by default introduced some limitation in terms of participant self-selection: only relatively digitally literate teachers and students could participate in the survey. Secondly, as there was no sampling applied and the questionnaire was sent to all teachers and students included in YSU mailing list, the survey ended up being filled-in by only small number of teachers and students. Finally, the produced data do not allow any cross-tabs and analysis in terms of distribution of answers by such variables as age, gender, department and/or discipline.

Nevertheless, the results of the survey are interesting for having a rough general understanding of the situation and developing a more comprehensive qualitative study to gather more in-depth information across several dimensions.

The results of the survey were then processed and quantitative data was analyzed. Below we present the results of the survey and comparative analysis between the teaching staff and the students with visual figures and descriptive text structured around the sections of the questionnaire.

Section 1: General Information

As mentioned above, the survey questionnaire was sent to the entire teaching and student community of YSU. However, only 211 teachers or nearly 10% of YSU teaching staff and 164 students or over 1% of YSU students have filled in the questionnaires.

1.1. Teachers' Characteristics

Overall, as the below Image1.1. illustrates, a relatively balanced distribution across teaching positions was observed. Thus, 45% of survey participants were Associate Professors, followed by Lecturers (32%). Around 16% were Assistant professors and 7% Professors.

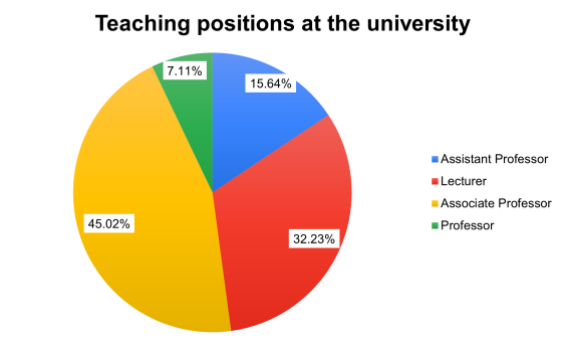


Image 1.1. Teaching positions at the university

The below Images 1.2 and 1.3 illustrate the age and gender distribution of the surveyed teachers. In terms of gender, the majority of survey participants were women (around 76%). At the same time, age groups were well represented, with a noticeable concentration (76%) in 36-55 range. Interestingly 9% of participating teachers were above 65 years of age.

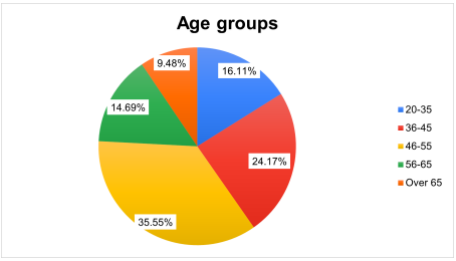


Image 1.2. Teachers' age groups

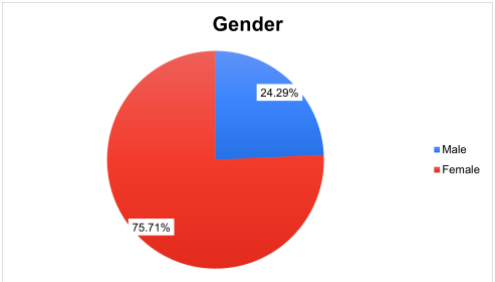


Image 1.3. Teaching staff gender

1.2. Students' Characteristics

As with teachers, most students covered by the survey were women (around 79%). At the same time the majority of participating students (83%) were studying at Bachelor level.

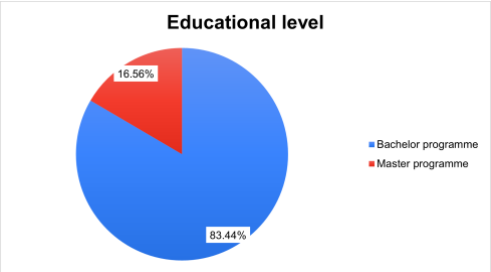


Image 1.4. Students educational level

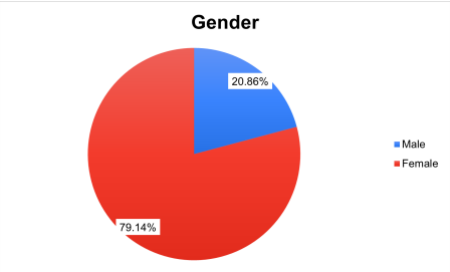


Image 1.5. Students gender

Section 2: Digital Competencies and Technologies in Teaching, Learning & Assessment (TLA)

In sum, the analysis of the survey data for Section 2 allows to draw the following conclusions:

(a) With respect to **currently applied digital competences and technologies**, the highest reported usage among both students and teachers was for digital communication tools, followed by digital educational resources, and digital devices, resources and pedagogical methods for effective teaching. The least used for both students and teachers are digital resources to organise hybrid learning. Teachers have indicated a comparatively higher usage of digital technologies for individual and group counseling and supporting student self-study than the students. At the same time students have indicated a comparatively higher usage of digital assessment and feedback tools.

(b) In terms of **needs for developing digital competencies and technologies**, students have generally indicated higher need/demand for developing their digital competencies compared to teachers. The most demanded among the students were: (a)selecting digital resources for teaching & learning in line with learning objectives; (b) using digital technologies to ensure accessibility to learning resources and activities for all students (including those with special needs; (c) using digital devices, resources and pedagogical methods for effective teaching.

2.1. Digital Competencies and Technologies Currently Applied

As the below Image 2.1.2. illustrates, the **most widely used** digital technologies indicated by both teachers and students (nearly 90 and 78 percent respectively) are those used "to communicate with students regarding organizational matters." This is followed by "providing digital educational resources in line with the teaching objective and methodology", with around 82% of teachers and 72% of students indicating their usage, and "using digital devices, resources and pedagogical methods for effective teaching", with around 74% of teachers and 68% of students indicating their usage.

At the **lower end** (less than 30% of both teachers and students indicating using those), are the following competences and technologies:

- digital technologies to organize blended learning; collecting and analysing digital data on student performance to enhance teaching and learning;
- incorporating learning activities that require students to identify and solve digital problems;
- using digital technologies to support students' individual learning pace and choice of learning trajectory;
- taking measures to ensure students' physical and social well-being while using digital technologies.

The **least used** are digital resources to organise hybrid learning (where some students participate in person and others attend online), only around 10% of both teachers and students indicating applying those.

While the answers of both teachers and students to the above-mentioned questions are relatively similar, there are noticeable differences in teachers' and students' answers to some of the questions, visually well illustrated in the Image 2.1.3. below. Thus, while more than half of the teaching staff (over 60%) has indicated "using digital technologies to provide individual and group counselling to students," only 40% of students has indicated that those have been used. Also, around 58% of teachers has indicated "using digital technologies to support student self-study," while only around 40% of students has indicated their usage. At the same time, while most students (over 60%) have indicated "using digital assessment and feedback tools and software for both formative and summative assessment," only 54% of teachers has indicated that those have been used.

Finally, as mentioned, some questions in the survey questionnaire were only for the teaching staff. The answers to these questions indicate that most teachers use digital resources for continuous professional development (80% of teachers), digital technologies to share and exchange knowledge and experiences with colleagues (around 76% of teachers), and assess and develop their own digital pedagogical competencies and practice (around 64% of teachers). At the lower end is "modifying existing digital educational resources and developing new ones," with only 30% of teachers indicating to do so.

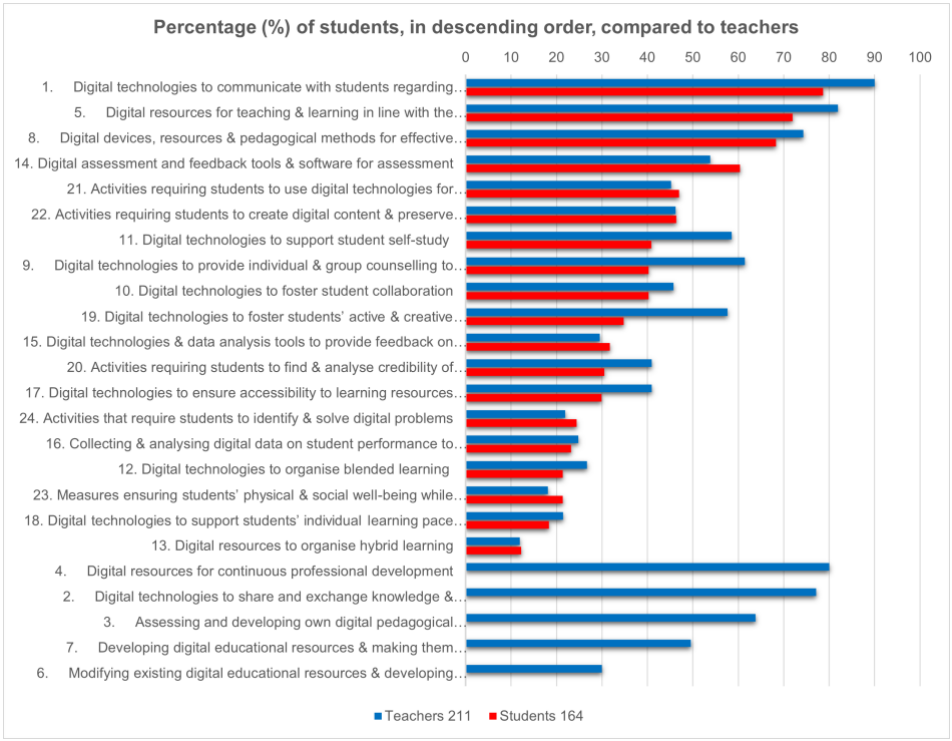


Image 2.1.2. Percentage (%) of students, in descending order, compared to teachers

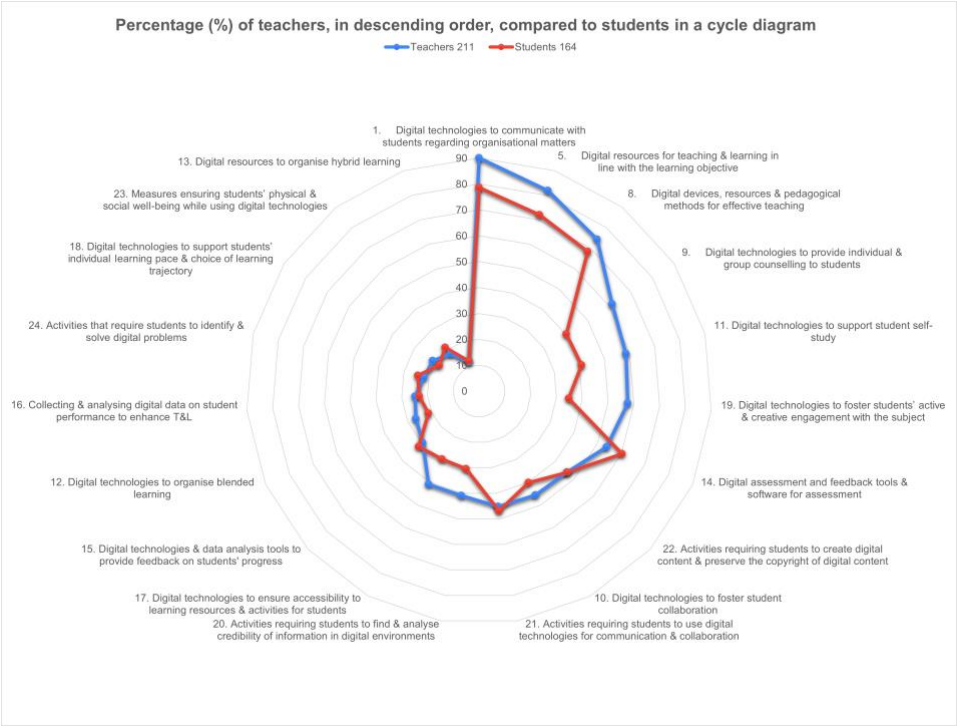


Image 2.1.3. Percentage (%) of teachers, in descending order, compared to students in a cycle diagram

2.2. Level of Need for Developing the Digital Competencies and Technologies[1]

As the below images 2.2.2. and 2.2.3 illustrate, overall students have indicated higher demand for developing their digital competencies than the teachers. This is true with respect to all competencies and technologies. Thus, on a scale of (0, 1, 2, 3), where '0' is 'no need' and '3' is 'high need', the upper limit of students' answers was above 2.5., while that of the teachers was below 2.

The **most demanded competences** among both students and teachers were the following:

- Selecting digital resources for teaching & learning in line with learning objectives
- Using digital technologies to ensure accessibility to learning resources and activities for all students (including those with special needs)
- Using digital technologies to support student self-study
- Using digital devices, resources and pedagogical methods for effective teaching
- Using digital technologies and data analysis tools to provide individualised feedback on students' progress
- Using digital assessment and feedback tools and software for both formative and summative assessment

However, the **teachers also equally prioritized** the following competencies, while the students have rated them slightly lower than the above-mentioned six competences:

- Collecting and analysing digital data on student performance to enhance teaching and learning
- Incorporating learning activities that require students to create digital content, reference sources and preserve the copyright of digital content
- Using digital technologies to foster students' active and creative engagement with the subject
- Incorporating learning activities that require students to find, analyse, and critically evaluate the credibility of information in digital environments

The following competences, included in the teaching staff survey only, were also prioritized by teachers (rated above 1.5):

- Developing digital educational resources and making them available to students in accordance with copyright regulations
- Using digital resources for continuous professional development
- Modifying existing digital educational resources and developing new ones
- Developing digital pedagogical/teaching competencies

At the same time, teachers gave **the lowest priority** (below 1.5) to the following two competences:

[1] This indicator (weighted average rating) is calculated by multiplying the number of people who gave ratings of 0, 1, 2, and 3 by the corresponding rating, summing these products, and dividing by the total number of respondents. For example: (0 x 10 people + 1 x 20 people + 2 x 30 people + 3 x 20 people) / (10+20+30+20) people = 140 / 80 people = 1.75 (out of a maximum of 3).

- Using digital technologies to communicate with students regarding organisational matters
- Using digital technologies to share and exchange knowledge and experiences with colleagues

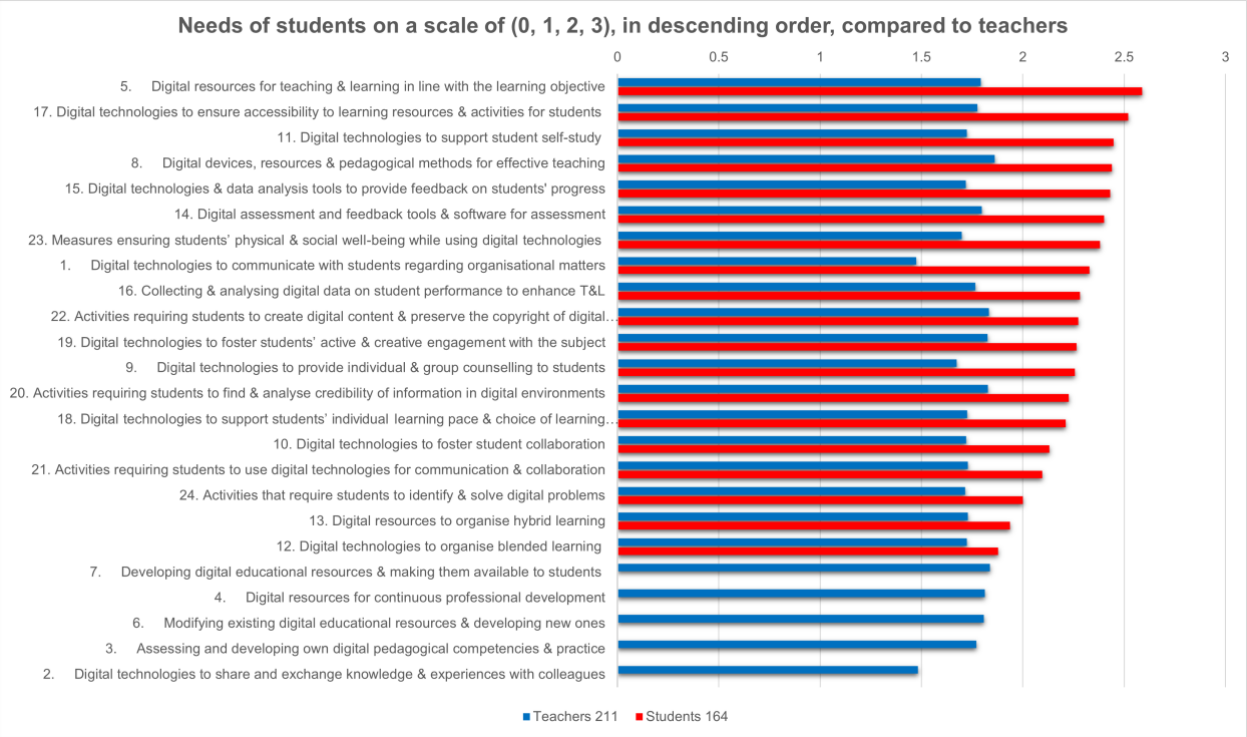


Image 2.2.2. Needs of students on a scale of (0, 1, 2, 3), in descending order, compared to teachers

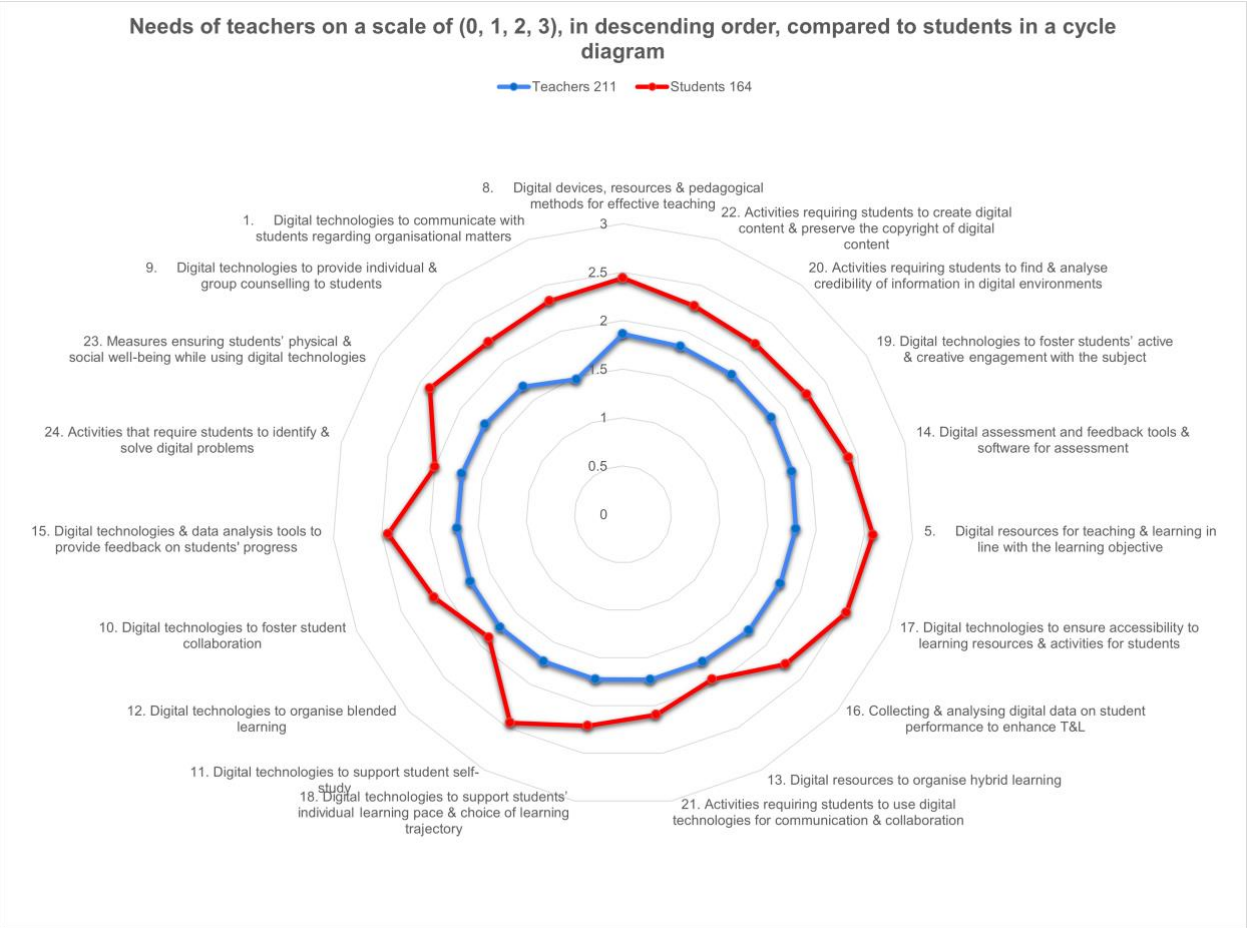


Image 2.2.3. Needs of teachers on a scale of (0, 1, 2, 3), in descending order, compared to students in a cycle diagram

Section 3: Technologies and Facilities Supporting Digital TLA

In sum, there is a noticeable difference between teachers and students in terms of their usage of technologies and facilities to support digital TLA. The most used technologies/facilities by teachers are personal computing devices (laptops, tablets, desktops, 2-in-1 hybrid devices), virtual classrooms (Zoom/MS Teams/Google Meet/ClassIn/Webex), printers/copiers/scanners, and portable (mobile) projectors, while only small percent of students have indicating using those. At the same time students have reported higher usage of more advanced technology than teachers, such as multimedia content creation tools, digital games and stimulations, as well as AI feedback tools. Thus, overall, while there is a noticeable difference among the teachers and students in terms of their technology use, compared to teachers students have indicated a higher level of usage of more advanced technologies.

However, when rating the effectiveness of technologies and facilities applied to support TLA, teachers and students provided more or less comparable/similar answers, considering interactive whiteboards/smartboards and panel/screen; personal computing devices (laptops, tablets, desktops, 2-in-1 hybrid devices) as the most effective, and Virtual Reality (VR) Headsets as the least effective.

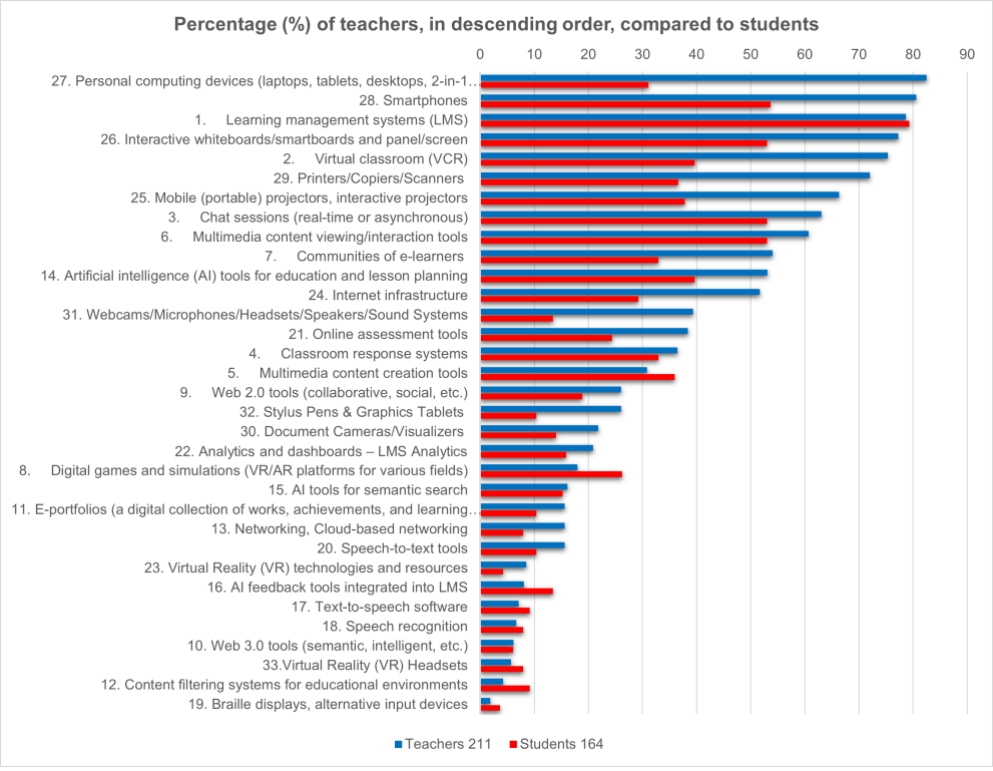
Interestingly, while most students indicated personal computing devices (laptops, tablets, desktops, 2-in-1 hybrid devices) as effective in supporting digital TLA, only 30% of students have indicated using those.

3.1. Technologies and Facilities Currently Applied to Support Digital TLA

As the below Image 3.1.1. and 3.1.3. illustrate, there are noticeable differences between teachers and students in terms of their usage of technologies and facilities to support digital TLA. Thus, while the overwhelming majority of teachers (more than 80%) have indicated that they use personal computing devices (laptops, tablets, desktops, 2-in-1 hybrid devices), only about 30% of students have indicated that they use those devices. More than 75% of teachers have indicated that they use visual classroom (Zoom/MS Teams/Google Meet/ClassIn/Webex), while the number of students using those is less than 40%. Over 72% of teachers use printers/copiers/scanners, compared to around 37% of students using those machines. Also, usage of portable (mobile) projectors is noticeably higher among the teachers (67% of teachers against 37% of students).

At the same times, students have reported relatively higher usage of multimedia content creation tools (37% among the students vs. 31% among teachers); digital games and stimulations (around 27% compared to nearly18% among teachers), AI feedback tools (around 15% compared to less than 10% of teachers).

Interestingly, Learning Management Systems (LMS) are in nearly equal use in both groups, with nearly 80% of both students and teachers indicating that they use those.



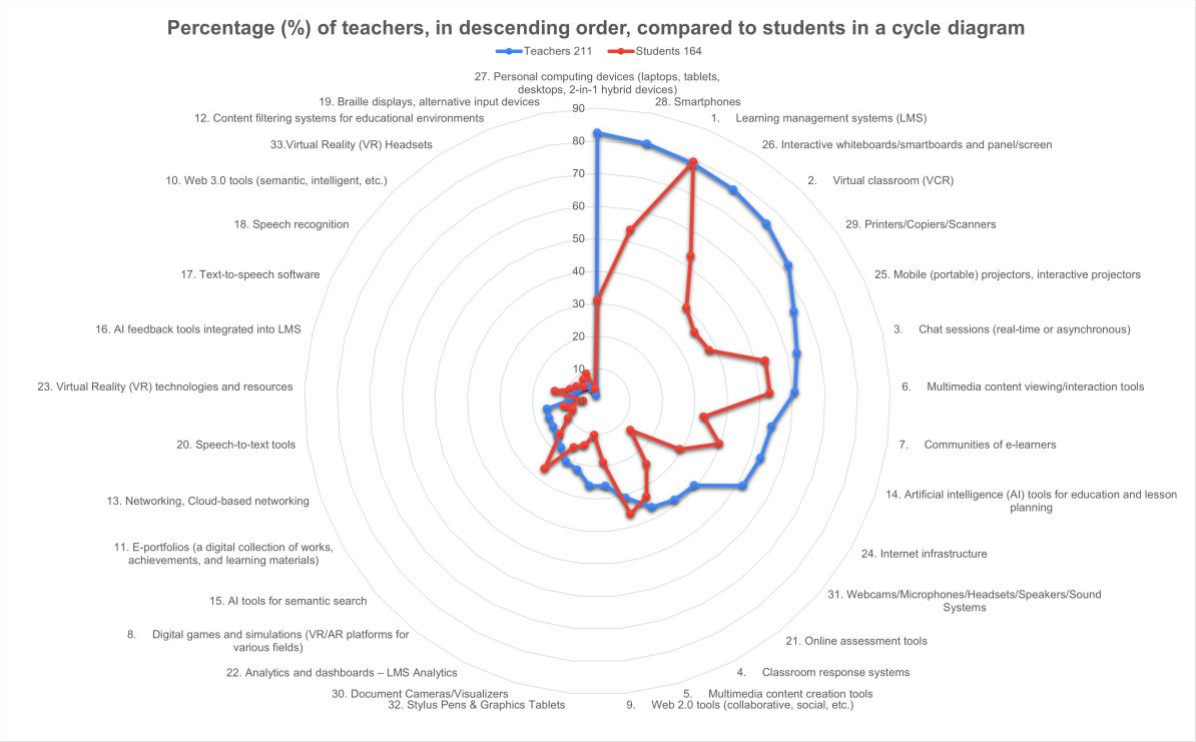


Image 3.1.3. Percentage (%) of teachers, in descending order, compared to students in a cycle diagram

3.2. Usefulness of the Technologies and Facilities Supporting Digital TLA

As opposed to previous question 3.1., where there were noticeable differences between the answers of students and teachers with respect to their usage of technologies and facilities supporting digital TLA, the distribution of the responses of teachers and students regarding the usefulness of the technologies and facilities supporting digital TLA is very close to each other. The survey participants were asked to rate the usefulness of the technologies and facilities supporting digital TLA on a scale of (0, 1, 2, 3), where '0' is 'not effective' and '3' is 'highly effective'.

As the Images 3.2.1. and 3.2.3 show, most students and teachers have indicated the following technologies and facilities as most effective (rated above 2.5 by both teachers and students):

- Interactive whiteboards/smartboards and panel/screen
- Personal computing devices (laptops, tablets, desktops, 2-in-1 hybrid devices)
- Learning management systems (LMS)

At the same time the results indicate that Virtual Reality (VR) Headsets are considered the least effective, while Braille displays and alternative input devices, as well as networking, cloud-based networking are also at the lower end.

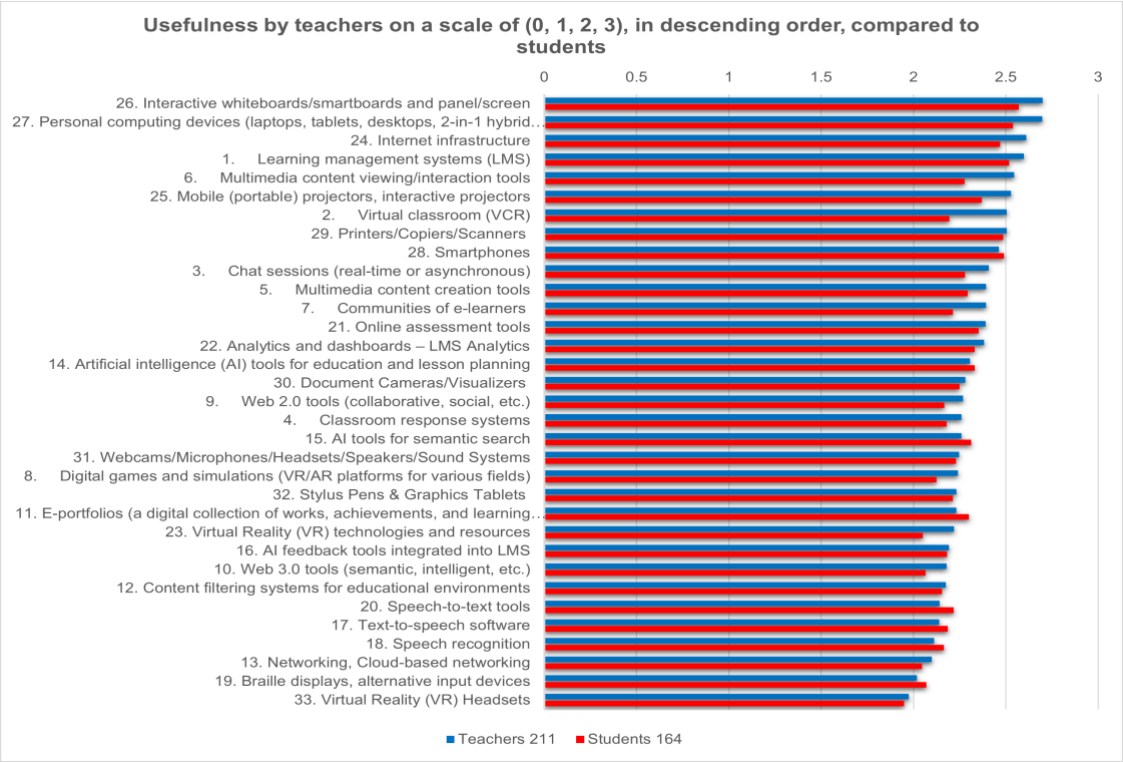


Image 3.2.1. Usefulness by teachers on a scale of (0, 1, 2, 3), in descending order, compared to students

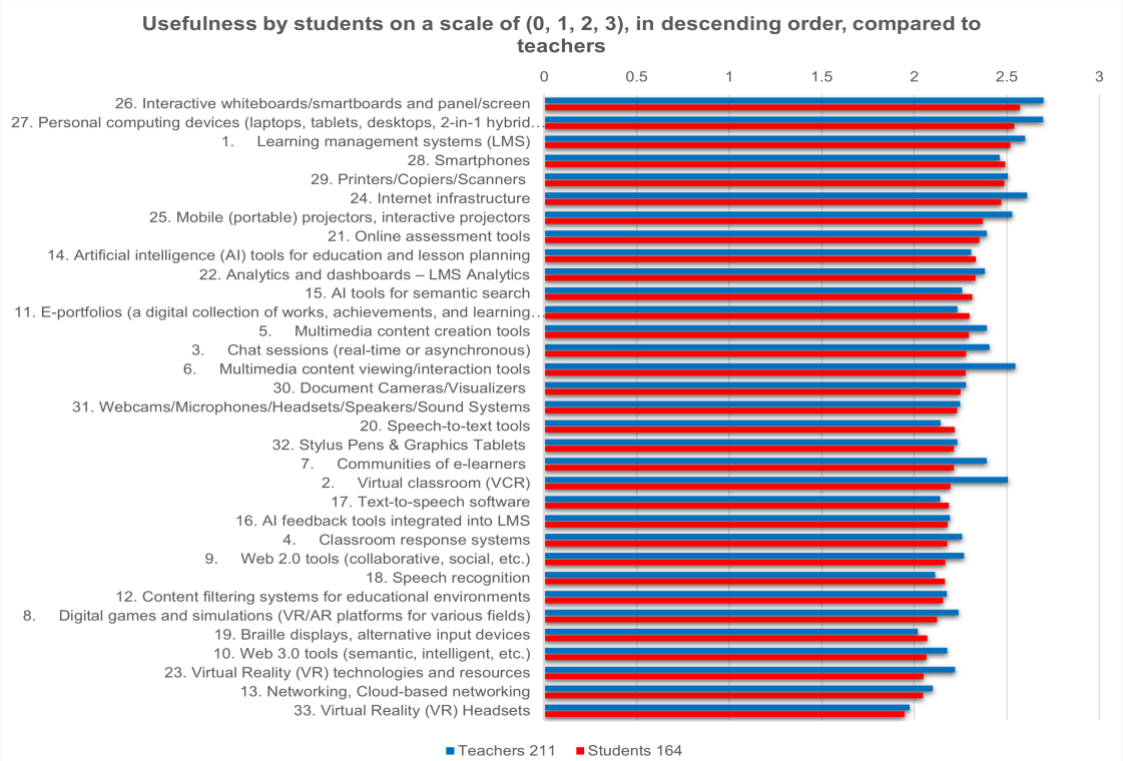


Image 3.2.2. Usefulness by students on a scale of (0, 1, 2, 3), in descending order, compared to teachers

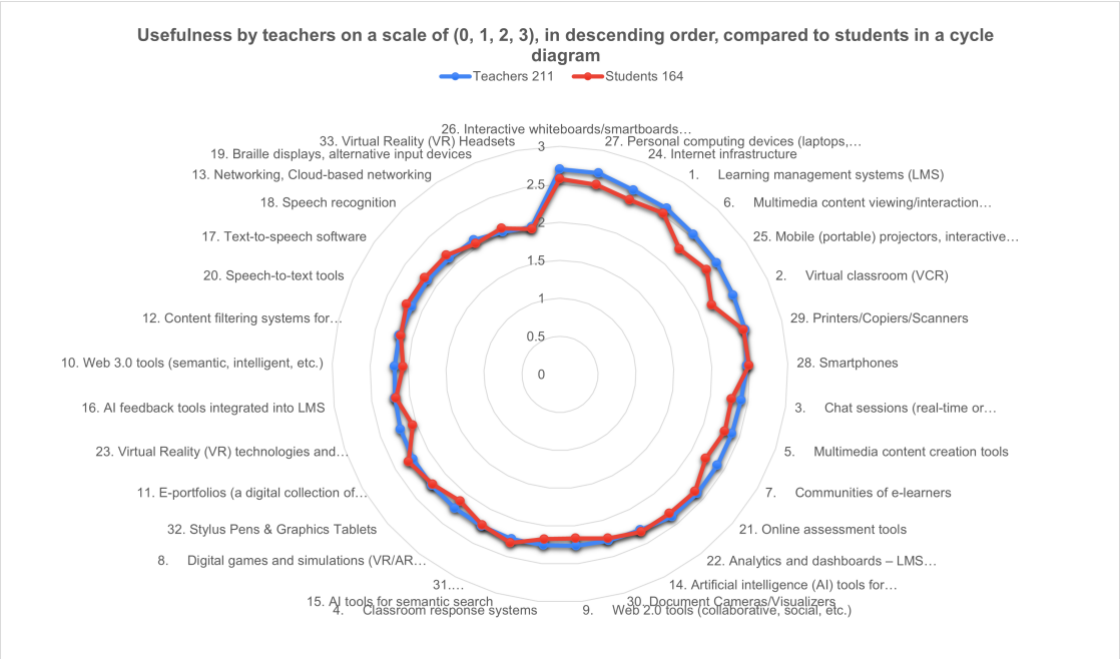


Image 3.2.3. Usefulness by teachers on a scale of (0, 1, 2, 3), in descending order, compared to students in a cycle diagram

Section 4: Teaching and Learning (Study) Materials

Overall, both students and teachers have identified **e-books, textbooks, course/lecture notes and presentation** as **the most used** study materials. At the same time they have indicated these same four (4) study materials as the most useful, rating their effectiveness higher than 2.5 on a scale from 0 to 3.

4.1. Study Materials Currently in Use

More than 80% of both students and teachers have indicated that they currently use the following study materials:

- E-books
- Textbooks
- Course/lecture notes
- Presentations (PPTs, Prezi, etc.)

However, while the usage of e-books, textbooks and presentations is slightly higher among the teachers, the usage of course/lecture notes is slightly higher among the students.

At the same time, over 80% of teachers have indicated using academic journals/articles, while only around 44% of students have indicated that they use those. There is also a noticeable difference among students and teachers in terms of using manuals/user guides, as well as handouts and worksheets: nearly 68% of teachers have indicated using manuals/user guides compared to around 40% of students, and about 58% of teachers

have reported using handouts and worksheets compared to about 36% of students. However, students use of reading lists is very slightly higher from teachers.

The least used materials among both students and teachers are MOOCs, wikis and collaborative documents, and virtual labs/experiments.

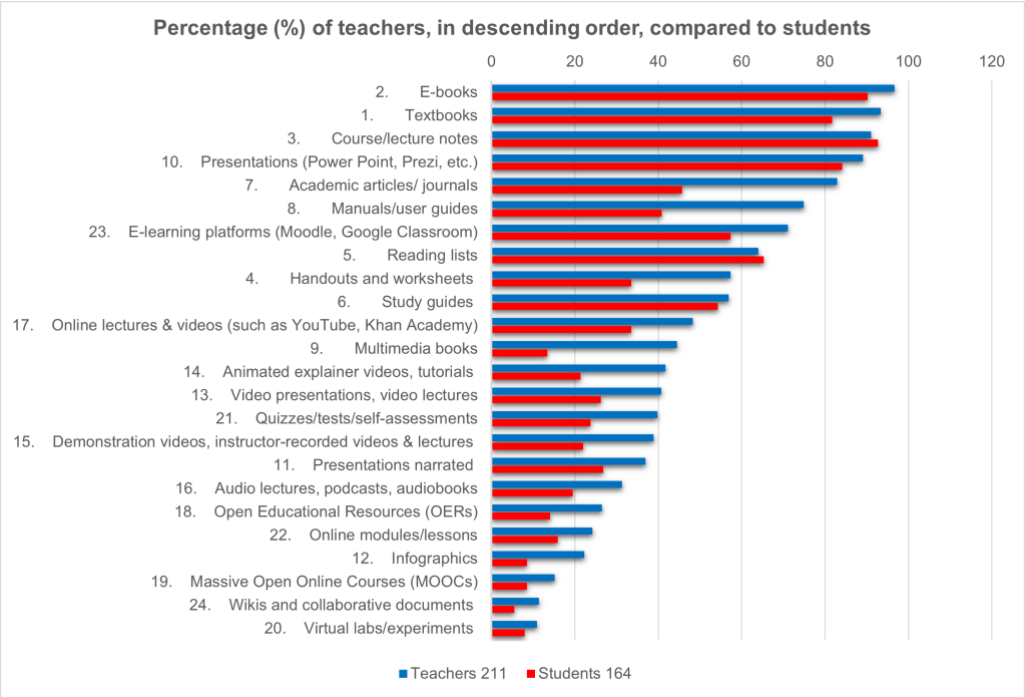


Image 4.1.1. Percentage (%) of teachers, in descending order, compared to students

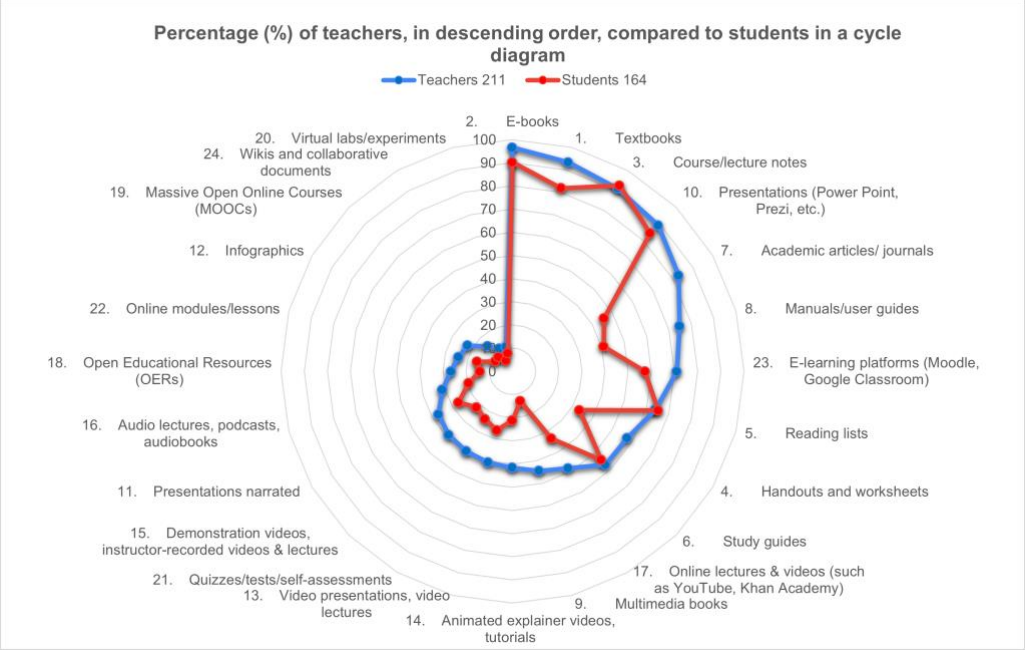


Image 4.1.3. Percentage (%) of teachers, in descending order, compared to students in a cycle diagram

4.2. Usefulness of the Study Materials for TLA

When evaluating the usefulness of the study materials for TLA on a scale of (0, 1, 2, 3), where '0' is 'not effective' and '3' is 'highly effective', students and teachers have provided relatively similar ratings. Thus, as the Images 4.2.1. and 4.2.3. below illustrate, most of the materials were rated above 2 (partially effective) both by students and teachers.

At the same time, both groups have identified the following study materials as the most useful (rated above 2.5 on a scale of 3):

- E-books
- Textbooks
- Presentations (PPTs, Prezi, etc.)
- Course/lecture notes

As with the previous question 4.1., teachers rated usefulness of academic articles/journals higher than the students.

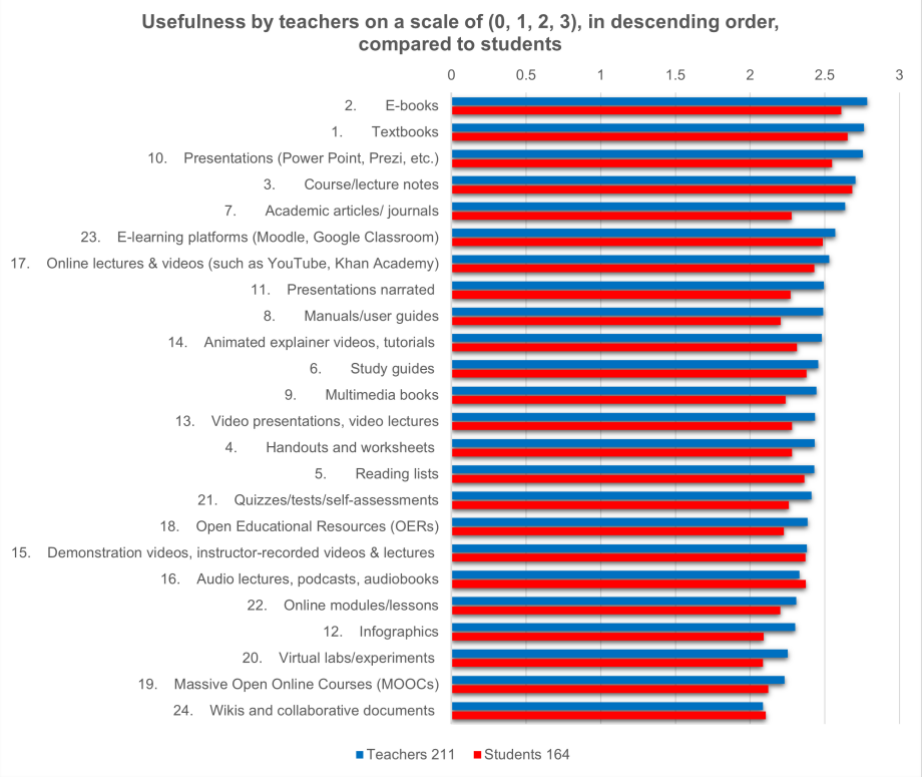


Image 4.2.1. Usefulness by teachers on a scale of (0, 1, 2, 3), in descending order, compared to students

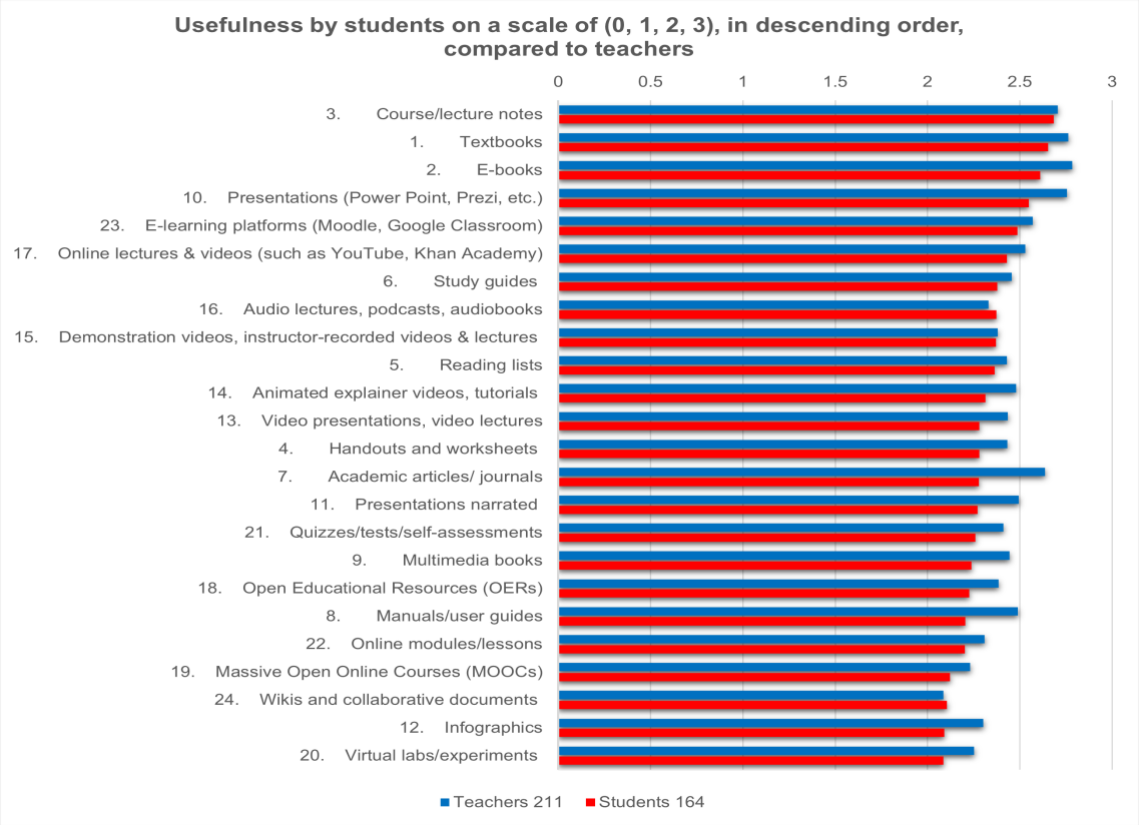


Image 4.2.2. Usefulness by students on a scale of (0, 1, 2, 3), in descending order, compared to teachers

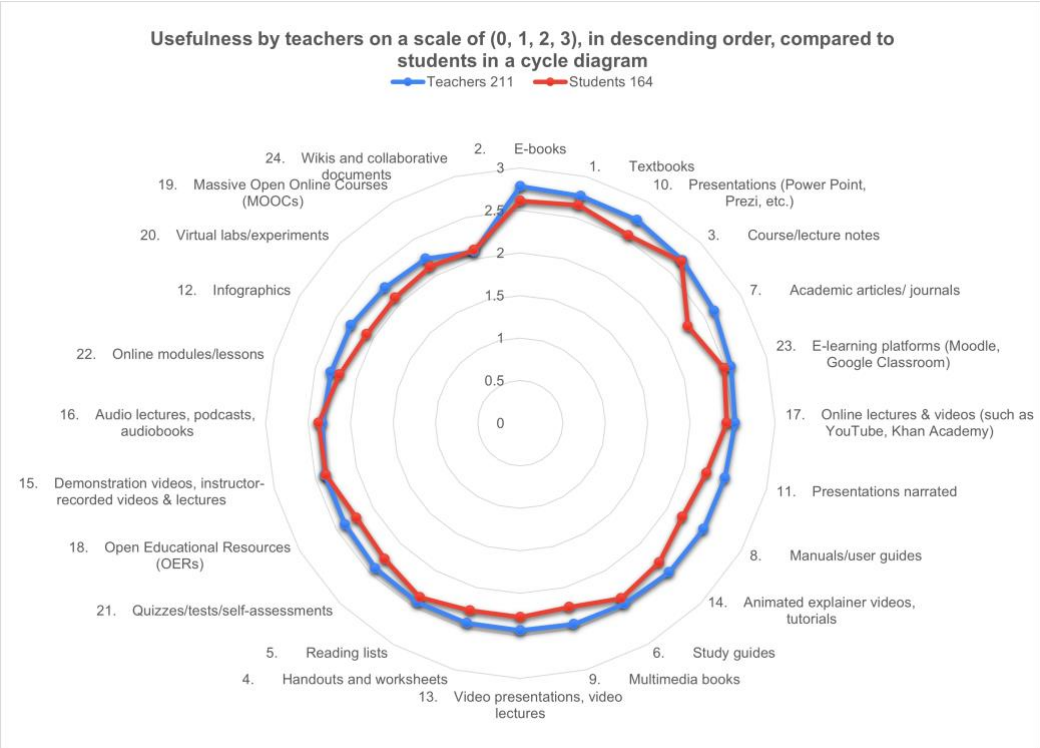


Image 4.2.3. Usefulness by teachers on a scale of (0, 1, 2, 3), in descending order, compared to students in a cycle diagram

Section 5. Main Obstacles to Digital TLA

Section 5 included 3 questions:

5.1. Main obstacles to digital TLA in HEIs

5.2. Teachers' previous participation in the training on digital TLA; and

5.3. Main topics of the Teachers' previous training

As the results presented in the Image 5.1. below illustrate, when asked to identify main obstacles to digital TLA in HEI, majority of teachers (70%) considered (a) underdeveloped digital infrastructure and lack of necessary equipment; and (b)teaching staff's insufficient digital competences as main obstacles to digital TLA in HEI. While over 50% of students also indicated these two as obstacles, for the students (nearly 70%) the most important challenge was insufficient digital resources in Armenia.

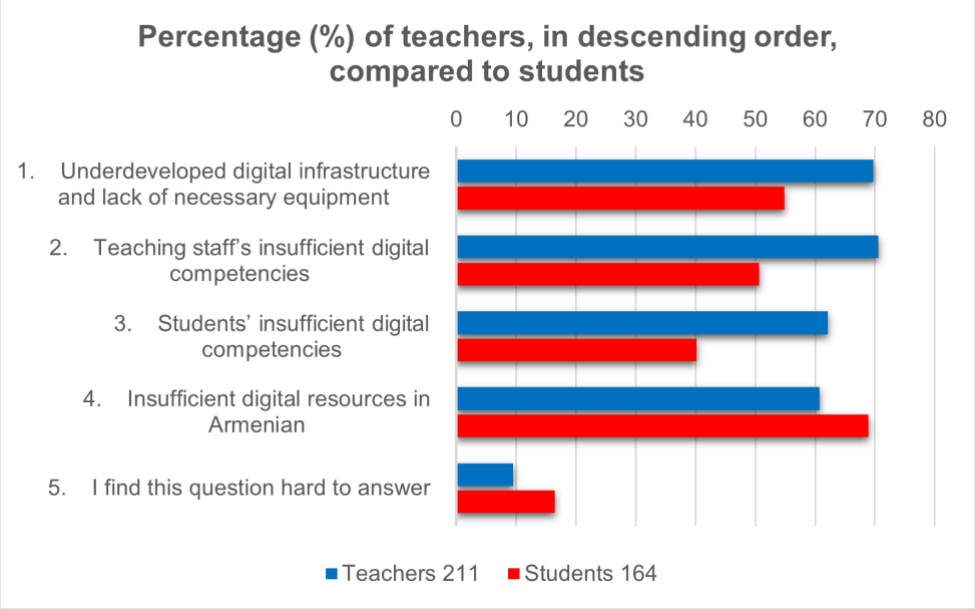


Image 5.1. Percentage (%) of teachers, in descending order, compared to students

As the Image 5.2. shows, most teachers, or around 61% of surveyed teachers, have not participated in retraining on digital TLA.

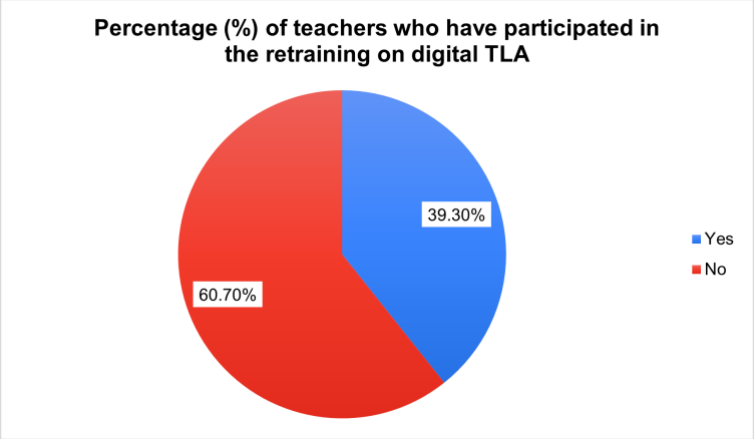


Image 5.2. Percentage (%) of teachers who have participated in the retraining on digital TLA

54 teachers have also indicated main topics in their previous training. Among those topics the following are mentioned most frequently: moodle, virtual classrooms, LMS, AI tools, google forms, Kahoot.

Section 6: Additional Information Provided by Teachers and Students

6.1. Teachers' Responses

The qualitative responses collected from teachers shed light on both the scope of their engagement with digital tools and their perceptions regarding current and future needs for digital capacity development. Many instructors reported having participated in digital training activities over the past four years. These training sessions primarily focused on the effective use of **Learning Management Systems (LMS)**—such as Moodle, Google for Education, Microsoft 365, and Blackboard—reflecting a widespread institutional emphasis on core platforms for managing digital teaching and learning.

Teachers also reported training on **student engagement tools**, such as **Kahoot, Mentimeter, Quizizz, Google Forms**, and similar classroom response systems. These tools are valued for promoting interaction and formative assessment, particularly in larger classes. Some instructors highlighted the use of asynchronous collaboration platforms like **Padlet, NowComment, Kialo.Edu, and Tricider**, noting their utility for debate, brainstorming, and peer feedback.

Some instructors received training on **artificial intelligence (AI) tools** for educational planning and teaching, including **ChatGPT, MagicSchool, Grammarly, Quillbot, and AI prompt engineering**. These tools are increasingly viewed not only as productivity enhancers but also as instruments for developing students' critical thinking and academic writing.

Furthermore, teachers mentioned training in **multimedia content creation**, **interactive video production**, **digital games and simulations**, and **virtual/augmented reality platforms** like CoSpaces Edu and Minecraft Education Edition. Such tools are particularly appreciated in disciplines requiring visualization or experiential learning environments.

Instructors also emphasized the importance of **cloud-based tools**, **metadata handling**, **interactive worksheets**, and **feedback collection systems** (e.g., AhaSlides, Easy Feedback), suggesting an emerging need for integrated solutions that facilitate both instruction and evaluation.

There were also mentions of comprehensive training programs that covered most of the topics from the survey's 3.1 section, while others reported exploratory use of specific tools like **LearningApps, Canva, Miro, SCORM/H5P content packages**, and **statistical analysis platforms**.

The diversity and depth of tools referenced indicate a positive trend in digital capacity-building efforts. However, the responses also imply that training has been fragmented and primarily tool-specific, underscoring a need for more **structured, needs-based, and pedagogically grounded professional development**.

6.2. Students' Responses

In the open-ended section of the survey, students provided valuable insights, expressing a range of ideas and concerns related to digital learning methods, supporting technologies, and the availability of educational resources. A prominent theme was the **urgent need for structured guidance on the use of Artificial Intelligence (AI)** in academic settings. Students emphasized that while AI is increasingly utilized, most of them lack the necessary skills to use it ethically and effectively. They suggested that instructors incorporate AI tools into their teaching in a way that complements the course content and fosters responsible use.

Another widely expressed concern was the **inconsistent use of e-learning platforms**. Students strongly advocated for a standardized approach whereby all instructors upload course materials including textbooks, reading lists, video lectures, and assignments on a centralized digital learning platform. This would help students better manage their time and access learning materials more efficiently, especially during periods of high workload.

Students also raised the issue of **limited access to digital learning devices**, requesting that universities provide modern laptops or desktop computers to support coursework. They noted that outdated equipment significantly hinders productivity and motivation. This concern was especially acute among students from socio-economically disadvantaged backgrounds.

A recurring point across multiple responses was the **lack of high-quality learning materials in the Armenian language**. While many students appreciate access to international academic resources, they highlighted the need for professional, Armenian-language materials, particularly for complex or specialized courses. Some suggested that institutions prioritize translation projects and develop unified, state-supported learning materials in the Armenian language.

Several students also **called for more flexibility through hybrid and online options**. They described scenarios where personal obligations such as employment or health issues make physical attendance difficult and advocated for the option to attend lectures and

even assessments remotely. According to them, this would enhance inclusiveness and reflect the modern, multifaceted role of students in today's society.

Others stressed the importance of **interactive and visually engaging teaching methods**, such as the use of infographics, educational videos, and simulation-based platforms. Particularly in faculties like Law, students proposed gamified learning tools and legal case simulators that would allow them to practice real-life scenarios.

Finally, a few students expressed concern about the **lack of monitoring and accountability** in the digital teaching process. They recommended institutional oversight to ensure that digital tools and content are not only available but effectively used. Some went as far as proposing instructor certification in digital pedagogy and called for improved methodologies, especially in distance learning formats.

Conclusions and Recommendations

1. Digital Competencies to Be Developed

The findings indicate a clear need for enhanced digital competencies among both students and teaching staff. Although digital communication and access to educational content are widely adopted, both groups show limited familiarity with more advanced practices such as **digital self-directed learning support**, **individualized feedback using analytics**, and **hybrid or blended teaching models**.

Among students, the highest demand was for:

- selecting and adapting digital resources to learning objectives;
- ensuring inclusive access to content for students with diverse needs;
- using digital tools for autonomous study and interactive feedback.

Among teaching staff, there is a notable need to improve:

- the ability to design and adapt digital learning materials;
- the use of data-driven feedback methods;
- continuous professional development in digital pedagogy.

2. Technologies and Facilities to Be Enhanced

A significant gap was observed between the types of technologies used by teachers and students. While teachers mainly use conventional tools such as projectors, LMS, and video conferencing software, students are already engaging with advanced tools like multimedia content creators, gamified learning platforms, and AI-based feedback systems.

Technologies that require enhancement include:

- **Personal computing devices**: Students report lack of access to laptops or up-to-date computers, limiting their ability to participate in digital learning activities.
- **Virtual and hybrid classroom infrastructure**: Despite interest, hybrid learning remains largely underutilized due to lack of institutional support and training.

- **Access to high-quality internet and devices** in university learning spaces remains a concern for both students and staff.

It is recommended that universities expand infrastructure investment in:

- student-accessible workstations and digital labs;
- institutional licenses for collaborative platforms (e.g., Padlet, Miro, Kialo);
- VR/AR platforms where appropriate for experiential learning.

3. Digital Teaching and Learning Materials to Be Developed

Both students and faculty emphasized the importance of:

- high-quality **e-books**, **lecture notes**, and **presentations**, particularly in Armenian for improved accessibility;
- **interactive learning materials**, such as video lectures, infographics, quizzes, and simulation-based resources;
- **multilingual or translated academic content**, especially for specialized subjects where English-only resources are currently insufficient.

Recommendations include:

- establishing a university-wide open-access digital repository;
- supporting the translation of key academic resources into Armenian;
- encouraging faculty to adopt digital authoring tools (e.g., H5P, Canva, LearningApps) to diversify instructional delivery.

4. Strategies to Address Existing Barriers

The key challenges hindering digital education advancement at YSU include:

- **underdeveloped infrastructure**, particularly for students;
- **insufficient digital competences** among a portion of faculty;
- **limited access to comprehensive training** on effective digital pedagogy;
- **lack of coordinated strategy** across departments in using digital platforms.

To address these, the following strategies are recommended:

- develop and implement a **university-wide digital strategy**, including incentives for digital innovation in teaching;
- launch **mandatory training programs** for faculty focused on modern pedagogical models, AI integration, and inclusive digital practices;
- introduce **monitoring and evaluation mechanisms** to ensure consistent usage and impact of digital tools;
- foster **student-instructor co-creation of content**, especially for emerging areas such as gamification, legal simulations, and AI-supported assignments.

Practical Recommendations for Enhancing Teachers' Digital Competence

In alignment with the findings of this report and the Digital Competence Framework (e.g., DigCompEdu), the following practical steps and activities are recommended for teaching staff at YSU to strengthen their digital pedagogy:

1. Digital Resource Selection and Adaptation

- Create a departmental digital repository with categorized resources (e.g., OER, articles, AI tools).
- Use platforms like MERLOT, OER Commons, edX and ArXiv to find quality educational content.
- Use Canva, H5P, or Genially to adapt or enhance teaching materials.

2. Inclusive Digital Practices

- Use Microsoft Immersive Reader, ReadSpeaker, or Texthelp tools to make content more accessible.
- Ensure all uploaded materials on LMS are compatible with screen readers.
- Provide alternative formats (audio, video, PDF) for key course content.

3. Digital Feedback and Assessment

- Integrate tools like Google Forms, Kahoot, Mentimeter, or Moodle Quiz to provide instant feedback.
- Use Turnitin or Quillbot for Educators to assist in evaluating academic writing with integrity.
- Apply rubrics in Moodle to standardize grading and provide structured feedback.

4. Hybrid and Blended Teaching

- Attend workshops on using ClassIn, Moodle Live, or Google Meet breakout rooms.
- Record short lecture videos using Loom or Screencast-O-Matic for asynchronous teaching.
- Design hybrid lesson plans using flipped classroom models (e.g., materials online, activities in class).

5. Digital Collaboration and Co-Creation

- Use Padlet, Miro, or Google Jamboard for collaborative activities.
- Create student-led mini-projects using CoSpaces Edu or Minecraft Education Edition for creative engagement.
- Involve students in peer feedback using tools like Peergrade or NowComment.

6. Continuous Professional Development

- Encourage every faculty member to complete at least one self-paced certified course per semester (e.g., DigCompEdu, FutureLearn, or Coursera).

• Organize regular internal training sessions and peer-sharing seminars on newly discovered tools.

• Create a Digital Pedagogy Competency Passport to track individual progress.

Appendix: Temperature Map Analysis of Response Patterns

Analysis of Teacher and Student Responses

For questions 2.2, 3.2, and 4.2, temperature maps have been generated and analyzed to reveal deeper insights into the response patterns of both teaching staff and students. This visualization approach reveals nuanced patterns that might otherwise remain hidden in conventional data analysis.

Response Reliability Assessment

The analytical methodology includes calculation of relative response reliability for each participant group. This metric accounts for response bias by adjusting for instances where respondents selected identical options across multiple items - a pattern that may indicate disengagement rather than authentic responses.

Comparative Results

The reliability findings for both respondent groups appear in Figures 2.2, 3.2, and 4.2. The table below summarizes these results, presenting the percentage of responses deemed reliable after applying the uniform-response adjustment algorithm.

These percentages reflect the proportion of responses that demonstrate meaningful engagement with the questions, after filtering out potentially automated or disengaged response patterns.

Question ID	Teaching Staff	Students
2.2	82.50%	85.40%
3.2	86.30%	79.90%
4.2	86.70%	82.90%

2.2. Level of need for developing the digital competencies and technologies

Fig. 2.2.1: Students responses

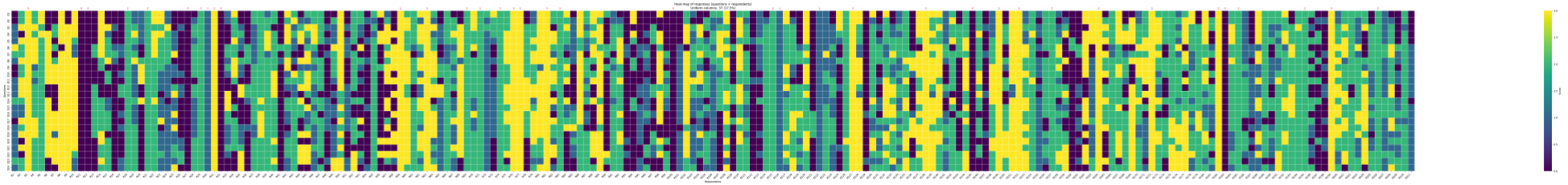


Fig. 2.2.2: Teachers responses

3.2. Usefulness of the technologies & facilities supporting digital TLA

Fig. 3.2.1: Students responses

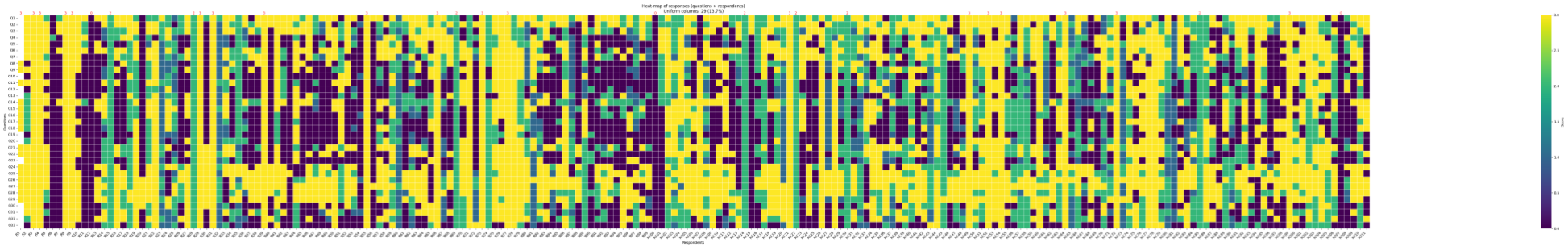


Fig. 3.2.2: Teachers responses

4.2. Usefulness of the study materials for TLA

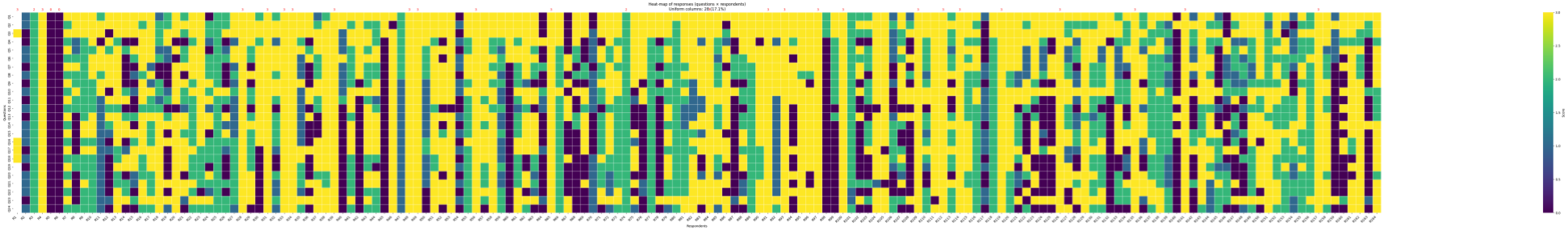


Fig 4.2.1: Students responses

Fig 4.2.2: Teachers responses

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