



Funded by
the European Union

FINAL REPORT

Needs Assessment Survey of Digital Literacies in U2SID Partner Universities



This report is prepared by the Center Science and Innovation for Development (SCiDEV)

The research team:

Data analysis and statistician: Ilir Brasha

Contributors: Orkidea Xhaferaj and Erjon Curraj

Methodology and revisions: Blerjana Bino

Editing and formatting: Irista Veizaj

Design: Jesmina Sengla

Tirana, Albania, January 2024

This document is produced in the framework of the Erasmus+ Capacity Building in Higher Education Project: U2SID - University to Society Collaborations for Inclusive Digital Transformation in the Western Balkans.

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Education and Culture Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

© U2SID

All rights reserved.

ACKNOWLEDGEMENT

This document was successfully completed with the support of all U2SID project partners. Special thanks are extended to the project coordinators at each partner university (Brikene Dionizi, Nevila Xhindi, Benita Stavre, Natasha Krivokapic) for their role in distributing the online survey and coordinating focus groups. Additionally, the project teams at each partner university deserve recognition for their support in data collection. We are grateful for the suggestions of Slađana Benković and Valentina Ndou.

EXECUTIVE SUMMARY

The rapid development and employment of digital technologies drives the manner in which individuals, businesses and societies develop. As individuals and societies become more and more reliant on digital technologies, digital literacy becomes instrumental in ensuring that individuals can navigate, understand, and leverage these technologies effectively. Digital literacy encompasses the skills and competencies required to use digital tools and platforms for communication, information retrieval, and problem-solving. In the context of rapid digitalization, digital literacy is a prerequisite for individuals to fully participate in the digital society. Digital literacy does not involve only basic technical proficiency, but also the ability to critically evaluate and use information, evaluate online sources, analyze and understand data, all while navigating the digital landscape responsibly and safely.

To understand digital literacy within academic contexts of partner universities involved in U2SID and to inform with evidence the next activities to be implemented by the project partners such as the Digital Literacies Accelerator Programme and Digital Transformation Challenge, SCiDEV has conducted a study to evaluate the current state of digital literacy among two primary groups within the academic sphere: lecturers and students in 4 partner universities of the U2SID project, namely: University of Shkodra “Luigj Gurakuqi”, University of Korça “Fan S. Noli”, Mediterranean University of Albania and University of Montenegro.

Findings from the study show that students throughout the four universities show low literacy in regard to digital creation, productivity software and communication tools. Males generally exhibit higher digital literacy knowledge than females, and students from urban areas tend to outperform their rural counterparts. Master's students demonstrate a higher knowledge level compared to bachelor's students, with distinct variations across disciplines. Notably, students in engineering and computer sciences exhibit greater digital literacy proficiency. The findings related to lecturers in the study highlight the diverse landscape of digital literacy proficiency, influenced by factors such as university, gender, experience, and disciplinary expertise. Challenges in training participation, preferred skills for improvement, and barriers to enhancing digital literacy underscore the need for tailored and comprehensive strategies to support lecturers in navigating the digital landscape of higher education effectively. Findings from focus groups with stakeholders show that in their perception there is a significant discrepancy between the digital skills acquired by students in universities and the more complex, advanced skills required in the professional realm.

Recommendations stemming from this assessment touch upon the need for updated curricula that address digital literacy and digital skills overall. Serious gaps in technology infrastructure were noted during discussions with students and lecturers which calls for planning and budgeting for investments in technology infrastructure. Universities are recommended to increase access to online libraries

so students and lecturers can benefit from consulting updated research. The rapid pace of development of digital technologies requires agile education institutions, that have decision making and independence from an academic point of view, which calls for advocacy for an improved and flexible legal framework. To foster connection with the labor market is recommended establishment of mentorship programs where professionals from relevant fields can guide and mentor students, offering insights into the practical application of digital tools in professional settings.

TABLE OF CONTENTS

Acknowledgement	3
Executive Summary	4
Table of Contents	6
Project Snapshot	7
Abbreviations	9
List of FIGURES	10
I. INTRODUCTION	13
II. METHODOLOGY	13
III. Data ANALYSIS and Sample Description	
3.1 Statistical analysis	16
3.2 Sample descriptions	17
IV. FINDINGS	
4.1 Findings regarding students	19
4.2 Findings regarding lecturers	39
4.3 Findings regarding stakeholders	63
V. CONCLUSIONS & RECOMMENDATIONS	64
VI. Annexes	
Annex 1 – Questionnaire for students	68
Annex 2 – Questionnaire for lecturers	74
Annex 3 – Focus group guideline for students	81
Annex 4 – Focus group guideline for lecturers	83
Annex 5 – Focus group guideline for stakeholders	85

PROJECT SNAPSHOT

Project Title	University to society collaborations for inclusive digital transformation in the Western Balkans
Project's acronym	U2SID
Webpage	www.u2sid.al
Project's budget	EUR 398,650.00
Funded by	Erasmus+ Programme Capacity building in Higher Education
Project number	101083131
Project duration	24 months
Project Coordinator	University of Shkodra Luigj Gurakuqi
Countries involved	Albania, Serbia, Montenegro, Italy.
Project partners	<p>University of Shkodra Luigj Gurakuqi University „Fan S. Noli” of Korca Mediterranean University of Albania Center Science and Innovation for Development Center for Comparative and International Studies National Agency for Scientific Research and Innovation University of Montenegro University of Belgrade University of Salento</p>
Aim and objective	<p>Project's aim: To foster inclusive digital transformation in the Western Balkans through increased collaboration between universities with other stakeholders such as businesses, policy makers, civil society, and media.</p> <p>The specific objectives of U2SID are: S.O1 – To strengthen digital competences of teachers, students, and professionals through the development of a Digital Literacies Acceleration Programme as a collabora-</p>

	-tive programme among universities on one side and businesses, civil society, local decision makers and media on the other.
--	---

ABBREVIATIONS

CCIS- Center for Comparative and International Studies(Qendra për Studime Krahasuese dhe Ndërkombëtare)

EACEA- European Union or European Education and Culture Executive Agency

EU- European Union

NASRI- National Agency for Scientific Research and Innovation (Agjencia Kombëtare e Kërkimit Shkencor dhe Inovacionit)

PSC- Project Steering Committee

SCiDEV- Center Science and Innovation for Development (Qendra Shkencë dhe Inovacion për Zhvillim)

U2SID- University to society collaborations for inclusive digital transformation in the Western Balkans

UCG- University of Montenegro (Univerzitet Crne Gore)

UMSH- Mediterranean University of Albania(Universiteti Mesdhetar i Shqipërisë)

UNIBELGRADE- University of Belgrade (Univerzitet u Beogradu)

UNIKO- University „Fan S. Noli”of Korça (Universiteti i Korçës "Fan S. Noli")

UNISALENTO- University of Salento (Università del Salento)

UNISHK- University of Shkodra Luigj Gurakuqi (Universiteti i Shkodrës “LuigjGurakuqi”)

WP- Work Package

LIST OF FIGURES

Figure 1: Students by Gender.

Figure 2: Students by Urbanity.

Figure 3: Students by discipline of studies.

Figure 4: Lecturers by gender.

Figure 5: Lecturers by discipline of expertise.

Figure 6: Share of students who have "no proficiency" or "limited proficiency" in Digital Literacy, by university.

Figure 7: Students - The average score on Digital Literacies Indicators for overall four universities.

Figure 8: Students - Level of knowledge on Digital Literacies by gender.

Figure 9: Students - Level of knowledge on Digital Literacies by urbanity.

Figure 10: Students - Level of knowledge on Digital Literacies by degree.

Figure 11: Students - Level of knowledge on Digital Literacies by discipline of studies.

Figure 12: Students - Level of knowledge on Digital Literacies by University.

Figure 13: Students - Skills that students are interested in improving, by University.

Figure 14: Students - Skills that students are interested in improving, by gender.

Figure 15: Students - Skills that students are interested in improving, by urbanity.

Figure 16: Students - Skills that students are interested in improving, by discipline of studies.

Figure 17: Students - Preferred formats of Digital Literacies training by gender.

Figure 18: Students - Preferred formats of Digital Literacies training by urbanity.

Figure 19: Students - Preferred formats of Digital Literacies training by discipline of studies.

Figure 20: Students - Preferred formats of Digital Literacies training, by University.

Figure 21: Students - Barriers to attending training sessions by gender.

Figure 22: Students - Barriers to attending training sessions by gender and urbanity.

Figure 23: Students - Barriers to attending training sessions by discipline of studies.

Figure 24: Students - Barriers to attending training sessions by University.

Figure 25: Students - The preferred format of Digital Literacies training by gender and urbanity.

Figure 26: Students - The preferred format of Digital Literacies training by discipline of studies.

Figure 27: Students - The preferred format of Digital Literacies training by Degree and the level of Digital Literacies knowledge.

Figure 28: Students - The preferred format of Digital Literacies training by the Digital Literacies skill that students want to improve the most.

Figure 29: Students - Preferred Depth of Detail Training across Universities.

Figure 30: Students - Frequency of training session by gender and urbanity.

Figure 31: Students - Frequency of training sessions by discipline of studies.

Figure 32: Students - Frequency of training sessions by university.

Figure 33: Lecturers - Students who have "no proficiency" or "limited proficiency" in Digital Literacies, by University

Figure 34: Lecturers - Level of knowledge on Digital Literacies by University.

Figure 35: Lecturers - Level of knowledge on Digital Literacies by gender.

Figure 36: Lecturers - Level of knowledge on Digital Literacies by experience.

Figure 37: Lecturers - Level of knowledge on Digital Literacies by discipline of expertise.

Figure 38: Lecturers - Participation in training sessions related to Digital Literacies.

Figure 39: Lecturers - Participation in Digital Literacies trainings sessions related to their experience.

Figure 40: Digital Literacies Proficiency Among Lecturers by Training Participation and Teaching Experience.

Figure 41: Lecturers - Participation in Digital Literacies training sessions related to discipline of expertise.

Figure 42: Lecturers - Skills that Lecturers are most interested in improving, by University.

Figure 43: Lecturers - Skills that Lecturers are most interested in improving, by discipline of expertise.

Figure 44: Lecturers - Skills that Lecturers are interested in improving, by University.

Figure 45: Lecturers - Skills that Lecturers are interested in improving, by digital of expertise.

Figure 46: Lecturers - Frequency of desired training by University.

Figure 47: Lecturers - Barriers to attending training sessions by University.

Figure 48: Lecturers - Barriers to attending training sessions by discipline of expertise.

Figure 49: Lecturers - Preferred formats of Digital Literacies Training by University.

Figure 50: Lecturers - Preferred formats of Digital Literacies training by discipline of expertise.

Figure 51: Lecturers - Preferred formats of Digital Literacies training by gender and by Digital Literacies knowledge

Figure 52: Lecturers - Digital tools usage during their teaching per University.

Figure 53: Lecturers - Usage of Digital Tools by professors during their teaching, by discipline of expertise.

Figure 54: Lecturers - Learning Management Systems usage per University.

Figure 55: Lecturers - Learning Management Systems usage per expertise.

Figure 56: Lecturers - Proficiency in usage of AI and machine learning tools, by the University.

Figure 57: Lecturers - Proficiency in the usage of AI and machine learning tools, by discipline of expertise.

Figure 58: Lecturers - Usage of AI or learning machines in research activities, by University.

Figure 59: Lecturers - Usage of AI or learning machines in research activities, by discipline of expertise.

Figure 60: Lecturers - Usage of AI-based tools for personalizing learning or student engagement, by University.

Figure 61: Lecturers - Usage of AI-based tools for personalizing learning or students engagement, by discipline of expertise

Figure 62: Lecturers - Level of interest in incorporating AI/machine learning into their curriculum by university.

Figure 63: Lecturers - Level of interest in incorporating AI/machine learning into their curriculum, by discipline of expertise.

Figure 64: Lecturers - Resources and Training desired by lecturers for enhancing teaching, preferences by university .

Figure 65: Lecturers - Resources and Training desired by lecturers for enhancing teaching, preferences by discipline of expertise

Figure 66: Lecturers - Preferred Resources and Training for lecturers to enhance research, by University.

Figure 67: Lecturers - Preferred Resources and Training for lecturers to enhance research, by discipline of expertise

I. INTRODUCTION

The U2SID project aims to drive inclusive digital transformation in higher education in Western Balkans by fostering collaboration between universities, businesses, policymakers, civil society, and media. It emphasizes safe digitalization through enhancing awareness and capacity in privacy, data protection, and digital literacies, thus promoting digital rights. The aim of the project is to foster inclusive digital transformation in the Western Balkans through increased collaboration between universities with other stakeholders such as businesses, policy makers, civil society, and media.

The U2SID project's specific objectives encompass three key areas. Firstly, it focuses on enhancing digital competencies among teachers, students, and professionals via a Digital Literacies Acceleration Programme. This program promotes collaboration between universities and various stakeholders like businesses, civil society, and media. Secondly, it aims to advance innovative teaching methods through the Digital Transformation Challenge, offering project-based, solution-oriented learning with mentorship and professional placements. Lastly, it emphasizes raising awareness about inclusive digitalization, particularly targeting and including vulnerable groups in the digitalization process.

In this light, the central objective of this research exercise is to evaluate the current state of digital literacies among two primary groups within the academic sphere: lecturers and students in 4 partner universities of the U2SID project, namely: University of Shkodra “Luigj Gurakuqi”, University of Korça “Fan S. Noli”, Mediterranean University of Albania and University of Montenegro. The study recognizes the increasing role those digital competencies play in both delivering and accessing higher education. By assessing the needs, the study intends to identify gaps in knowledge, skills, and infrastructure that may be hindering the effective use of digital tools and resources in teaching and learning environments in the universities involved in this project in Albania and Montenegro.

Furthermore, the study seeks to incorporate diverse perspectives by engaging with stakeholders who are directly or indirectly impacted by the digital literacies of lecturers and students. These stakeholders may include administrative staff, IT personnel, policy makers, and employers. The input from these groups will provide a multi-dimensional understanding of digital literacies needs, expectations, and the potential barriers to implementing digital literacies programs.

II. METHODOLOGY

The methodology for this need assessment exercise on digital literacies at university level is crafted to facilitate an understanding of the subject within academic contexts of partner universities involved in the project and to inform with evidence the next activities to be implemented by the project partners such as the Digital Literacies Accelerator Programme and Digital Transformation Challenge.

This approach embraces both quantitative and qualitative data collection methods, harmonizing them to draw a reliable picture of the digital literacies needs and gaps in these four academic contexts: University of Shkodra “Luigj Gurakuqi”, University of Korça “Fan S. Noli”, Mediterranean University of Albania and University of Montenegro. The study was conducted in November and December 2023 and the data analysis in January 2024.

Central to the quantitative dimension of our research are online questionnaires with a total of 705 students surveyed and 199 lecturers. These instruments are designed to quantitatively assess lecturers’ and students’ self-reported competencies in digital literacies, their habitual use of digital resources, their preferences for certain technologies, and their perceived needs for further support and development. Ensuring a representative sample in each partner university is important; therefore, the study encompasses a diverse cross-section of departments, faculties, and educational levels both Bachelor and Masters. Subsequent statistical analyses scrutinize this quantitative information to identify prevalent patterns and trends, which provide insights for recommendations for the next activities to be implemented by the project partners.

Parallel to this, the qualitative component through structured focus group discussions delves into the more subjective dimensions of digital literacies. These sessions are planned to reveal the attitudes, personal experiences, and the various contextual factors that shape individuals' engagement with digital tools and resources. Discussion guides, prepared in advance and based on literature reviews, steered conversations to meaningful depths. The discussions were then transcribed in detailed focus group reports by each partner university. 3 focus groups were organized by each partner with lecturers, students, and stakeholders, with a total of 12 focus groups and 146 participants.

The integration of quantitative and qualitative data is necessary for the cross-verifying data points but also minimizes the biases that any single method might introduce. The findings of the need assessment are relevant for participating partner universities and cannot be generalized to entire academic contexts in Albania and Montenegro.

The online questionnaire and focus group guidelines, used this “Digital literacies” definition:

- **Basic Computer Skills:** Using an operating system, managing files, and understanding basic hardware.
- **Internet Navigation:** Using search engines, evaluating online sources, and understanding internet safety.
- **Productivity Software:** Proficiency in word processing, spreadsheets, and presentation software.
- **Communication Tools:** Email, instant messaging, video conferencing, and collaboration platforms.
- **Digital Creation:** Basic photo editing, video production, or website creation.
- **Information Literacy:** Finding, evaluating, using, and citing digital information.

- **Social Media Literacy:** Creating content, understanding digital footprints, and privacy settings.
- **Data Literacy:** Understanding of data collection, analysis, and interpretation.
- **E-Learning Platforms:** Navigating online learning systems and digital libraries.

III. DATA ANALYSIS & SAMPLE DESCRIPTION

3.1 Statistical analysis

The study investigates digital literacies among students and lecturers at four universities: three in Albania (University of Shkodra “Luigj Gurakuqi”, University of Korça “Fan S. Noli”, Mediterranean University of Albania) and one in Montenegro (University of Montenegro). Involving 705 students and 199 lecturers, it utilized an online survey method. The margin of error for the student’s study, for the total four universities is 3.6%, meaning that the confidence interval of every result is +- 3.6%. The results of each university have a different margin of error. Results of the Mediterranean University of Albania have a margin error equal to 5.5%, University of Korça “Fan S. Noli” 7.4%, University of Shkodra “Luigj Gurakuqi” 7.8%, and University of Montenegro 10.4%. The highest margin of error for the results from Montenegro University is due to the low number of surveyed students.

Data Analysis is conducted using IBM SPSS. Data for students were weighted in order to be representative of each university and overall. This was done so the contribution of the male and female respondents from each university was proportional to the real population of students in each specific university and the total. The results of lecturers are presented in this study without any adjustment for their weight in the total population.

Furthermore, a qualitative approach was used as well. In total 12 Focus Groups were conducted in four universities, including one focus group with students at each university, one focus group for lecturers at each university, and one focus group with stakeholders for each university. Their findings are used to validate the data from the quantitative approach.

Table 1: Focus group data

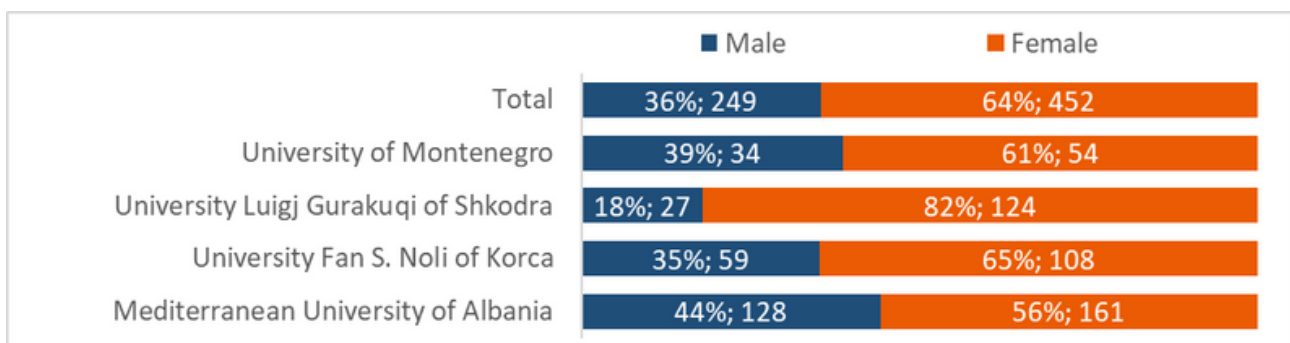
	STUDENTS	LECTURERS	STAKEHOLDERS	TOTAL
UNISHK	12	13	9	34
UNIKO	16	11	19	46
UMSH	15	13	8	36
UCG	11	8	11	30
TOTAL	54	45	47	146

3.2 Sample description

This section deepens into the sample’s demographics by providing the characteristics patterns. We examine the tilt towards a 64% female majority among students, a balance that shifts subtly across different universities. Beyond gender, we explore the geographic tapestry, with 76% hailing from urban areas and 24% from rural landscapes. Their academic paths paint a further picture, with Business at the forefront (34%), followed by Natural Sciences (18%) and a spectrum of other disciplines. Turning the focus to the instructors, we find a similar gender distribution, with 68% female lecturers. The leading areas of expertise are Social Sciences (23%), Business (22%), and Humanities (21%).

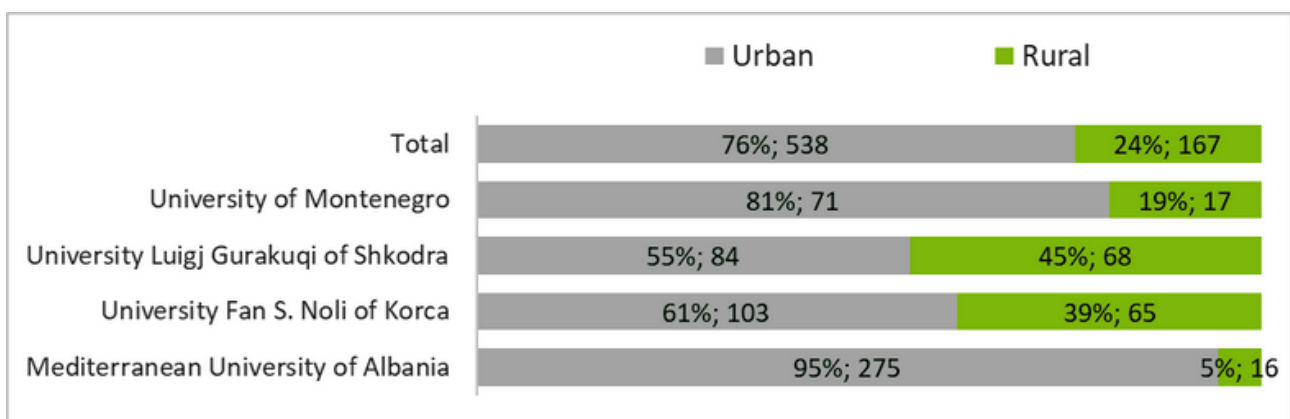
Overall gender balance, 64% of the surveyed students are females and 35% are males. The proportion differs from one university to another.

Figure 1: Students by gender



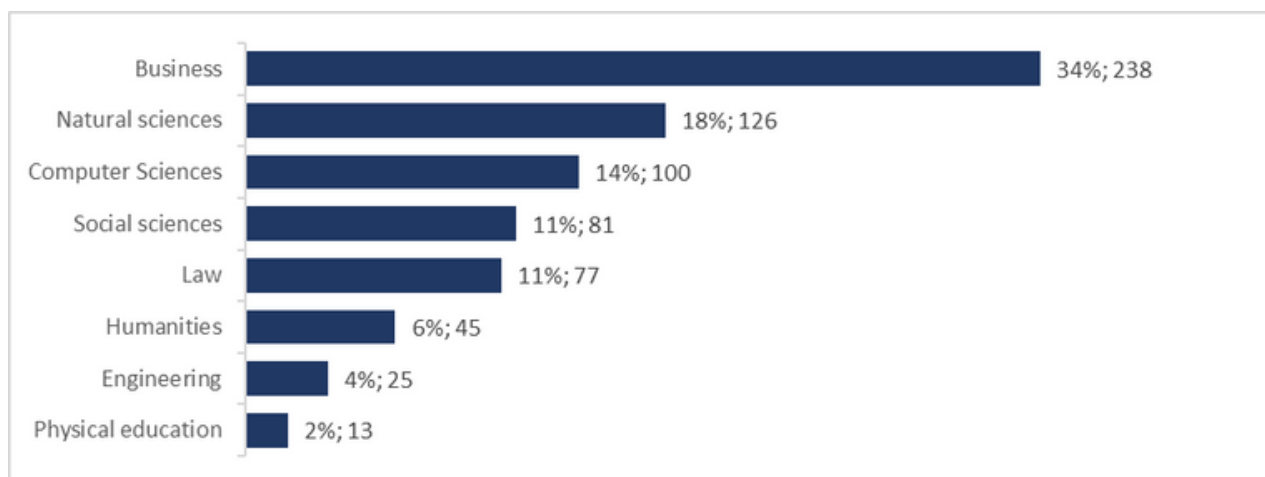
About 76% of surveyed students are from urban areas while 24% are from rural areas.

Figure 2: Students by Urbanity



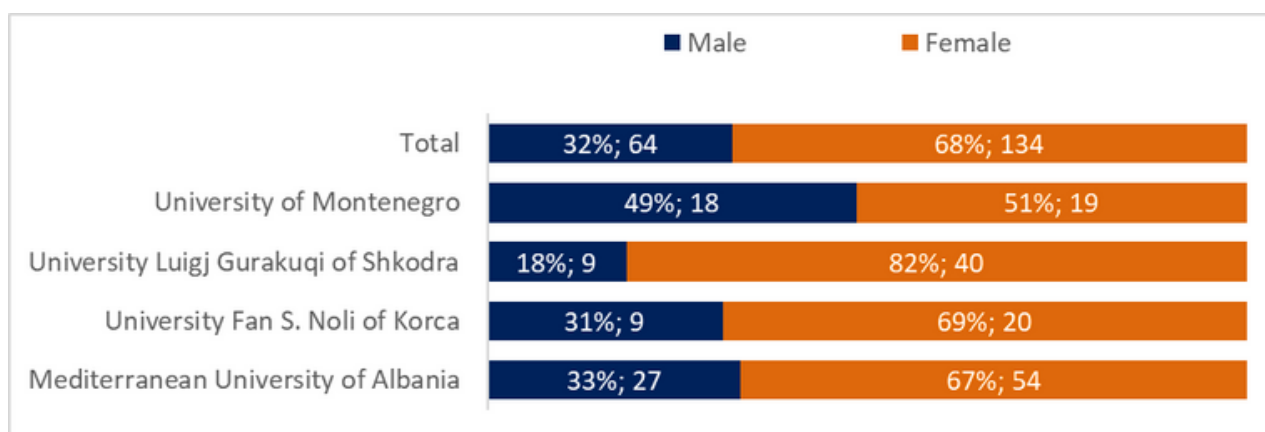
Most of the students that were surveyed study Business (34%), Natural Sciences (18%), and so on.

Figure 3: Students by discipline of studies



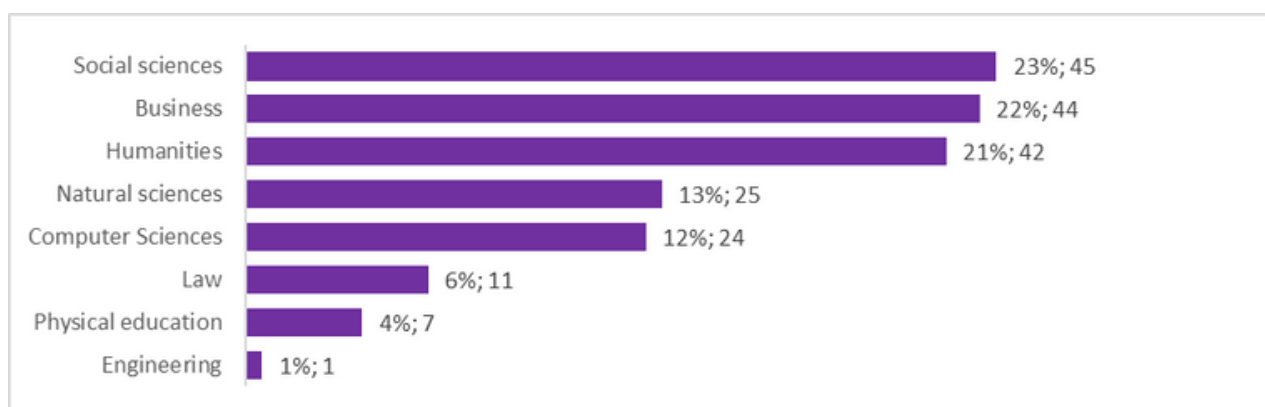
About 68% of Lecture respondents are females and 32% males.

Figure 4: Lecturers by gender



Regarding the discipline of expertise of lecturers, 23% are with Social Science profile, 22% Business, 21% Humanities etc.

Figure 5: Lecturers by discipline of expertise



IV. FINDINGS

4.1 Findings regarding students

Level of knowledge

This section explores the depths of student proficiency in various aspects of digital literacies for each participating university. Digital Literacies refers to the ability to use, understand, and critically evaluate information, communication, and technology in various digital forms. It involves skills and competencies needed to navigate the digital landscape, including proficiency in using digital tools, platforms, and resources, as well as the capacity to critically access and engage with digital content. Digital Literacies encompasses a range of skills, from basic knowledge of digital devices and software to more advanced capabilities such as information literacy, media literacy, and the ability to participate in digital communication and collaboration effectively and responsibly.

From overall student responders, half of them (50%) have “no proficiency” or “limited proficiency” in Website Creation. The second indicator with the largest portion (36%) of students who declared to have “no proficiency” or “limited proficiency” is also in Digital Creation related to Video Production. Approximately one-third of student respondents (32%) indicate “no proficiency” or “limited proficiency” in Communication Tools (Collaboration Platforms). Additionally, 30% of respondents lack proficiency in basic Computer Skills, such as utilizing an operating system, and 29% lack understanding of basic hardware.

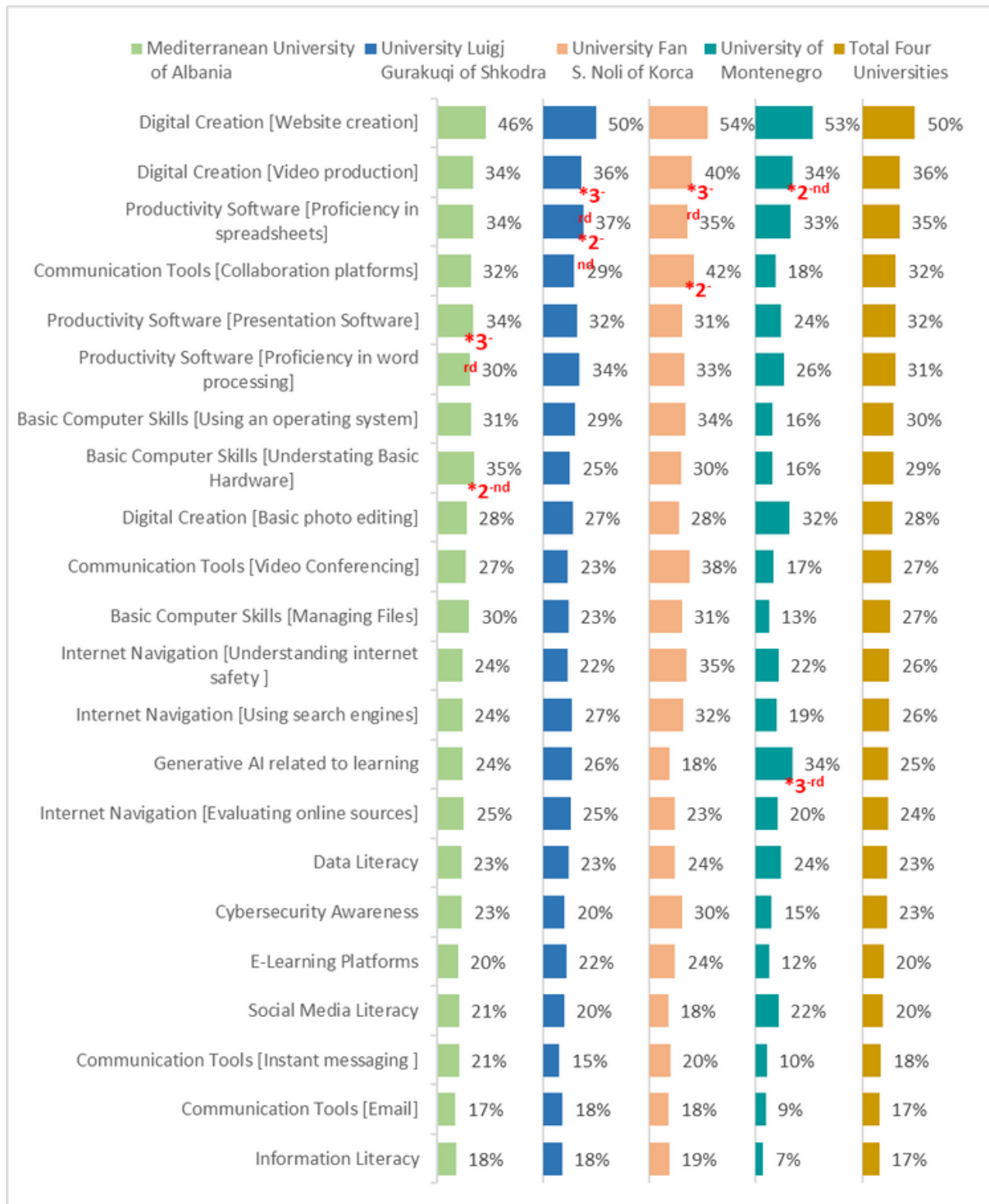
Students of all four universities declare to have the largest lack of knowledge on Website Creation. The third lowest knowledge on Digital Literacies for students of Montenegro is on Generative AI (ChatGPT, Clause, Barn, etc., Accessing Generative AI, Understanding the Capabilities of Generative AI, and writing basic prompts) related to learning (34% declare “no proficiency” or “limited proficiency”).

The second lowest level of knowledge on Digital Literacies for students at Mediterranean University of Albania is in Understanding Basic Hardware (35% declare “no proficiency” or “limited proficiency”), while the third is Presentation Software (34%).

For students of University of Shkodra “Luigj Gurakuqi”, the second lowest knowledge in Digital Literacies is Proficiency in Spreadsheets (37%).

About 42% of students at University of Korça “Fan S. Noli”, declare “no proficiency” or “limited proficiency” in Collaboration Platforms (the second lowest for students at University of Korça “Fan S. Noli”).

Figure 6: Share of students who have "no proficiency" or "limited proficiency" in Digital Literacies, by university



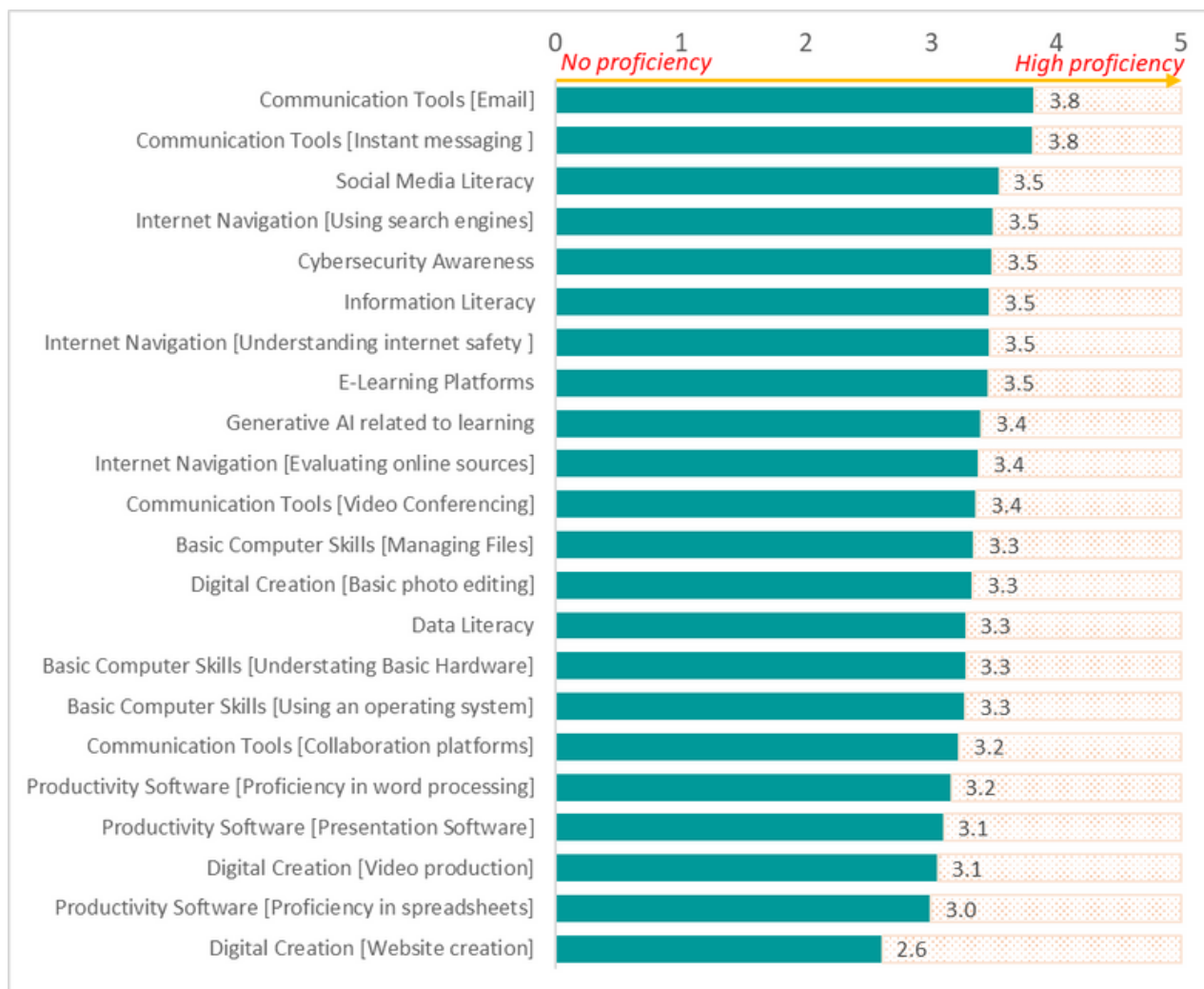
Findings from the qualitative analysis reveal that students utilize various technological tools for academic purposes. The most frequently cited digital tools employed by students at each respective university are outlined below:

- **University of Montenegro:** Students at this institution commonly utilize the Google Search engine, ChatGPT, Zoom, Microsoft Teams, TL platform, MOODLE, Viber, and Instagram.
- **Mediterranean University of Albania:** Students at this university prefer digital tools such as Google Classroom, G-Suite, Udemy, Instagram, and YouTube. Furthermore, they underscore the significance of programming languages such as C++, Python, JavaScript, React, Angular, PHP, R, MatLAB, SPSS, SAS, as well as communication and collaboration tools like Microsoft Teams, Google Meeting, and Zoom, all of which are pertinent to their specific fields of study.
- **University of Korça “Fan S. Noli”:** Students at this institution commonly use Microsoft Office, Microsoft Suite, Google Drive, and online dictionaries for their academic endeavor.
- **University of Shkodra “Luigj Gurakuqi”:** Students at this university utilize a diverse set of tools, including Microsoft Teams, Zoom, Microsoft Office, Word, PowerPoint Presentation, Google Forms, Python, Canva, Photoshop, Voice Records, various media networking platforms, and ChatGPT for their academic activities.

These findings underscore the varied digital tool preferences among students across different universities, reflecting the adaptability and versatility of technology in enhancing the academic experience. An alternative method for presenting results involves calculating the average score and subsequently comparing it against all the indicators utilized for assessing Digital Literacies Knowledge. This approach provides a comprehensive overview of overall digital literacies proficiency, enabling a nuanced evaluation of performance across diverse dimensions. Analyzing the average scores in relation to each specific indicator yields a more detailed understanding of strengths and weaknesses in digital literacies, offering valuable insights for targeted interventions and enhancements in educational strategies. The lowest level of proficiency in Digital Literacies, excluding Digital Creation and Productivity Software, is evident in Communication Tools (Collaborative platforms with an average rating of 3.2/5) and Basic Computer Skills (which encompass using an operating system, understanding basic hardware, and managing files with an average rating of 3.3/5). A comparable average proficiency of 3.3/5 is also observed in students' Data Literacies skills, where a rating of 0 indicates no proficiency and 5 denotes the highest level of proficiency.

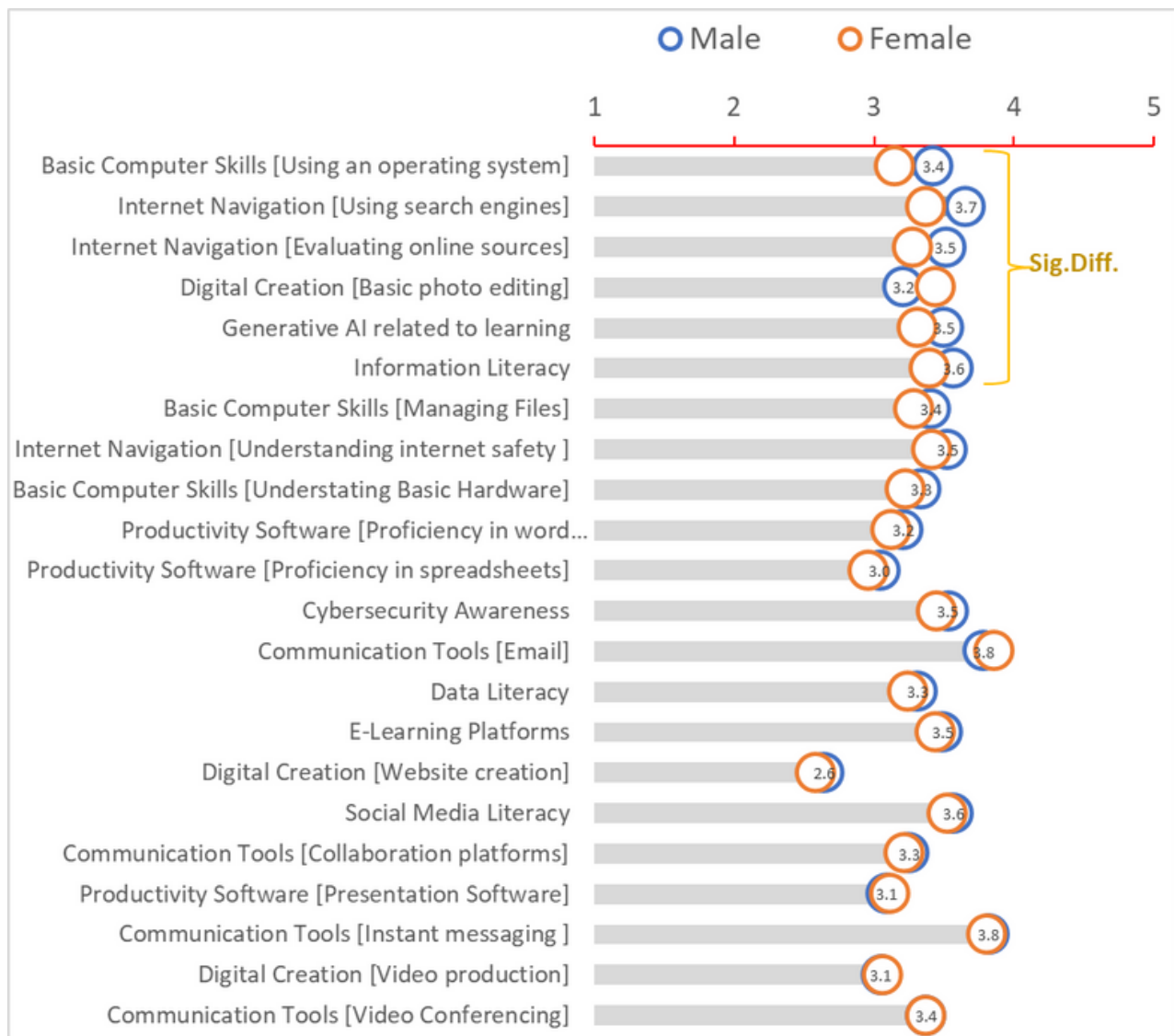
The highest score is calculated for proficiency in Email and Instant messaging as communication tools.

Figure 7: Students - The average score on Digital Literacies Indicators for overall four universities



When we check if there are significant differences related to the gender of the students, it can be shown that overall males tend to have a higher level of knowledge of Digital Literacies compared to females, except in Photo Editing where females evaluate themselves with a higher level of knowledge. Differences are significant in favor of males in Using operating Systems, Using searching engines, Evaluating online sources, Generative AI related to learning, and Information Literacy.

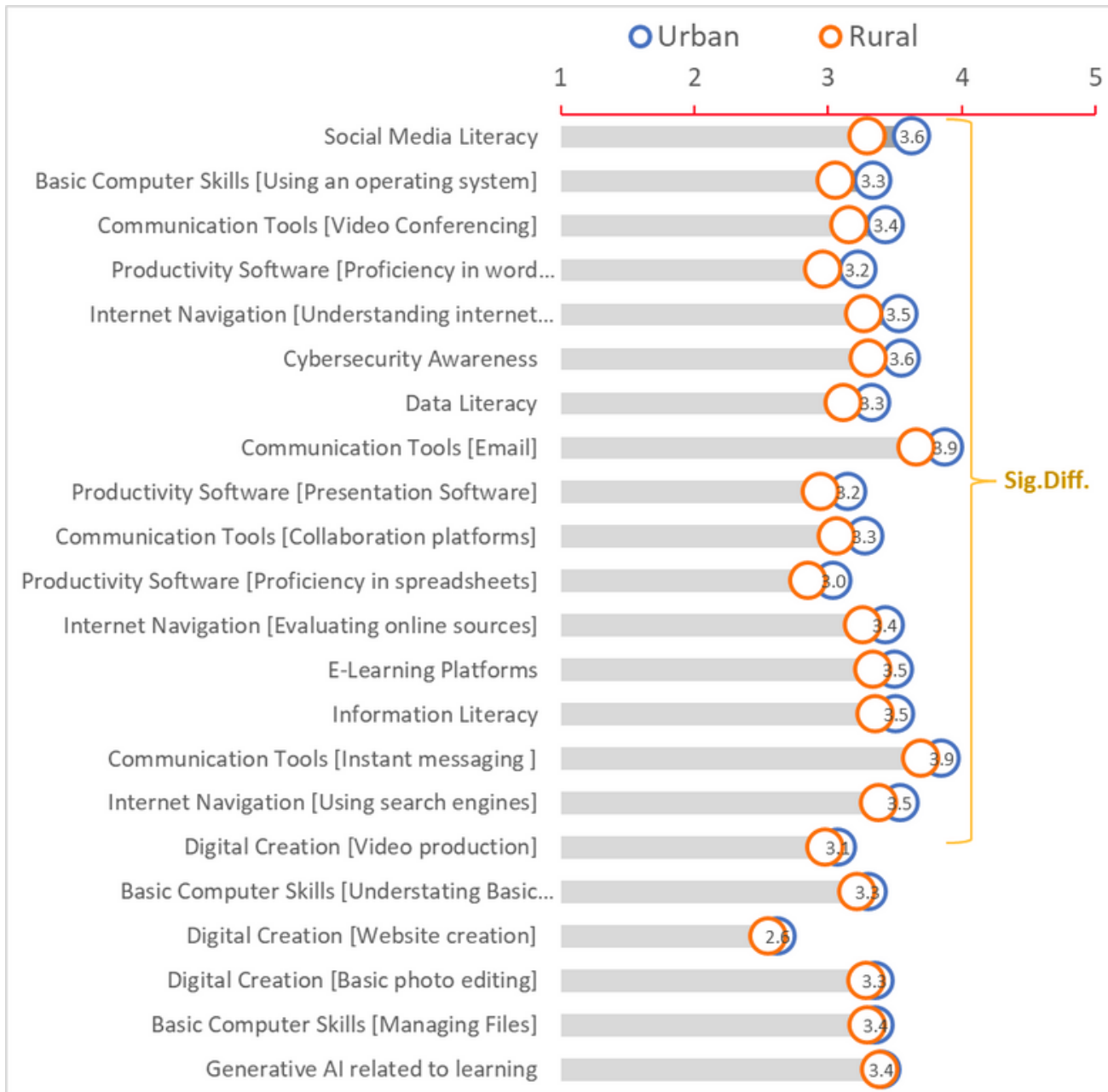
Figure 8: Students - Level of knowledge on Digital Literacies by gender



When we check if there are significant differences related to the gender of the students, it can be shown that overall males tend to have a higher level of knowledge of Digital Literacies compared to females, except in Photo Editing where females evaluate themselves with a higher level of knowledge. Differences are significant in favor of males in Using operating Systems, Using searching engines, Evaluating online sources, Generative AI related to learning, and Information Literacy.

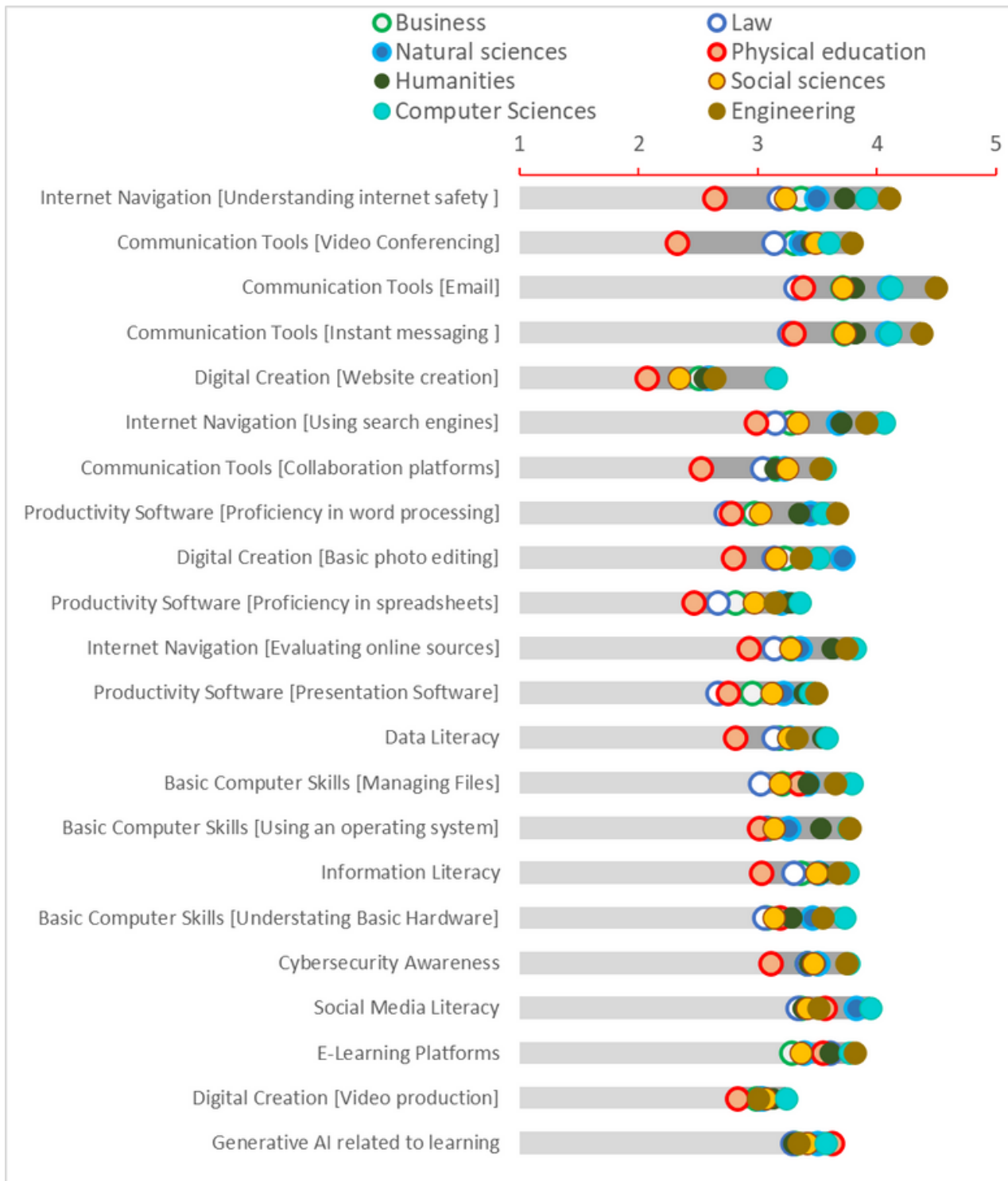
Results by Urbanity show that respondents from urban areas tend to have a higher level of knowledge of all the indicators used to measure Digital Literacies compared to respondents from rural areas. The largest difference is shown in Social Media Literacy, Using an operating system, and Video Conferencing.

Figure 9: Students - Level of knowledge on Digital Literacies by urbanity



Data shows that students who study Physical education, Law, and Social Sciences have a lower level of knowledge in Digital Literacies. On the other hand, as expected students who study engineering and Computer Sciences show a higher level of Digital Literacies knowledge.

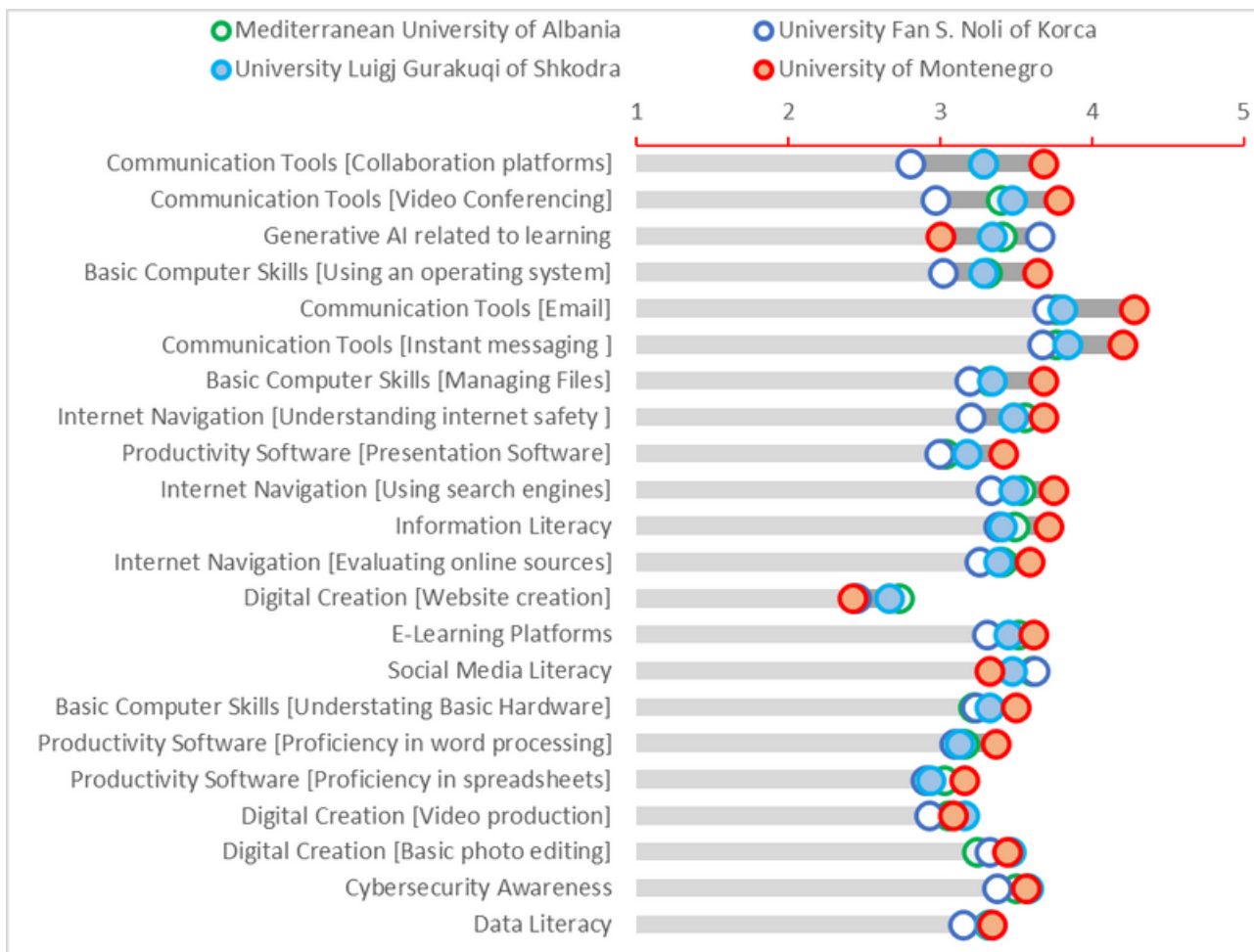
Figure 11: Students - Level of knowledge on Digital Literacies by discipline of studies



Regarding the level of knowledge by university, results show that students at University of Montenegro have a higher level of Digital Literacies, compared to students at other universities.

On the other hand, students at the University of Korça “Fan S. Noli”, resulted with a lower level of Digital Literacies knowledge.

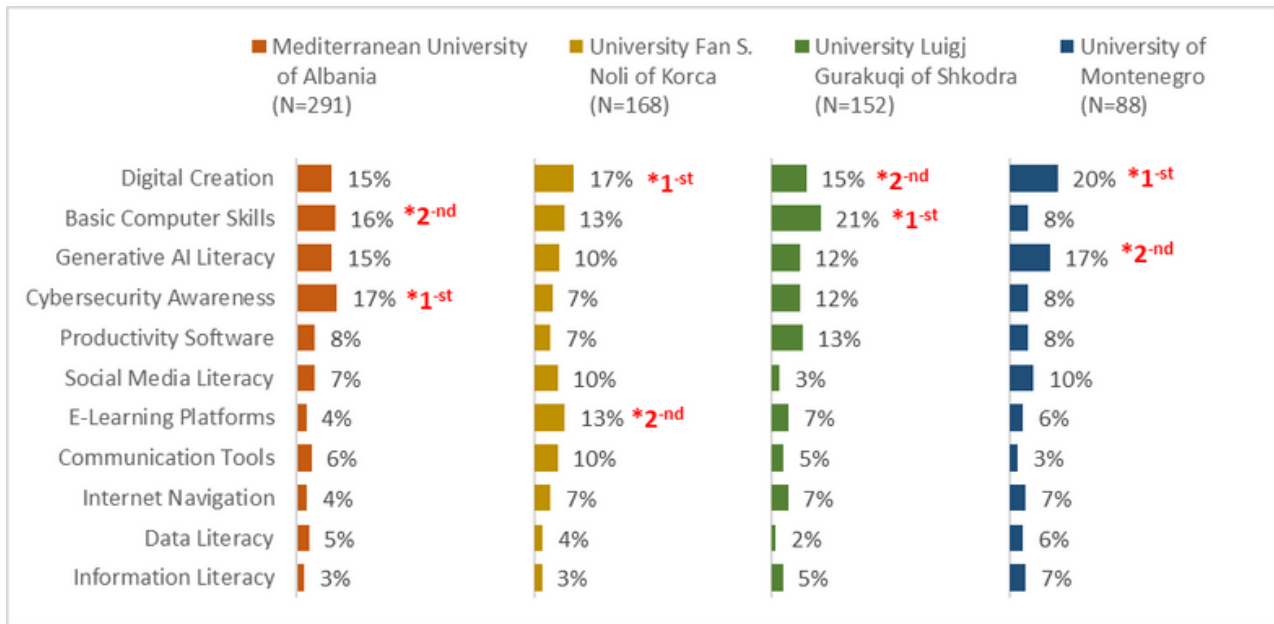
Figure 12: Students - Level of knowledge on Digital Literacies by University



Training preferences

There are variations in the specific areas of interest among students for improvement at the university level. The digital literacies skill that students at the University of Korça “Fan S. Noli” and the University of Montenegro express the most interest in enhancing is Digital Creation. Conversely, a predominant interest in improving Cybersecurity awareness is observed among the majority of students at the Mediterranean University of Albania. Additionally, students at University of Shkodra “Luigj Gurakuqi” show a keen interest in enhancing Basic Computer Skills.

Figure 13: Students - Skills that students are interested in improving, by University



In total four universities, the skill that students are most interested in improving is Digital Creation, meaning Basic Photo Editing, Video Production, and Video Creation. Respectively there are 16% of the students put Digital Creation as the skill they are most interested in improving. The second most chosen skill by 15% of the students is Basic Computer Skills meaning Using an operating system, managing files, and understanding basic hardware.

For males the skill they are the most interested in improving is Generative AI Literacy (16% of male students). For females the ranking does not change from the total four universities.

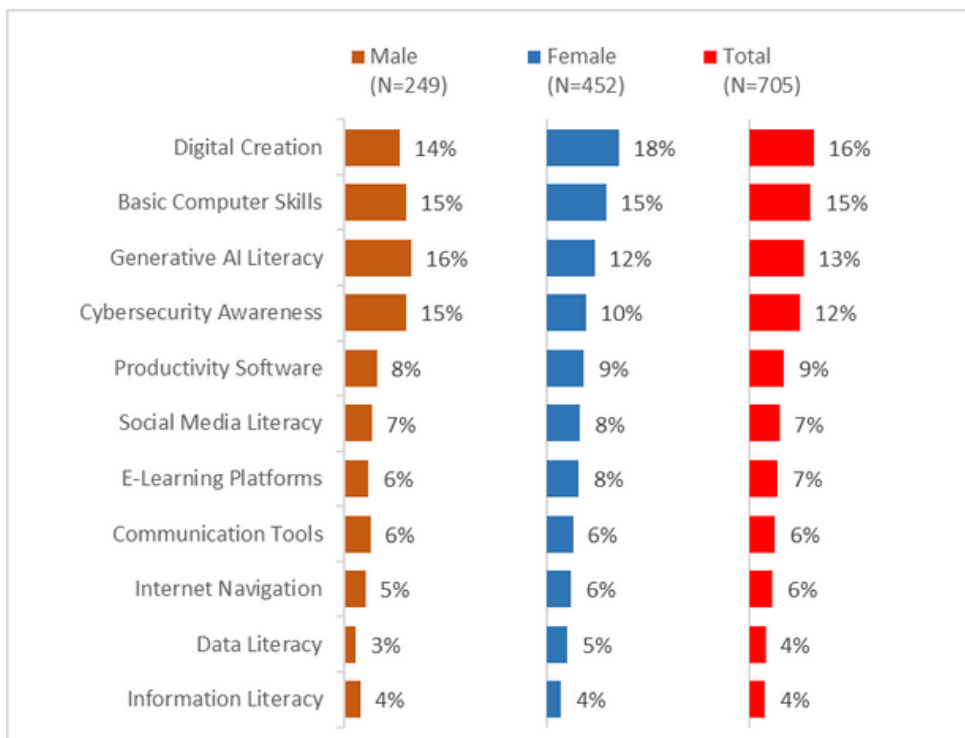
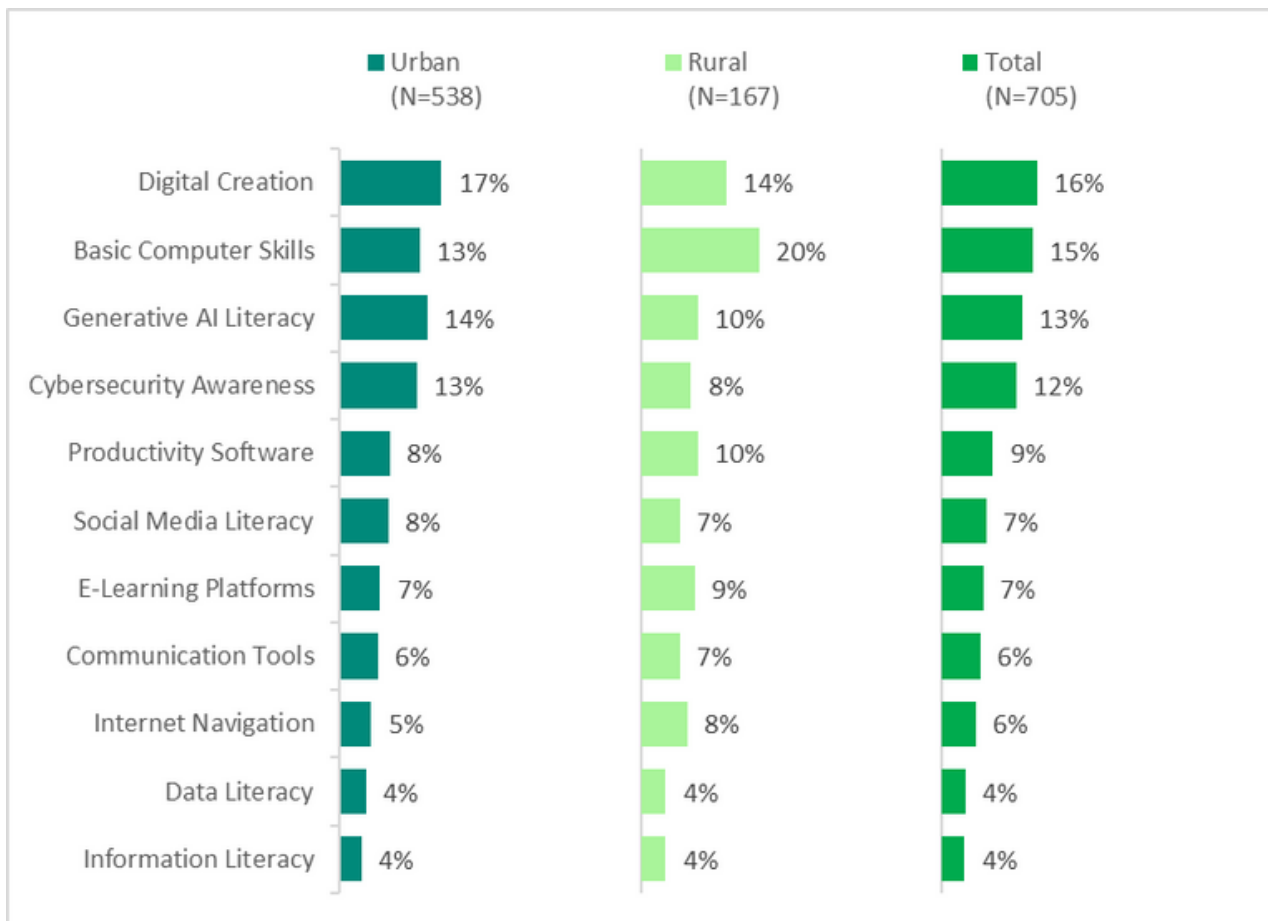


Figure 14: Students - Skills that students are interested in improving, by gender

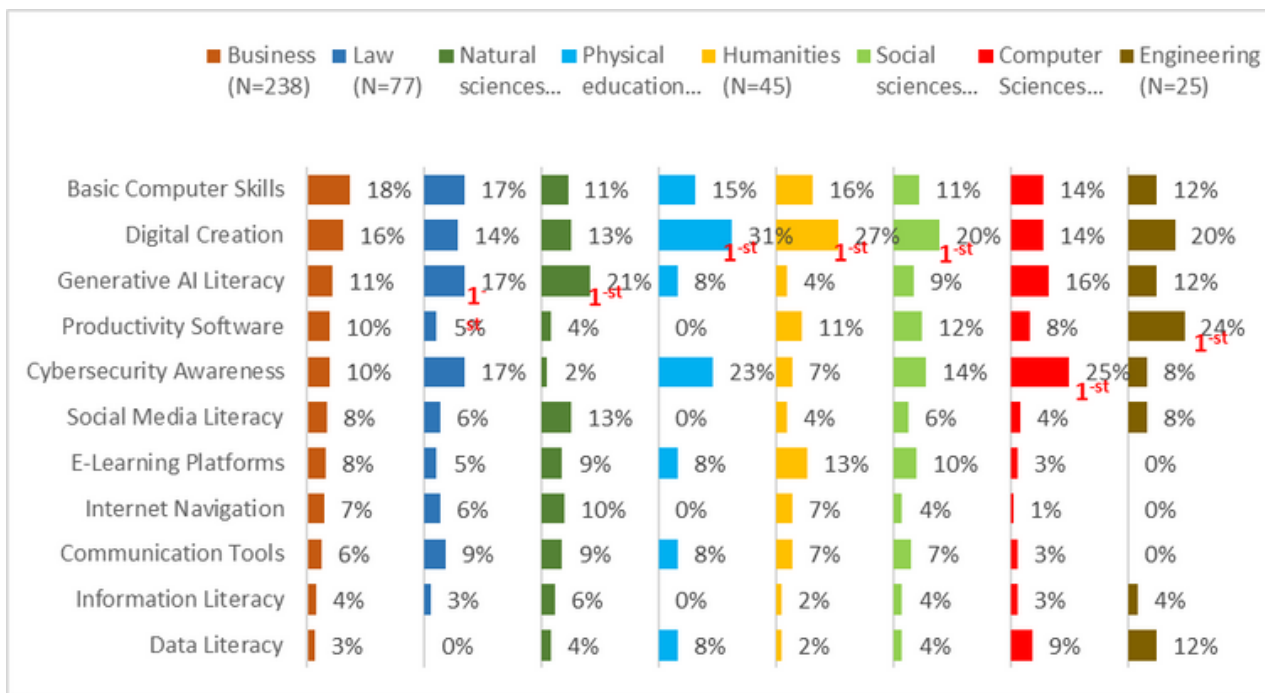
However, distinctions exist between students hailing from rural and urban areas. Approximately 20% of students in rural areas express an interest in enhancing Basic Computer Skills, in contrast to a lesser percentage of 13% among students residing in urban areas. Conversely, students from urban areas display a primary interest in enhancing Digital Creation (17% of them) and Generative AI Literacy (14%).

Figure 15: Students - Skills that students are interested in improving, by urbanity



Students majoring in business express the greatest interest in enhancing Basic Computer Skills (18%), whereas students in Physical Education (31%), Humanities (27%), and Social Sciences (20%) show an interest in improving Digital Creation. Conversely, students in Law (17%) and Natural Sciences (21%) are primarily interested in advancing Generative AI Literacy. Notably, those pursuing studies in Engeniering prioritize improving Productivity Software (24%), while students in Computer Sciences (25%) exhibit the highest interest in Cybersecurity Awareness.

Figure 16: Students - Skills that students are interested in improving, by discipline of studies



Preferred training format

Regarding preferred ways of training format, almost half of the student respondent (48%) prefer Online Video Tutorials. Online Video Tutorials is preferred more by males (55% of the total males) than females (42% of the total females). On the other hand, In-person Workshops are more preferred by 40% of females, compared to 33% of males.

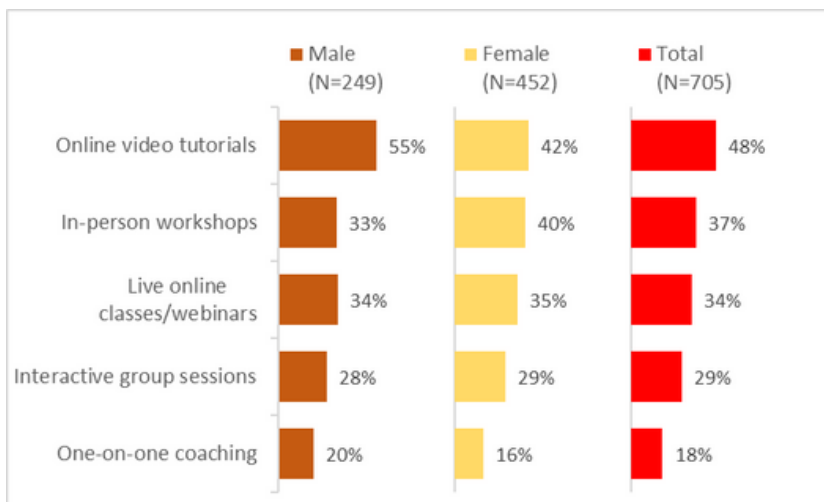
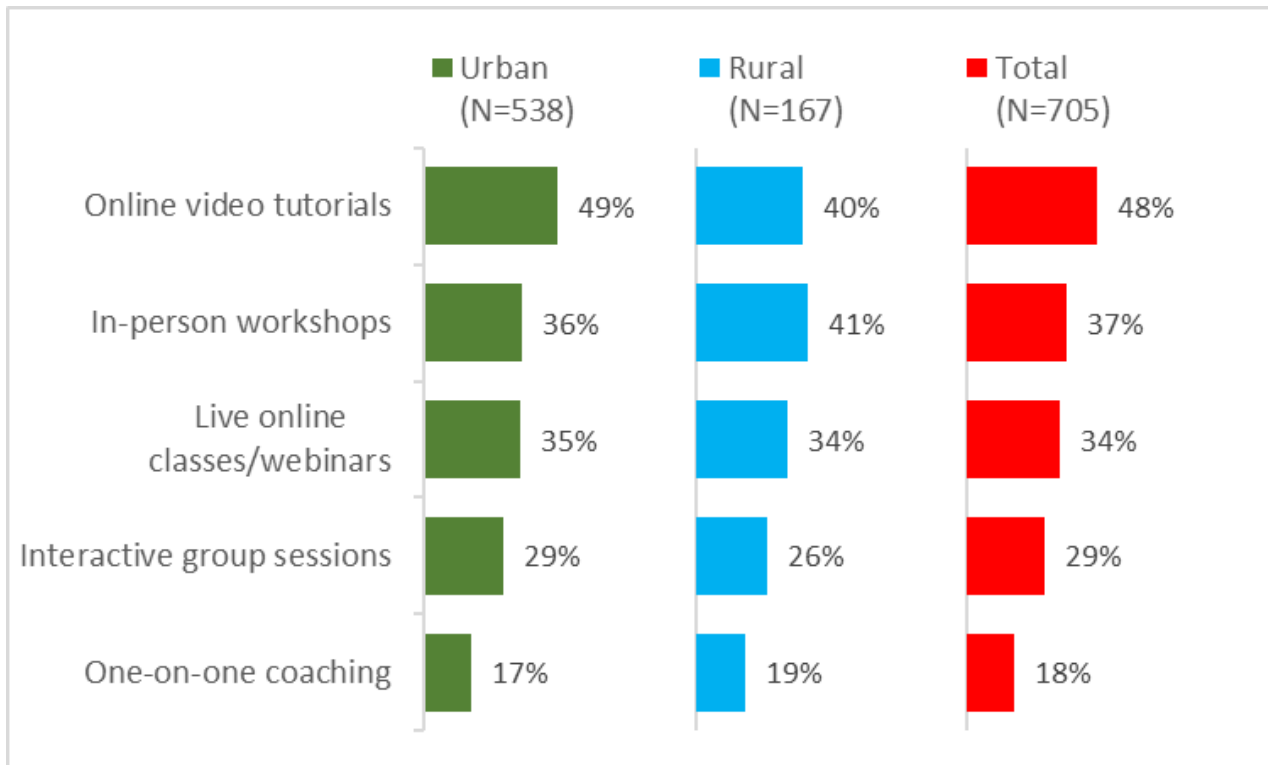


Figure 17: Students - Preferred formats of Digital Literacies training by gender

Almost half of the students from urban areas (49%), prefer Online Video Tutorials compared to 40% of others living in rural areas. In-person workshops are more preferred by students from rural areas, with 41% expressing a preference for them, in contrast to 36% of students from urban areas.

Figure 18: Students - Preferred formats of Digital Literacies training by urbanity



Online Video Tutorials are the preferred format of Digital Literacy training for students who study Business (41%), Law (44%), Natural Sciences (48%), Social Sciences (49%), and Computer Sciences (63%). For students who study physical education (69%), and Humanities (49%) the preferred way of training is In-person Workshop. The Interactive Group Sessions are the preferred way for Engineering students (56%).

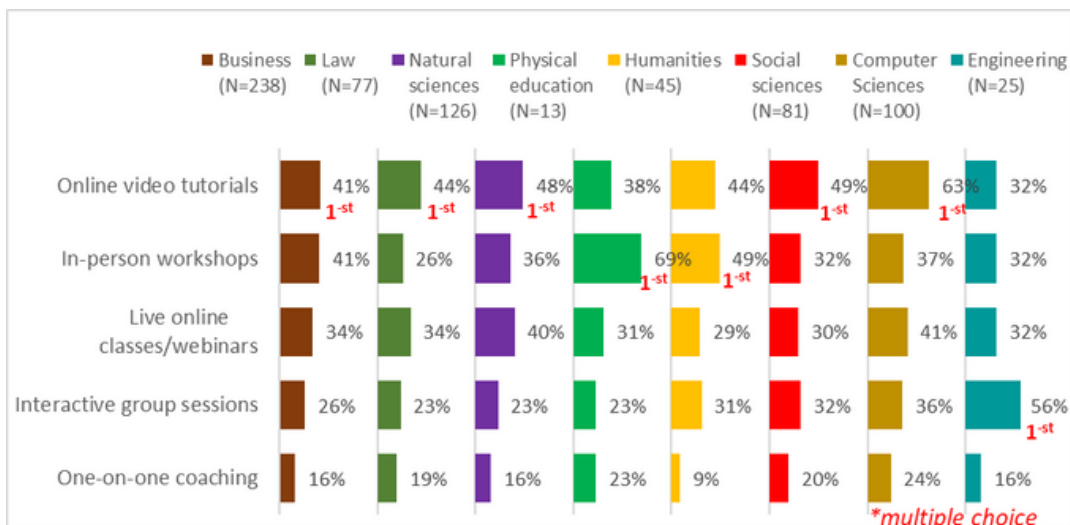
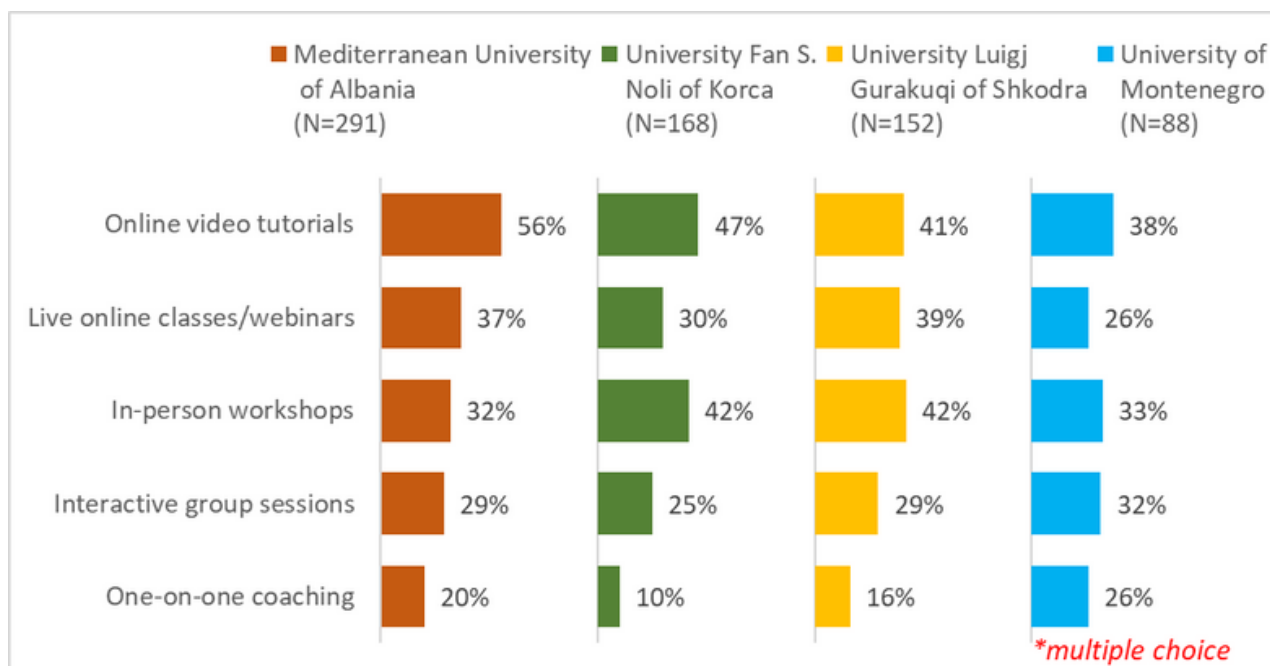


Figure 19: Students - Preferred formats of Digital Literacies training by discipline of studies

Students of the Mediterranean University of Albania (56%) prefer more Online Video tutorials compared to students of other universities. The most preferred format of training for students of the University of Shkodra “Luigj Gurakuqi”, is an In-person Workshop (preferred by 42% of students of this university).

Students were given to choose more than one preferred way of training, so we can find out which format of training is more likable.

Figure 20: Students - Preferred formats of Digital Literacies training, by University



Results from the Focus Group Approach indicate a prevalent preference among students for face-to-face training over online alternatives. This inclination is attributed to the perception that concentration levels are higher in face-to-face sessions compared to online formats. In contrast to their counterparts, students from the University of Shkodra “Luigj Gurakuqi” exhibit a preference for online training due to its flexibility.

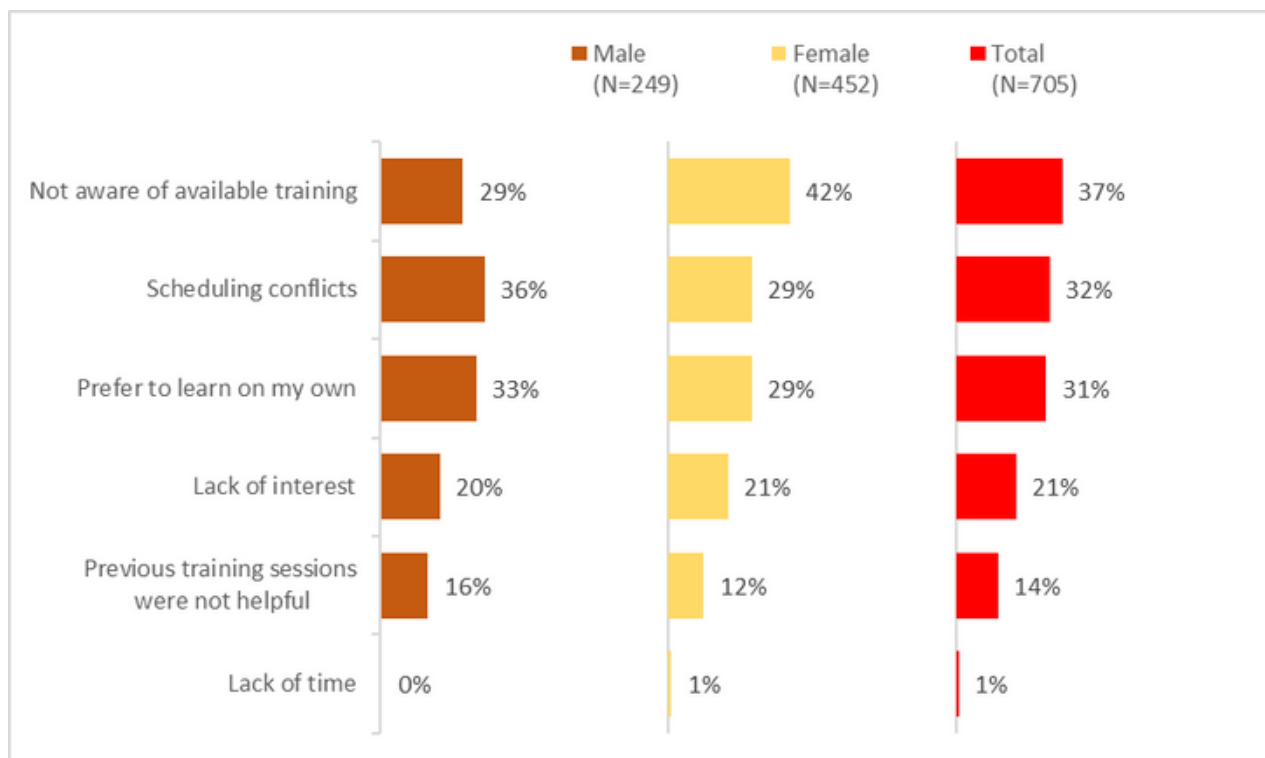
Moreover, a consensus among students highlights the efficacy of video tutorials as an excellent method of training and teaching. The flexibility to access videos at any time and review content as needed is deemed advantageous for better understanding.

The findings derived from focus groups align closely with quantitative results, wherein a majority of students express a preference for Online Video Tutorials, followed by In-person Workshops.

Barriers to attending training sessions on digital literacies

Students were asked about barriers to attending the training sessions. Awareness of available training is considered as the main barrier by students of the total four universities (37%). The second main problem is scheduling conflict (32%). Scheduling Conflicts are the main barrier to attending training for males (36%), while for females the main problem is the awareness of available training (29%).

Figure 21: Students - Barriers to attending training sessions by gender



There are some differences between urban and rural students, in the scheduling conflict, where 33% of students from urban areas consider it as a barrier, compared to 25% of students from rural areas. The primary challenge faced by students residing in both urban and rural areas is a lack of awareness regarding the availability of training opportunities. Specifically, 37% of students from urban areas and 39% of students from rural areas report a lack of awareness as a significant issue.

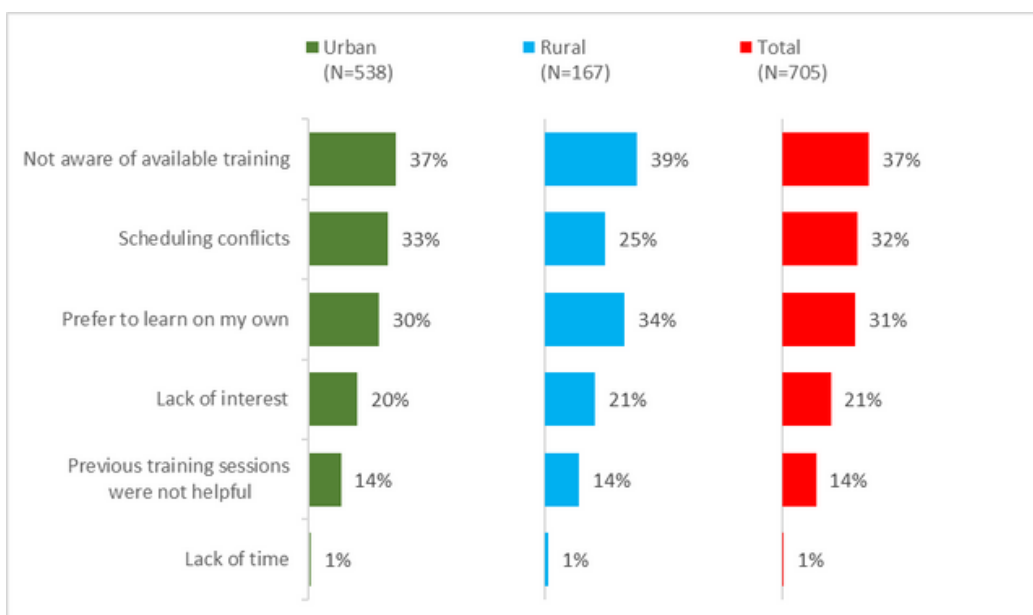
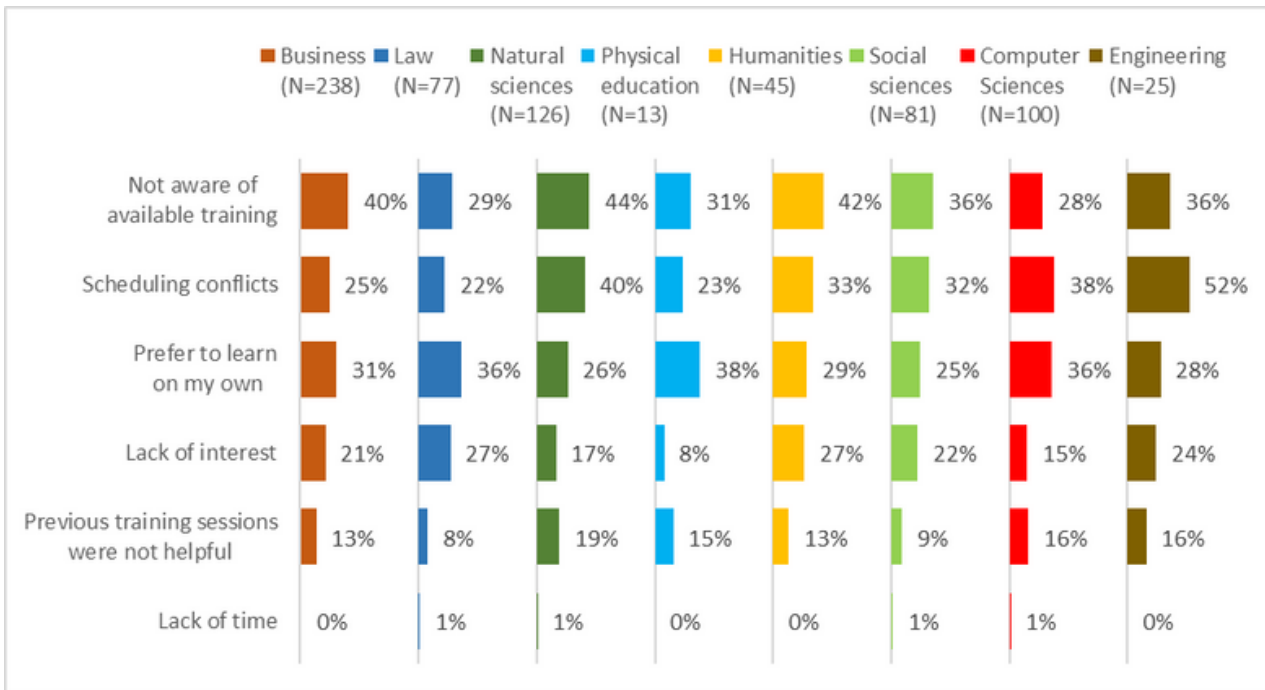


Figure 22: Students - Barriers to attending training sessions by gender and urbanity

Dissagregation by the discipline of studies shows that Awareness of available trainings is the main barrier for students who study Business (40%), Natural Sciences (44%), Humanities (42%), and Social Sciences (36%). About 36% of Law students declare that they prefer to learn on their own. The same percentage is for Computer Science students. Computer Science students (38%) and Engeniering (52%) students see as their main barrier Scheduling conflicts.

Figure 23: Students - Barriers to attending training sessions by discipline of studies



Disaggregation by university shows that Scheduling Conflicts are the main problem for students of Mediterranean University of Albania (35%), while for all other students of other universities is the awareness of available training.

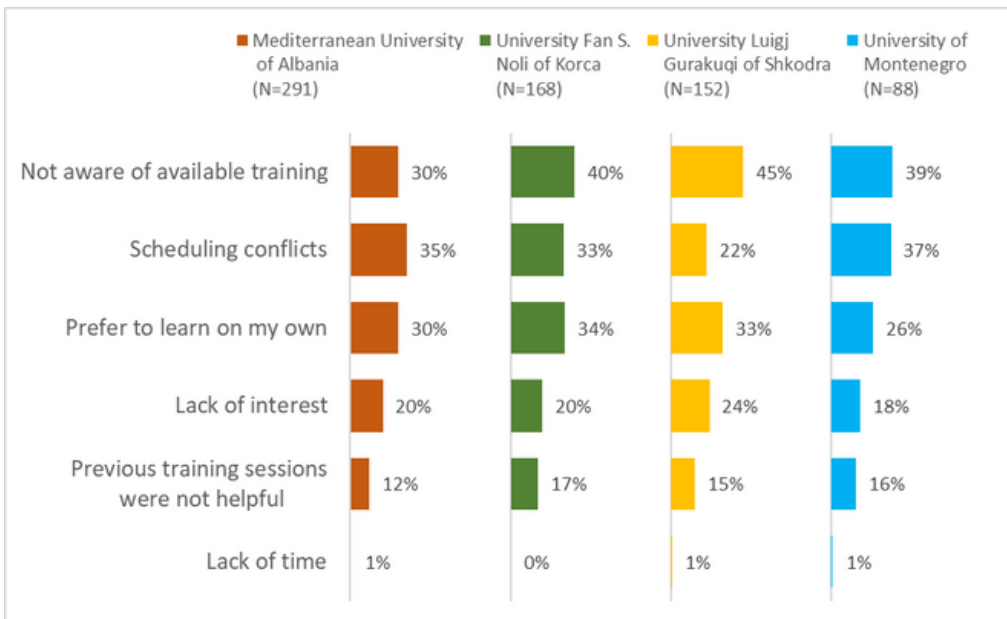
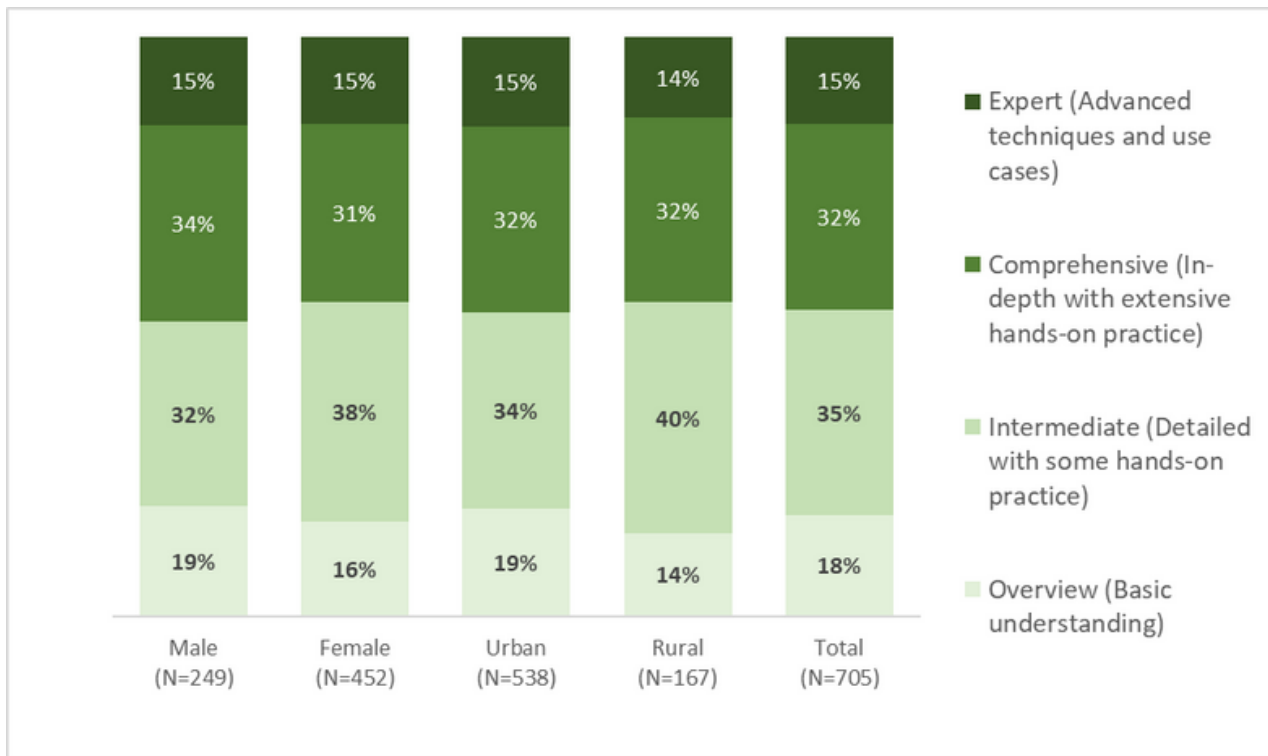


Figure 24: Students - Barriers to attending training sessions by University

When asked about the preferred format of Digital Literacies training, 15% wanted expert-level training, and 32% an Comprehensive (In depth with extensive hands-on practice).

Figure 25: Students - The preferred format of Digital Literacies training by gender and urbanity



When asked about the preferred format of Digital Literacies training, 15% wanted expert-level training, and 32% an Comprehensive (In depth with extensive hands-on practice).

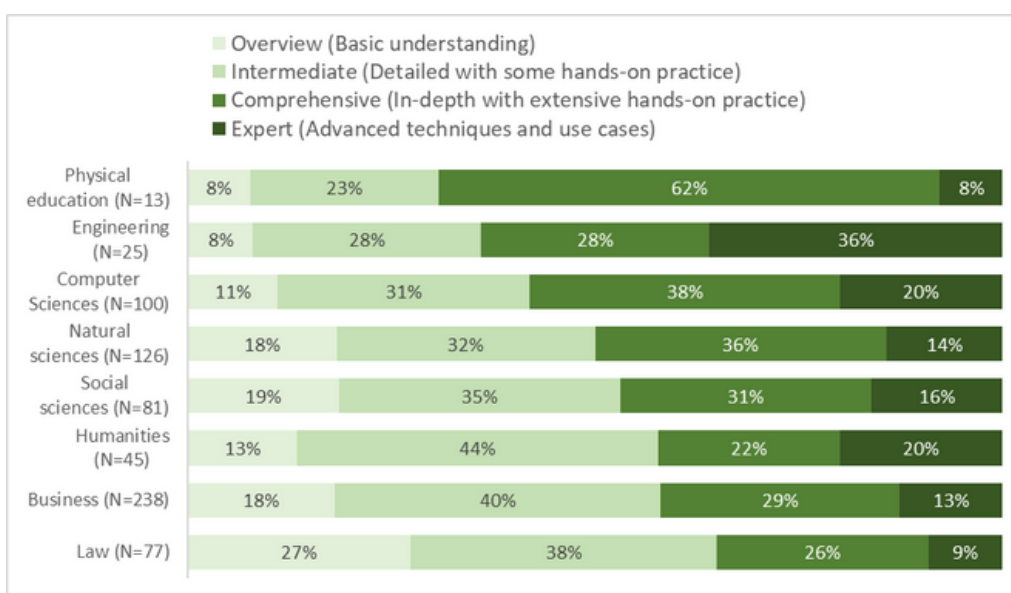
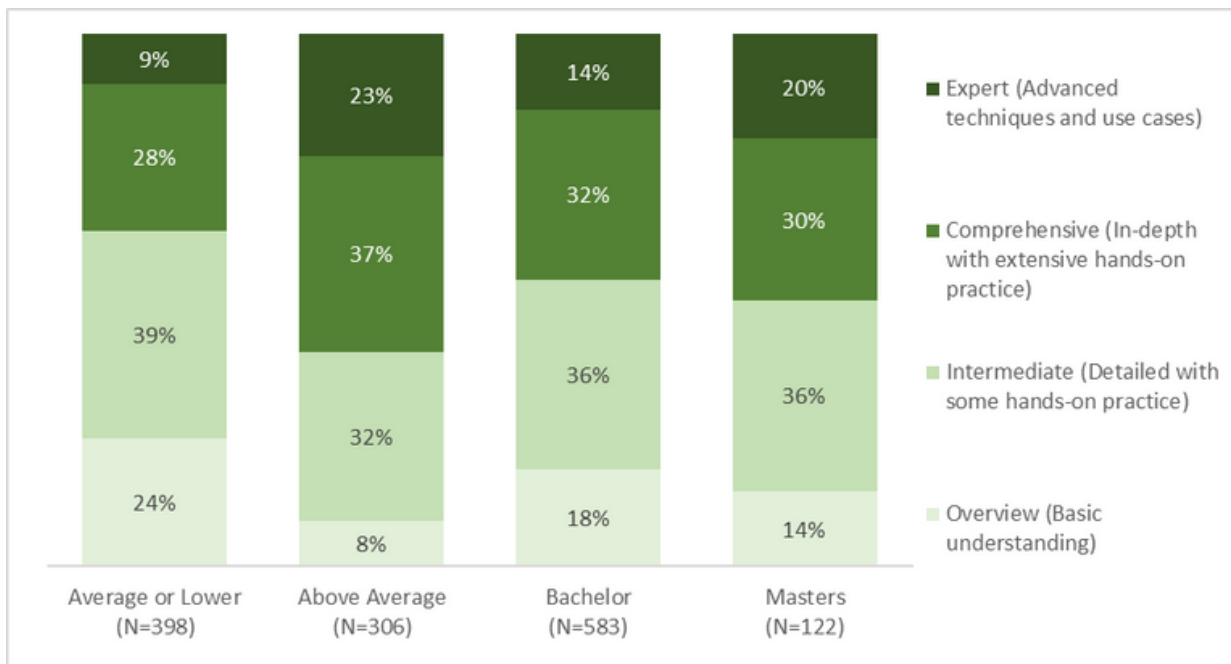


Figure 26: Students - The preferred format of Digital Literacies training by discipline of studies

Results by degree level show that Master Students are more interested in Expert level trainings about digital literacies compared to bachelor students (20% vs 14%). Students with a higher level of Digital Literacies knowledge are more prone to want Expert level trainings compared to others with an average or lower level of knowledge on Digital Literacies.

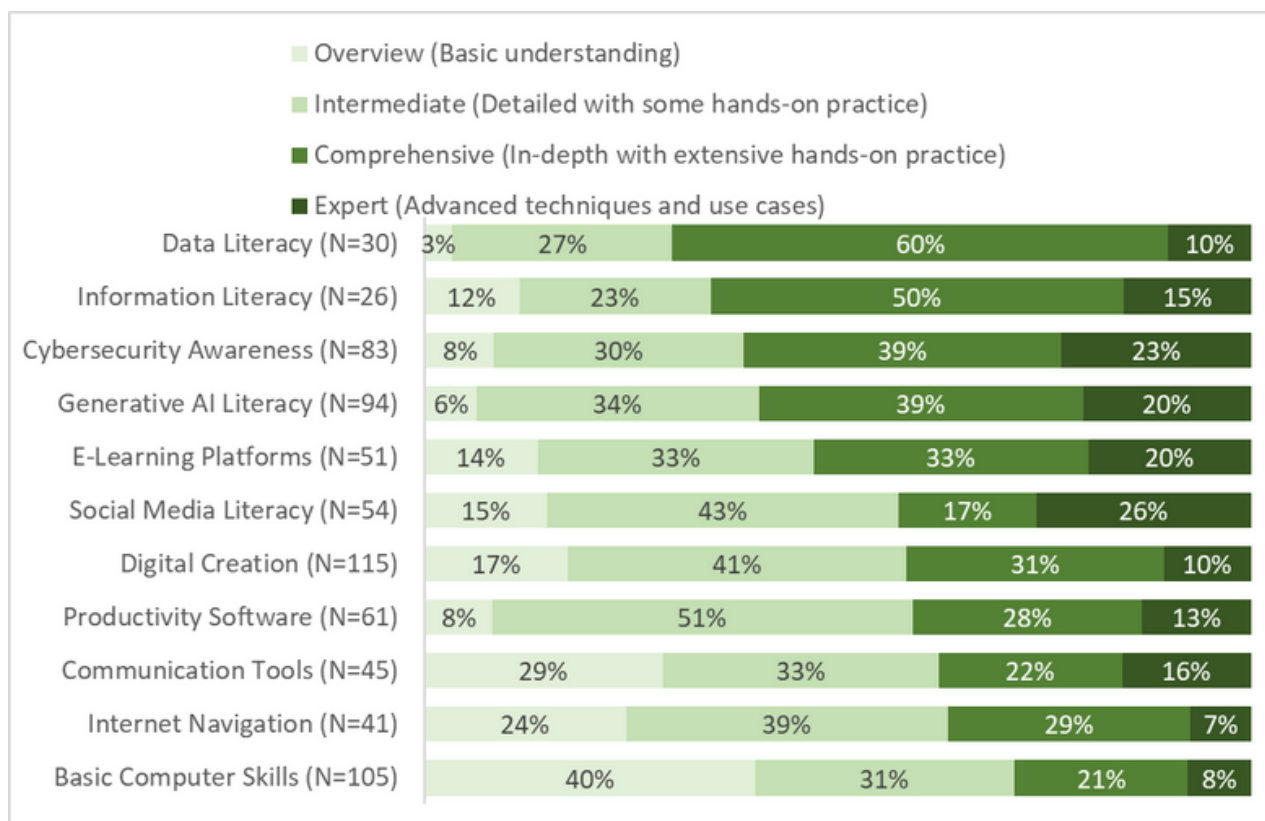
Figure 27: Students - The preferred format of Digital Literacies training by Degree and the level of Digital Literacies knowledge



In the graph below is shown what format of training is preferred by students that are most interested in a specific Digital Literacies skill they want to improve. Students who are most interested in improving Data Literacy and Information Literacy prefer trainings to be at least Comprehensive.

Students who are most interested in E-Learning Platforms want their training to be at an expert level (26% of them) more than other students that want to improve other Digital Literacies skills.

Figure 28: Students - The preferred format of Digital Literacies training by the Digital Literacies skill that students want to improve the most



Students of University of Montenegro and University of Korça “Fan S. Noli”, are more interested in taking Expert (advanced techniques and use cases) courses, compared to students of other universities.

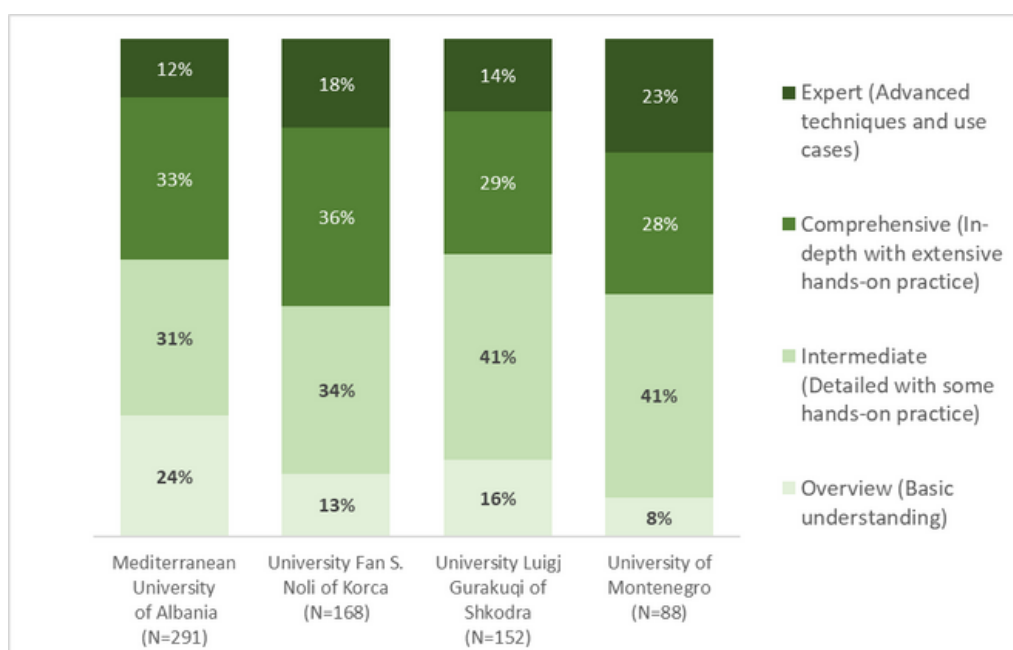
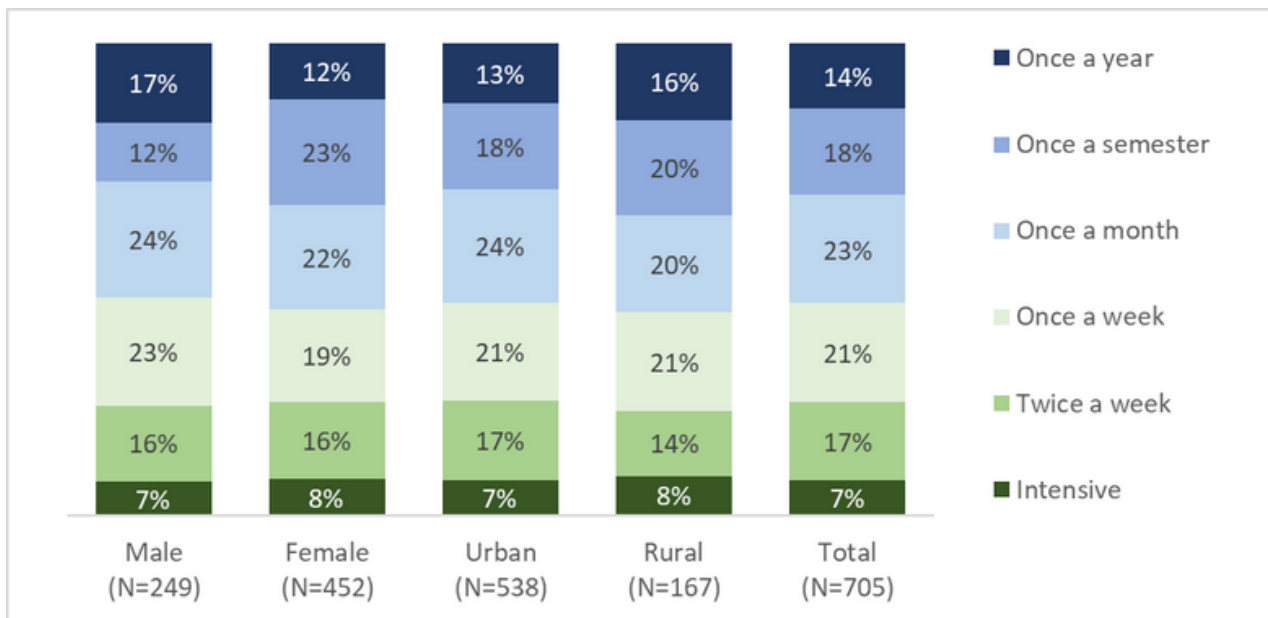


Figure 29: Students - Preferred Depth of Detail Training across Universities

Results of frequency of desired training sessions show that 7% of the total students like to do intensive training, 17% twice a week, and 21% once a week.

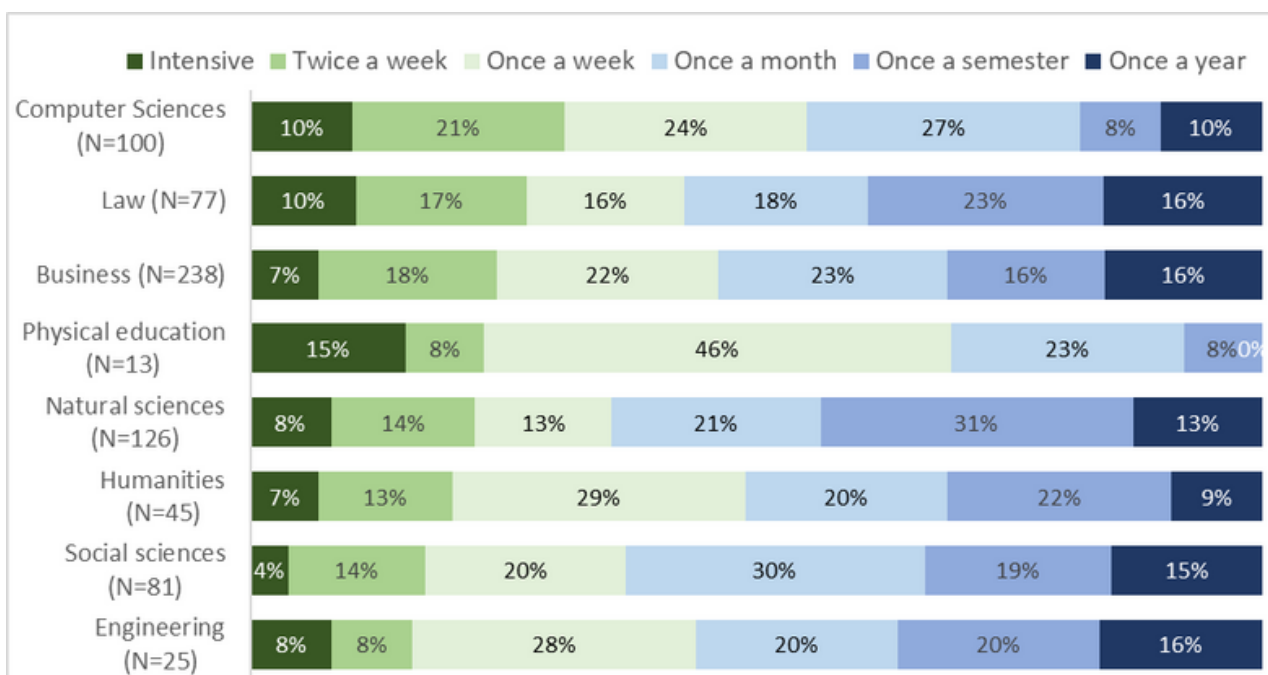
There are some differences between males and females, and by urbanity. For example, 12% of males want training to be once a semester, compared to 23% of females.

Figure 30: Students - Frequency of training session by gender and urbanity



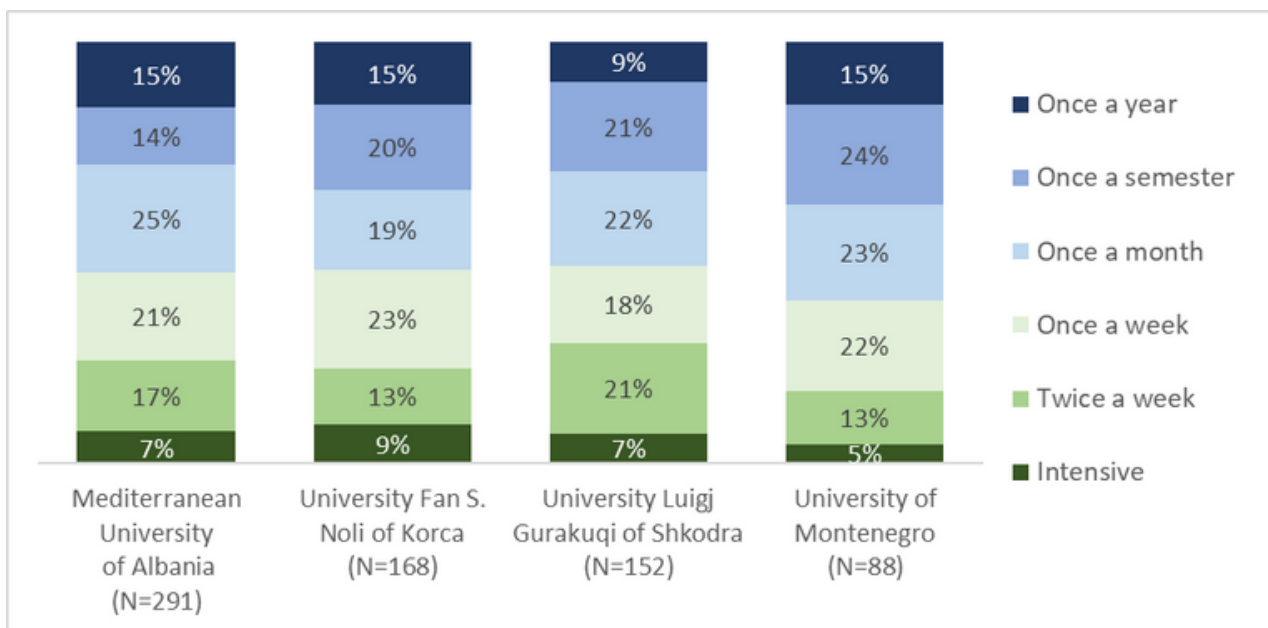
Results by discipline of studies show that Computer Science students and Law students prefer more intensive training sessions compared to students of other disciplines. On the other hand, students of Engeniering (results indicative) and Social Sciences prefer less intensive courses.

Figure 31: Students - Frequency of training session by gender and urbanity



Students of University of Montenegro want their training to be with a lower frequency compared to students of other universities.

Figure 32: Students - Frequency of training sessions by university



Focus group

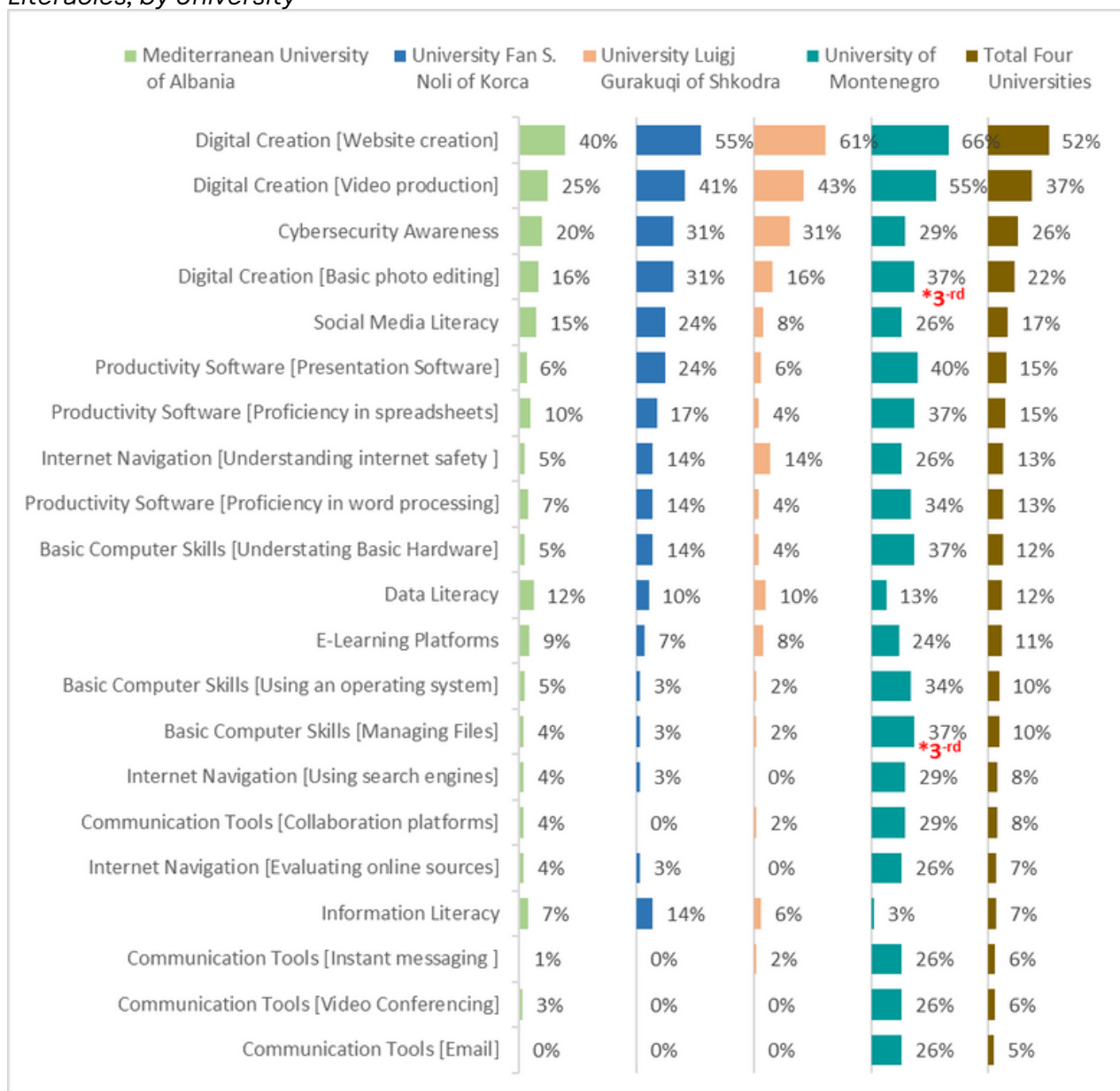
Insights from the Focus Group underscore a keen interest among students in Digital Literacies training. They advocate for subtle yet impactful changes, such as the adoption of formal communication through email with the university, departing from the prevalent use of WhatsApp in most cases. Beyond expressing appreciation for the benefits of digital tools, students also voice concerns. A student at University of Montenegro articulated a sentiment, stating, "I have the feeling that as Artificial Intelligence grows, our intelligence decreases, and we have no need to develop." This sentiment reflects widespread apprehension among students about the rapid advancement of digital tools, with concerns that artificial intelligence might replace the cognitive processes of students, leading to a perceived diminishing need for personal development. Conversely, other students view AI as a valuable tool that aids them in their work and enhances critical thinking skills. This dichotomy highlights the diverse perspectives among students regarding the role of AI in education and its impact on their intellectual growth.

4.2 Findings regarding lecturers

Level of knowledge

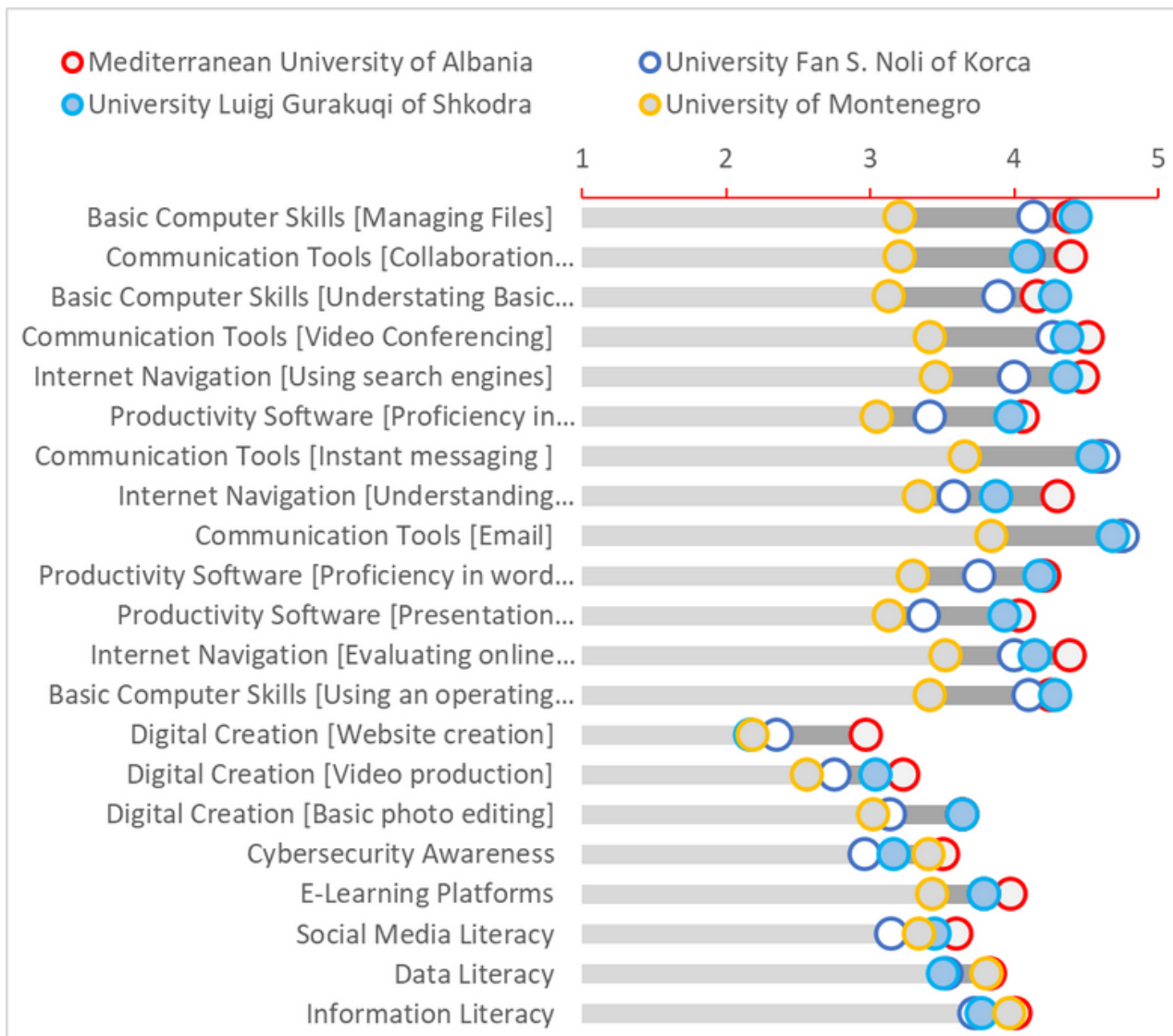
Overall, for the total four universities, half of the Lecturers (52%) have “no proficiency” or “limited proficiency” in Website Creation. About 26% of lecturers of the total four universities lack proficiency in Cybersecurity Awareness. Lack of proficiency is observed even in Basic Computer Skills as Understanding Basic Hardware (12% “no proficiency” and “limited proficiency”), Data Literacy (12%), Proficiency in Word Processing (13%), in Internet Navigation (Understanding internet safety – 13%), and so on.

Figure 33: Lecturers - Students who have "no proficiency" or "limited proficiency" in Digital Literacies, by University



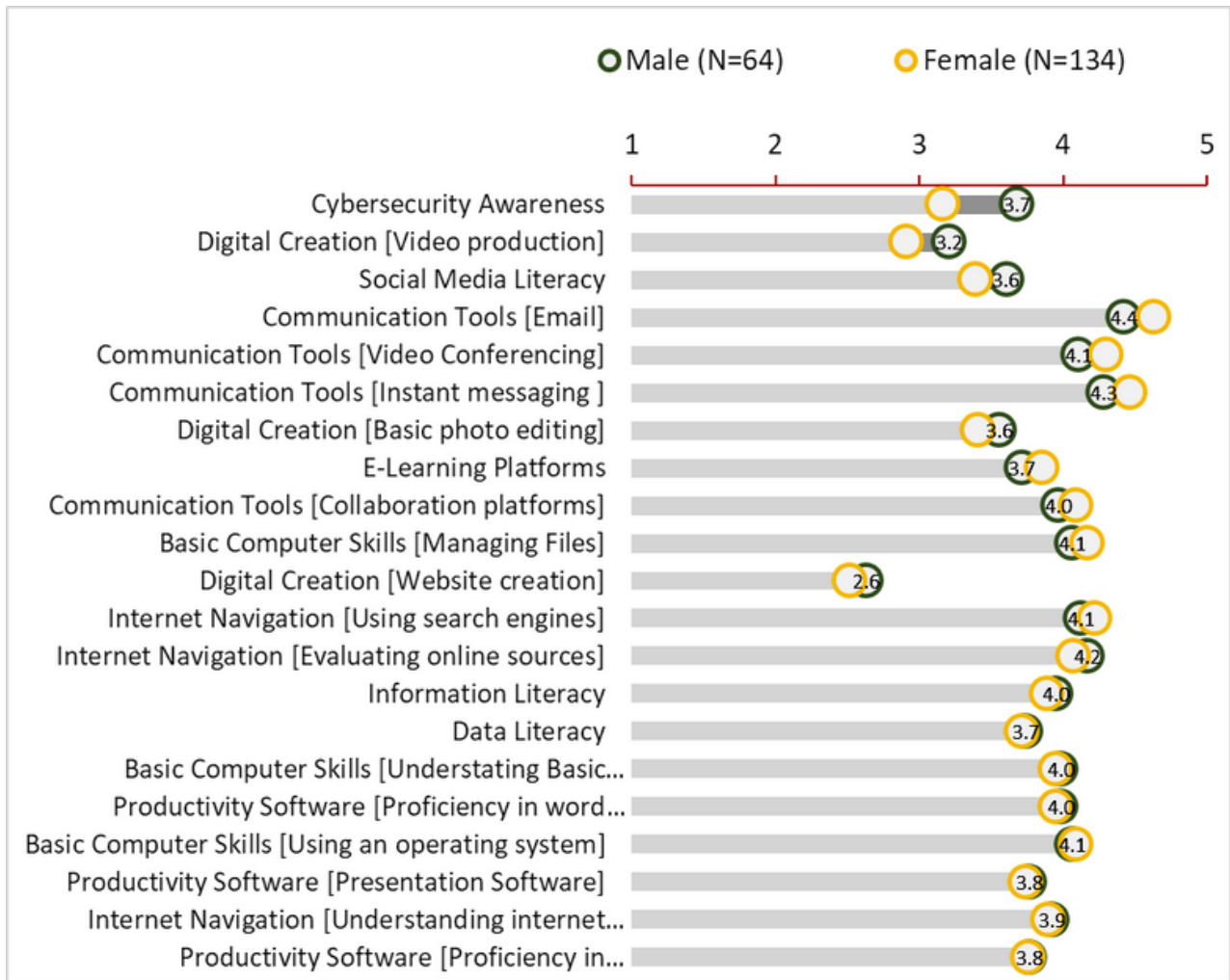
Results show that Lecturers at the University of Montenegro declare to have a lower level of knowledge on most of the Digital Skills mentioned in the questionnaire. Lecturers of the Mediterranean University of Albania and University of Shkodra “Luigj Gurakuqi”, declare to have a higher level of knowledge of Digital Skills, compared to the other 2 universities that are part of this study.

Figure 34: Lecturers - Level of knowledge on Digital Literacies by University



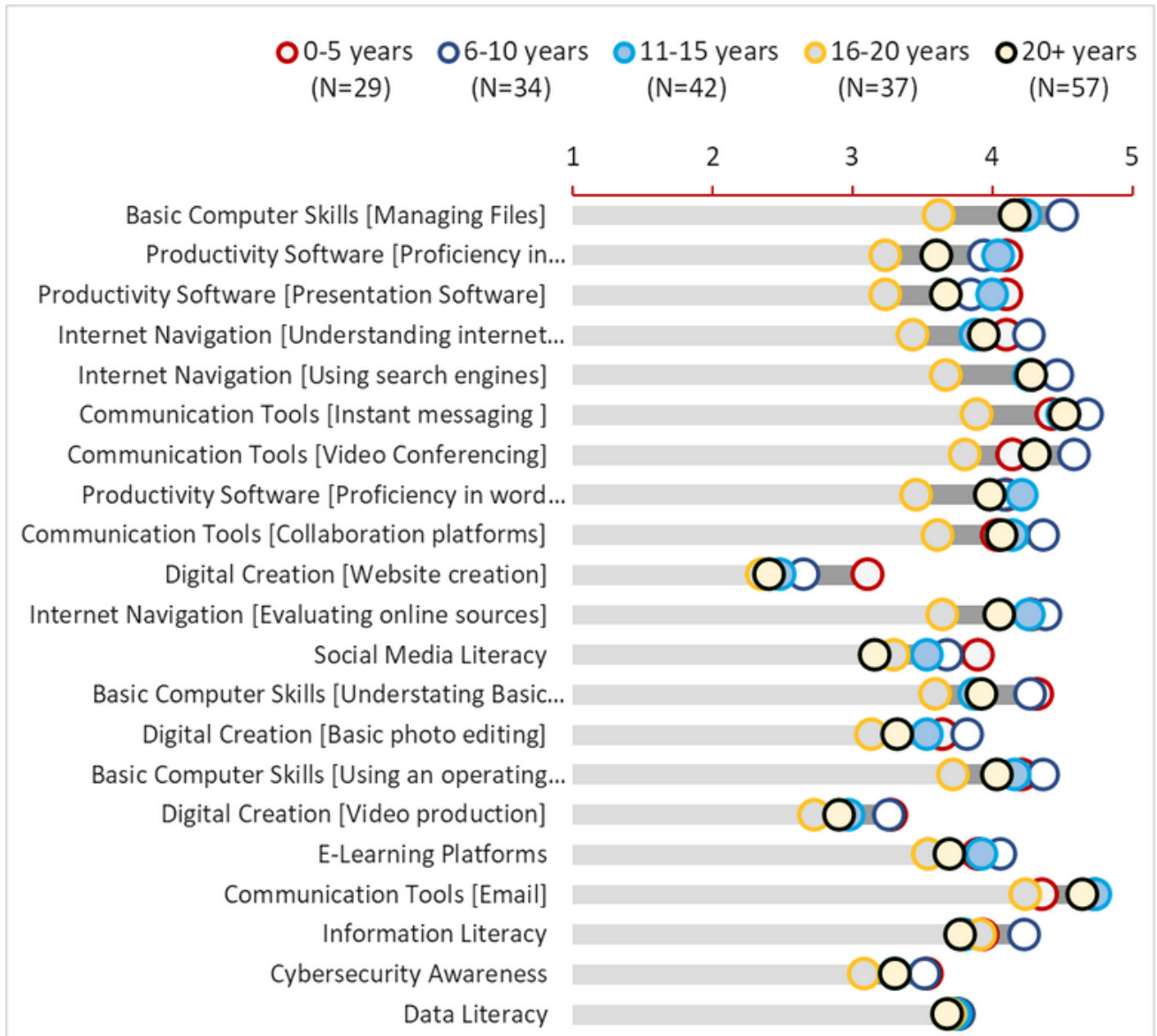
Results of the Level of knowledge self-declared by lecturers show that males tend to have a higher level compared to females in Cybersecurity awareness, Video Production, and Social Media Literacy. Other differences are not significant.

Figure 35: Lecturers - Level of knowledge on Digital Literacies by gender



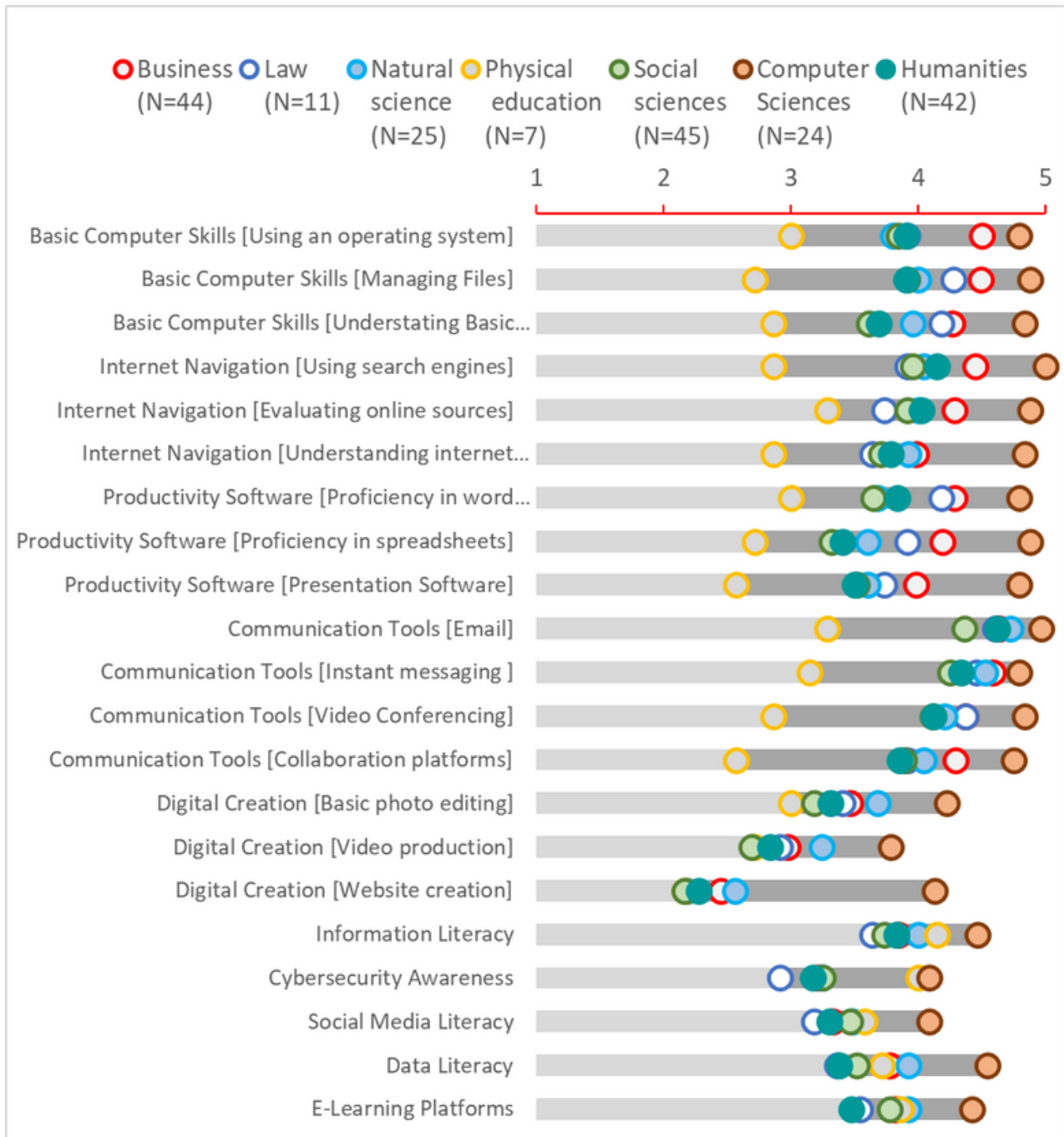
Results show that lecturers who have more years of experience tend to have a lower level of knowledge compared to others with less experience.

Figure 36: Lecturers - Level of knowledge on Digital Literacies by experience



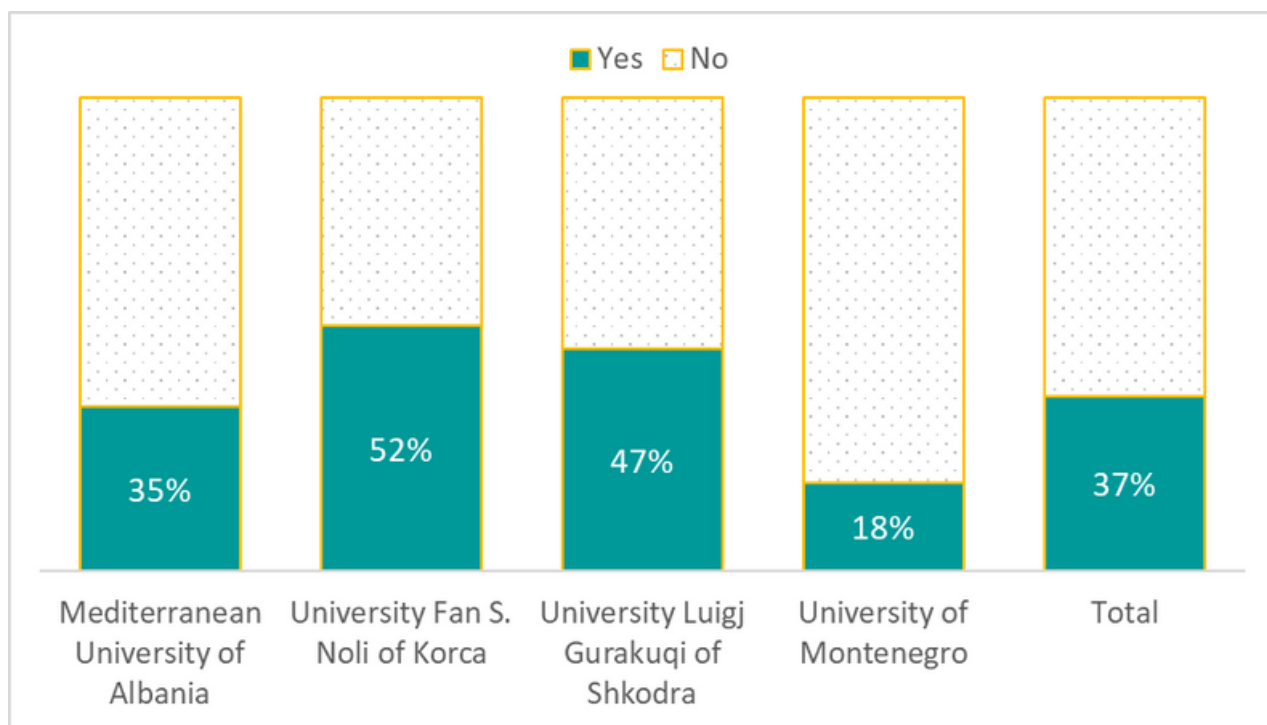
As expected Lecturers who have expertise in Computer Sciences, tend to have a higher level of knowledge regarding Digital Literacies. Next with a higher level of knowledge are professors with expertise in Business. The lowest level of knowledge is self-declared by lectures with a profile in Physical Education (results are only indicative and not significantly important).

Figure 37: Lecturers - Level of knowledge on Digital Literacies by discipline of expertise



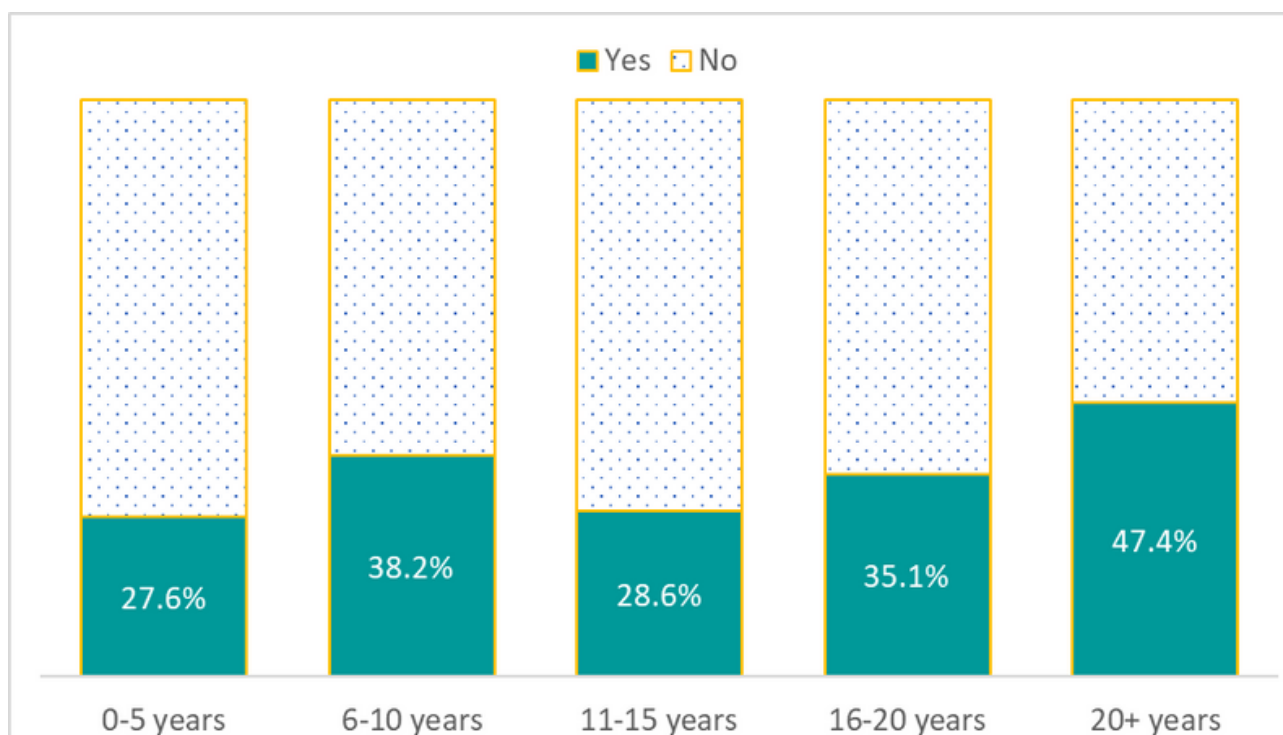
In total four universities, 37% of the lecturers have participated in at least one training session related to Digital Literacies in the past years. If we check the participation by the university, it shows that more lecturers who work at the University of Korça “Fan S. Noli” (52%) and the University of Shkodra “Luigj Gurakuqi”, (47%) have participated in training related to Digital Literacies, compared to Lecturers who work at the Mediterranean University of Albania (35%) and University of Montenegro (18%).

Figure 38: Lecturers - Participation in training sessions related to Digital Literacies



Results show that more lecturers with more years of experience have participated in Digital Literacies training compared to lecturers with less years of experience in the past years.

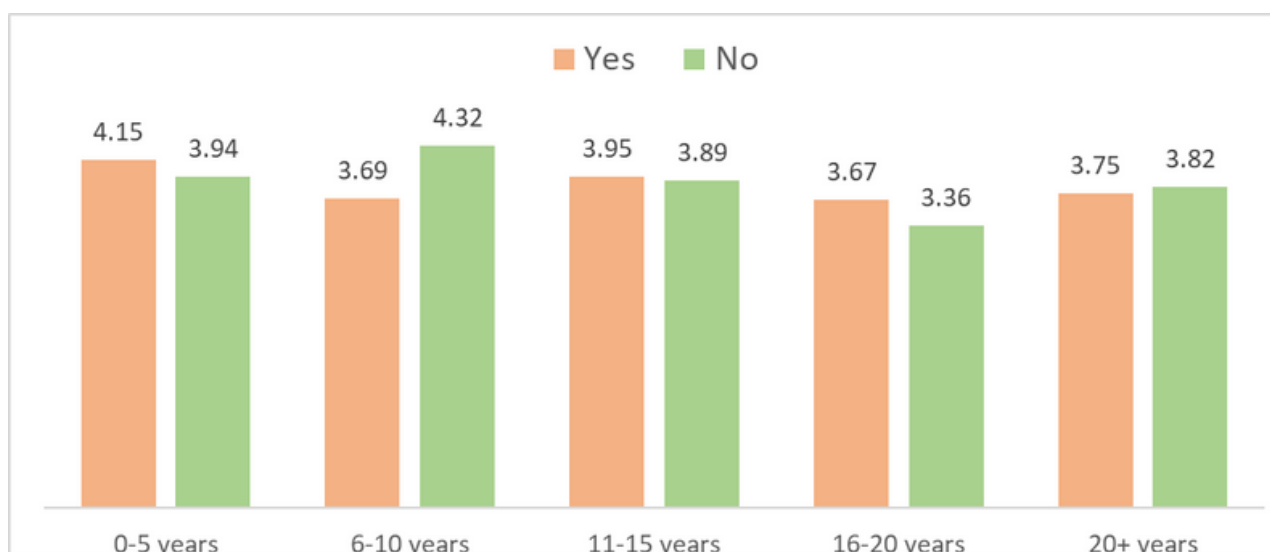
Figure 39: Lecturers - Participation in Digital Literacies trainings sessions related to their experience



The findings indicate that lecturers with 0-5 years and 11-20 years of teaching experience, who have engaged in at least one training session in recent years, exhibit a higher level of proficiency in Digital Literacies. Conversely, the reverse pattern is observed for professors with 6-10 years and over 20 years of experience. Lecturers who have undergone training express a lower level of proficiency in Digital Literacies compared to their counterparts who have not participated in training sessions.

Several factors may contribute to this observation. It is plausible that professors who perceived a greater need for skill enhancement actively sought out training opportunities, while those already possessing a higher level of digital literacies knowledge may not have found the same imperative to engage in such sessions.

Figure 40: Digital Literacies Proficiency Among Lecturers by Training Participation and Teaching Experience



Results categorized by the profiles of lecturers reveal that individuals with backgrounds in Business, Social Sciences, and Computer Sciences have demonstrated a higher rate of participation in Digital Literacies training sessions compared to their counterparts in other disciplines.

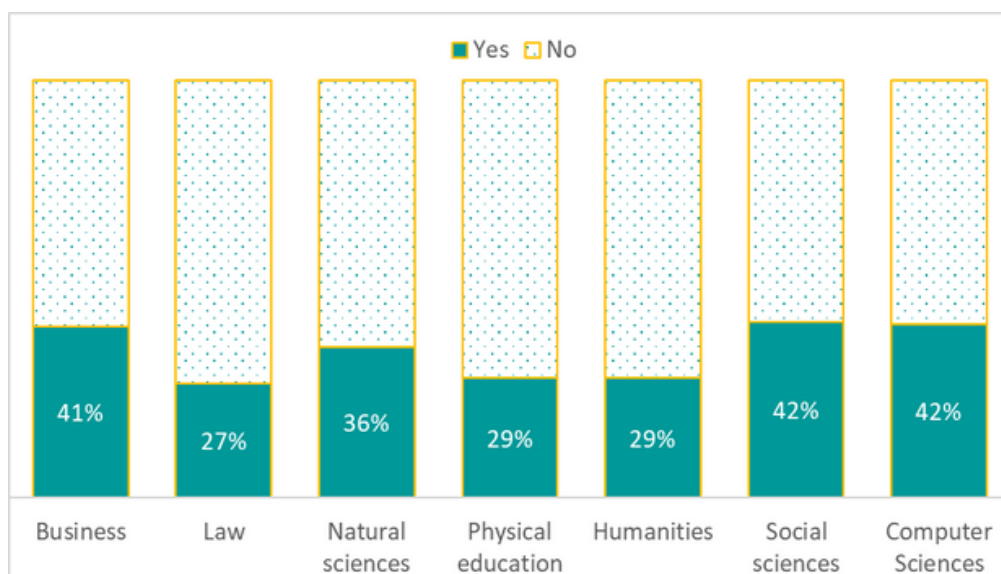
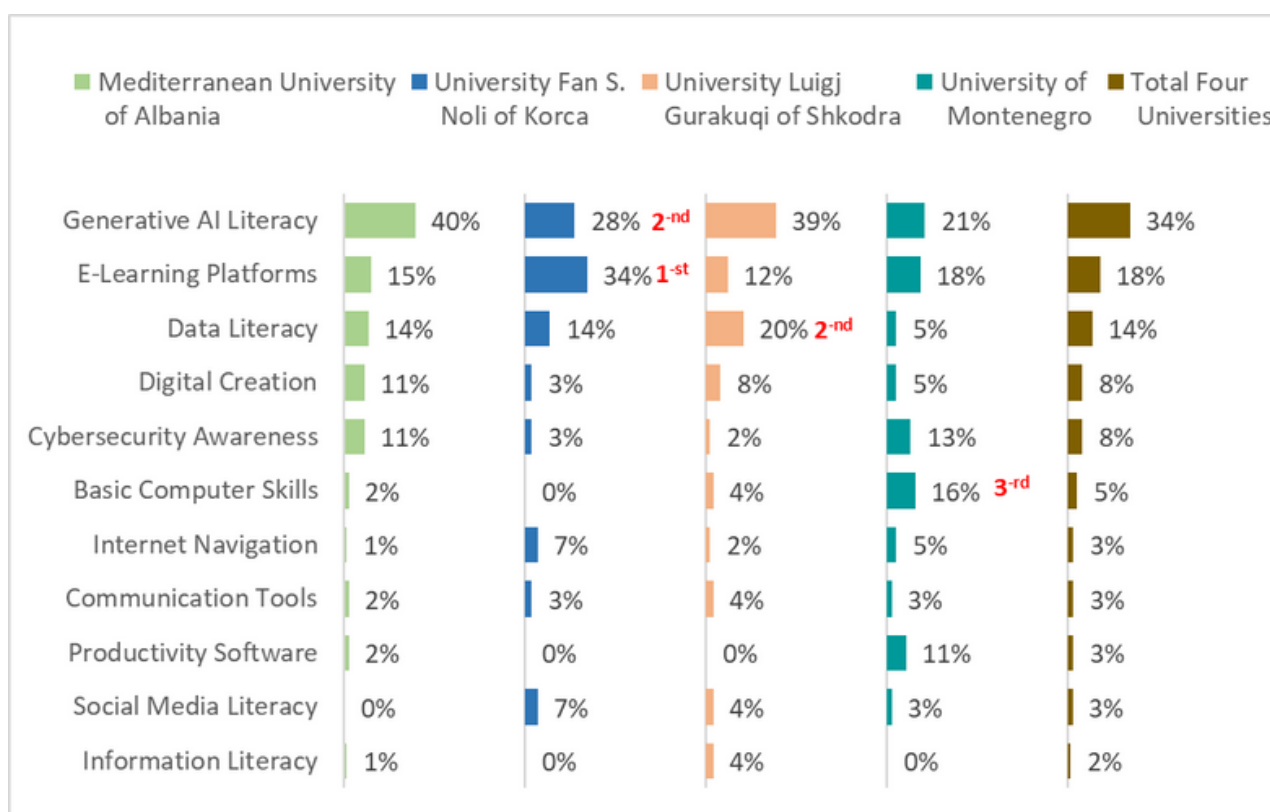


Figure 41: Lecturers - Participation in Digital Literacies training sessions related to discipline of expertise

Preferred Digital Literacies Skills to be improved

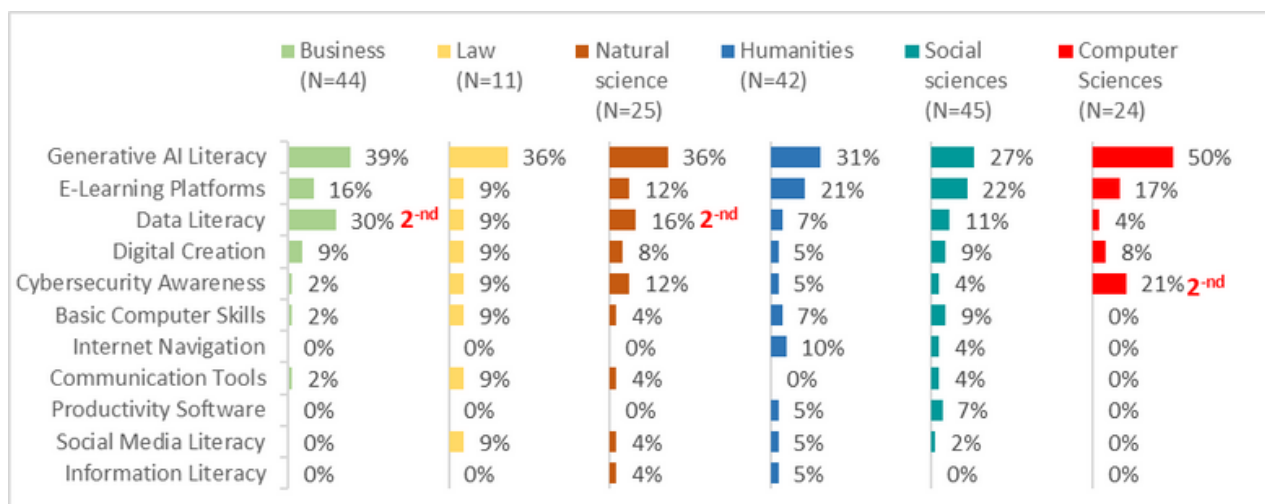
There are some differences in the preferences of what lecturers of different universities want to improve. Generative AI Literacy is the most preferred training by 34% of all lecturer respondents of three out four universities. Exemption is the University of Korça “Fan S. Noli” which lecturers prefer the most to improve their skills in E-Learning Platforms by 34% , compared to only 18% of lecturers of the University of Montenegro, 15% of those in the Mediterranean University of Albania, and 12% of University of Shkodra “Luigj Gurakuqi”. A large difference is shown in the preference for basic computer skills, where 16% of lecturers at the University of Montenegro are interested the most in improving them, compared to only 4% of those at the University of Shkodra “Luigj Gurakuqi”, 2% at the Mediterranean University of Albania, and 0% of those at the University of Korça “Fan S. Noli”.

Figure 42: Lecturers - Skills that Lecturers are most interested in improving, by University



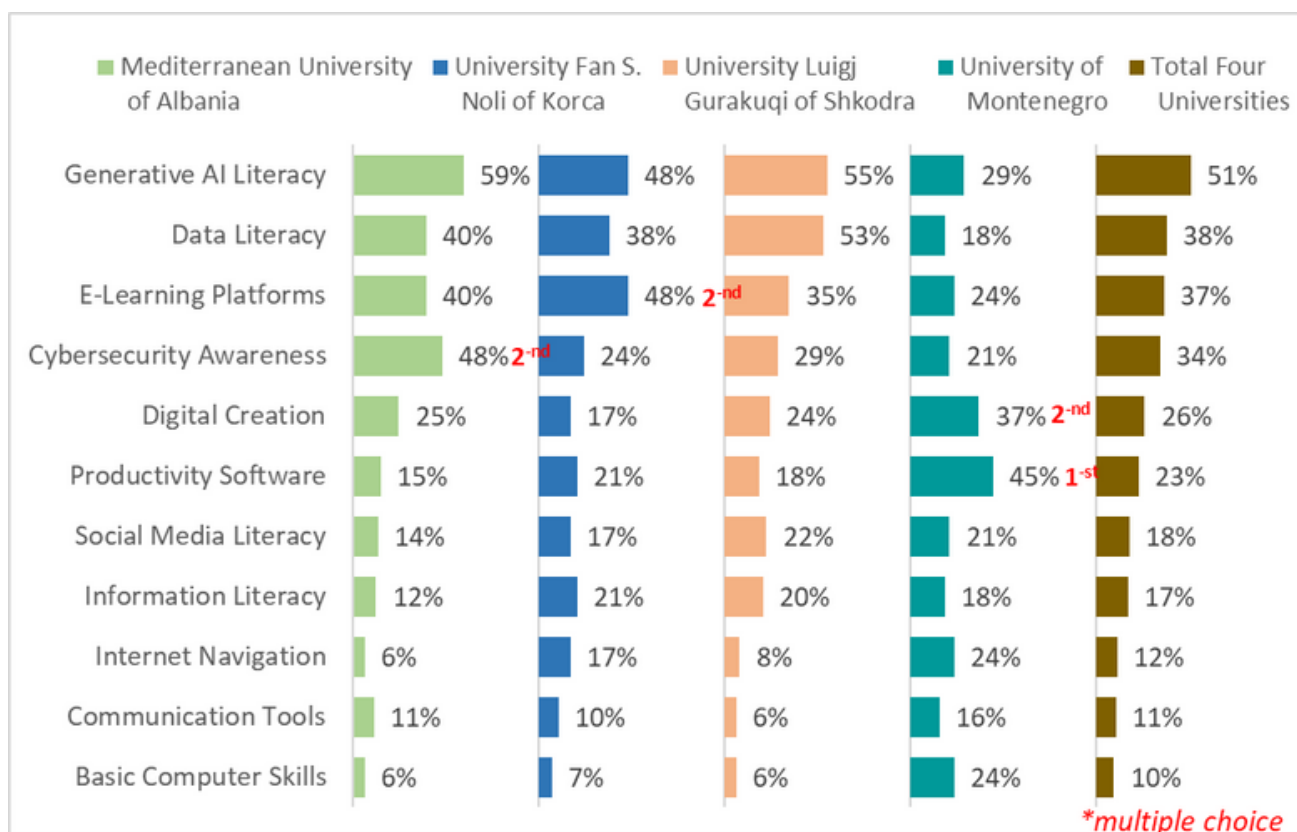
All the lecturers regardless of their profile of expertise are most interested in improving Generative AI Literacy, but there are some significant differences (50% of Lecturers of Computer Sciences, 39% of Business, 36% of Law and Natural Science, 31% of Humanities and 27% of Social Sciences). Lecturers of Computer Science are second most interested in improving Cybersecurity Awareness (21%).

Figure 43: Lecturers - Skills that Lecturers are most interested in improving, by discipline of expertise



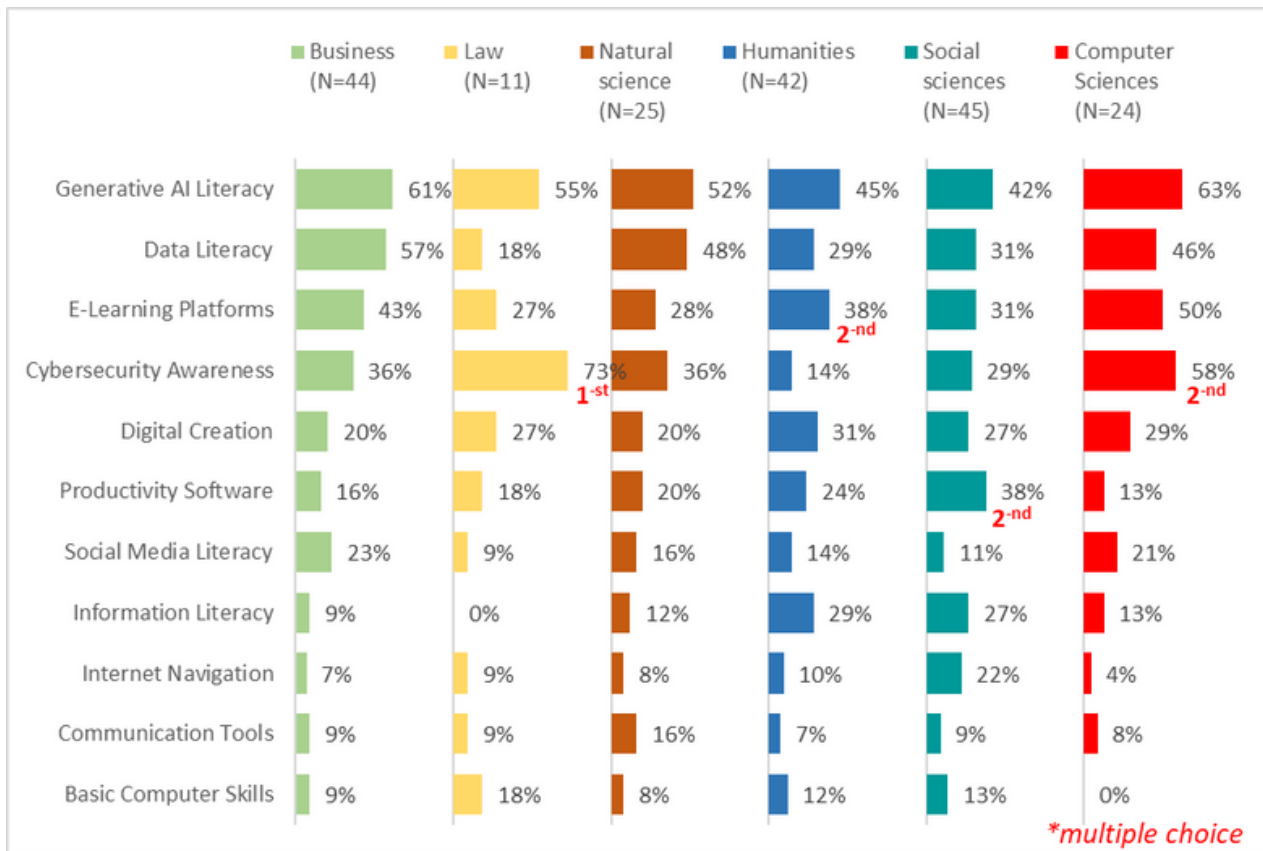
When professors were asked to choose more than one skill they are interested in improving, half (51%) chose Generative AI Literacy, 38% Data Literacy, 37% E-Learning Platforms, and so on. Lectors at the University of Montenegro are more interested in improving Productivity Software (45% of respondents), and Digital creation (37% of respondents). Also, lectors of the Mediterranean University of Albania (48%) are interested in improving Cybersecurity Awareness, compared to less than 30% of other professors in other universities.

Figure 44: Lecturers - Skills that Lecturers are interested in improving, by University



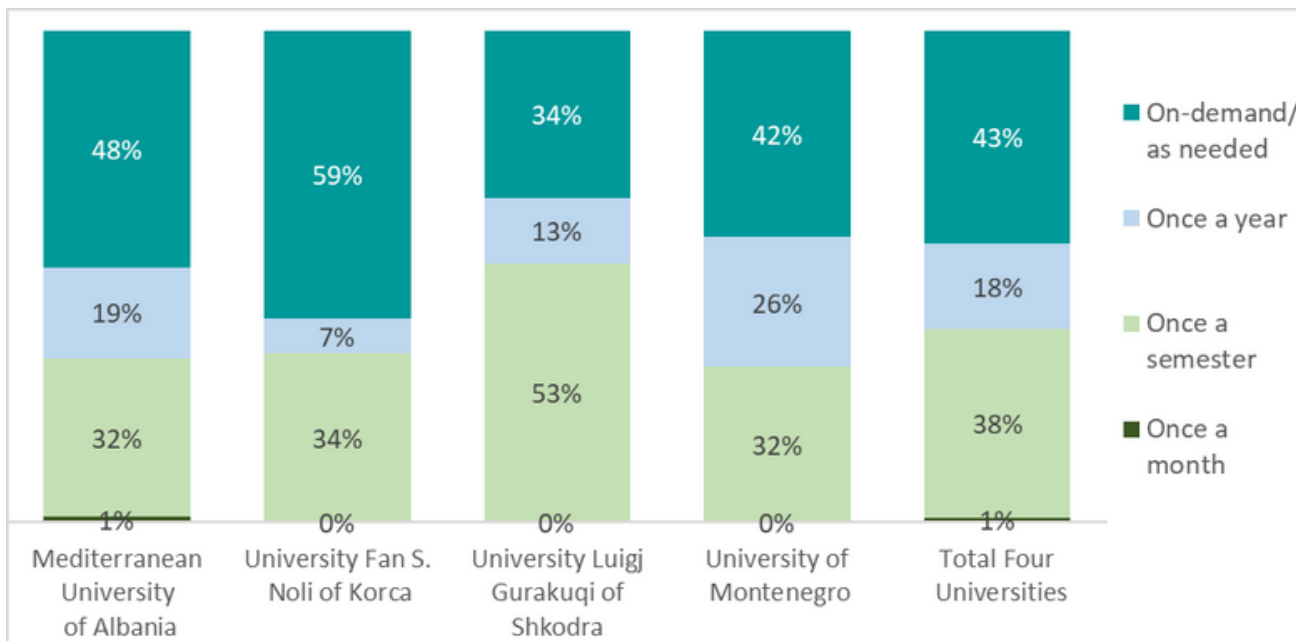
On the other hand the second most interested skill to be improved for professors of Computer Science is Cybersecurity Awareness (58%).

Figure 45: Lecturers - Skills that Lecturers are interested in improving, by digital of expertise



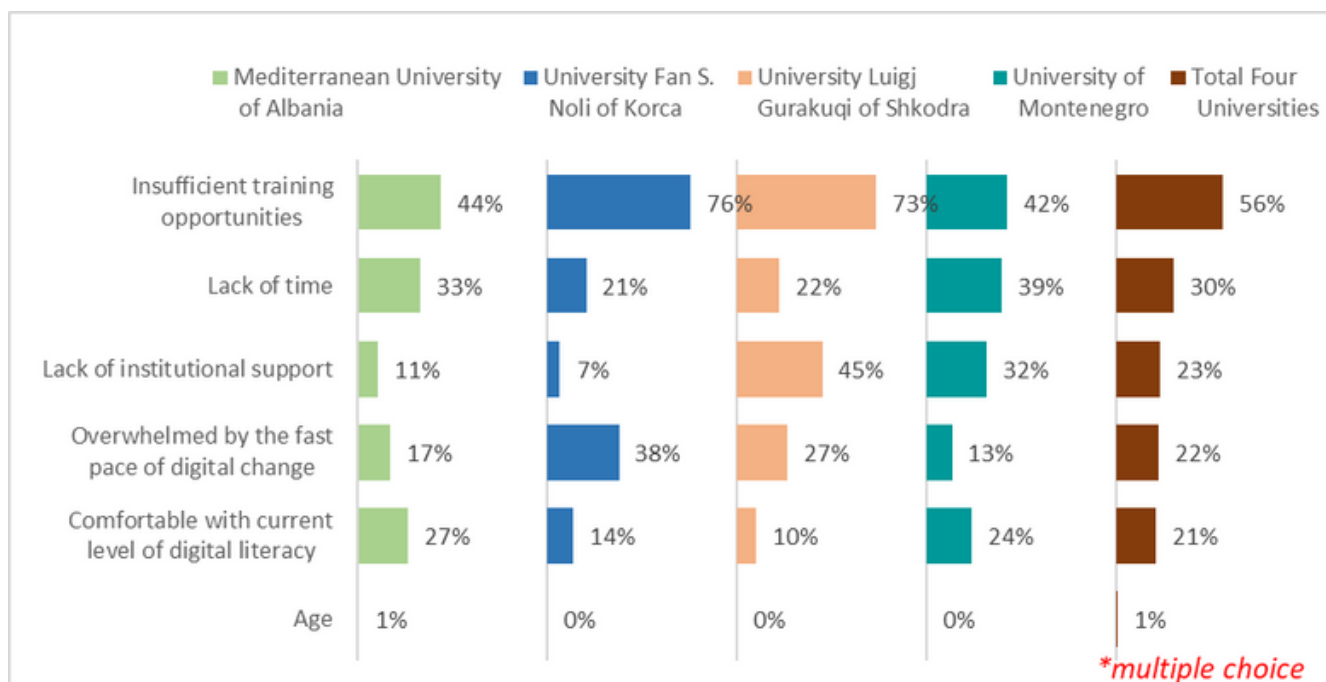
In four universities, 43% of Lecturers want session training to be on demand/ as needed, 18% once a year, 38% once a semester, and only 1% once a month.

Figure 46: Lecturers - Frequency of desired training by University



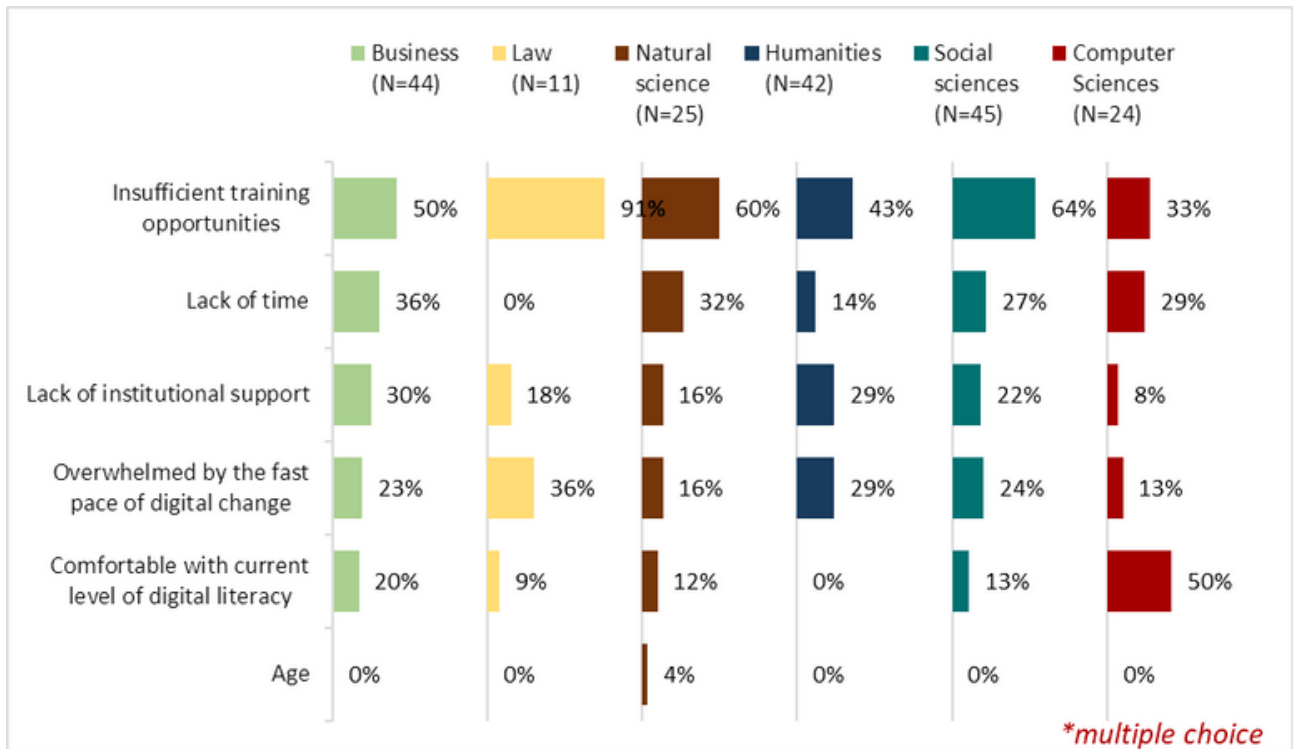
More than half of the lecturers from the four universities (56%) say that Insufficient training opportunities are one of the main barriers to attending training sessions. This differs from one university to another (44% of lecturers from the Mediterranean University of Albania think so, compared to 76% of the University of Korça “Fan S. Noli”, 73% University of Shkodra “Luigj Gurakuqi”, and 42% of the University of Montenegro). Lack of time is the second most important barrier that prevents lecturers from attending training sessions. About 45% of the lecturers at the University of Shkodra “Luigj Gurakuqi”, think that Lack of Institutional support is one of the main barriers to attending training sessions. Also, interesting is that 38% of the lecturers at the University of Korça “Fan S. Noli”, see it as one of the barriers to the fast pace of digital change.

Figure 47: Lecturers - Barriers to attending training sessions by University



The interesting results by the discipline of expertise of lecturers are that 50% of the professors with Computers Science profile are comfortable with their current level of Digital Literacies, compared to less than 20% for professors of other disciplines. Results for Low are not significant due to the low number of responses.

Figure 48: Lecturers - Barriers to attending training sessions by discipline of expertise

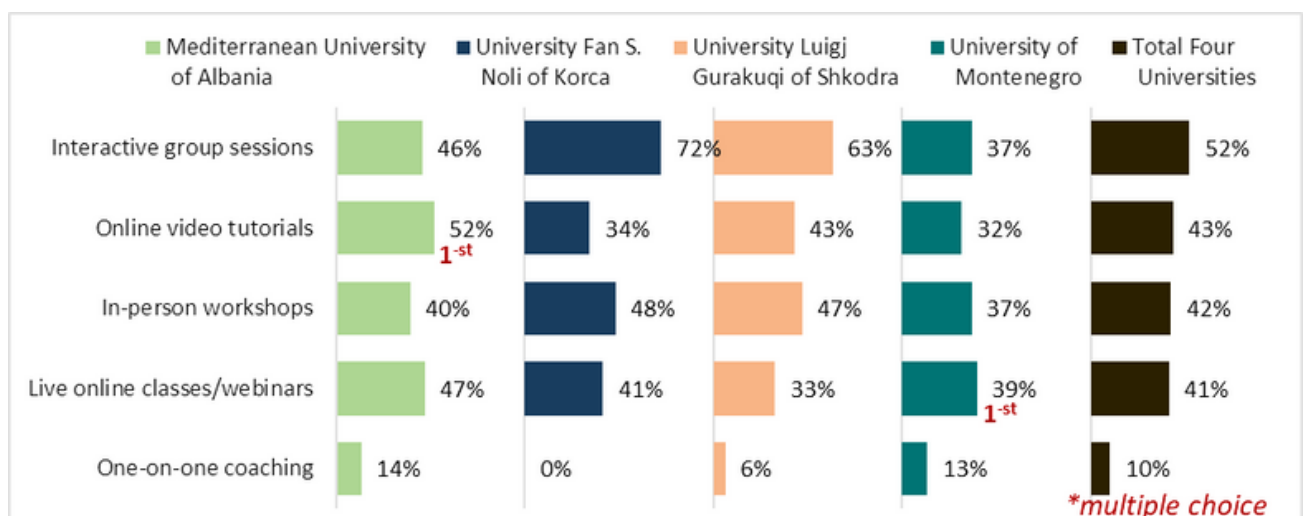


Favorite training methods

The preferred method for Digital Literacies trainings for all professor respondents is through Interactive group sessions by 52% in average, and in more details University of Korça “Fan S. Noli”, (72%), University of Shkodra “Luigj Gurakuqi” (63%), Mediterranean University of Albania (46%), and University of Montenegro (37%).

Yet the Online Video Tutorial method is the first choice for Mediterranean University of Albania by 52%, while Live Online Classes/Webinar is the number one method of training for the lecturers of the University of Montenegro by 39%.

Figure 49: Lecturers - Preferred formats of Digital Literacies Training by University

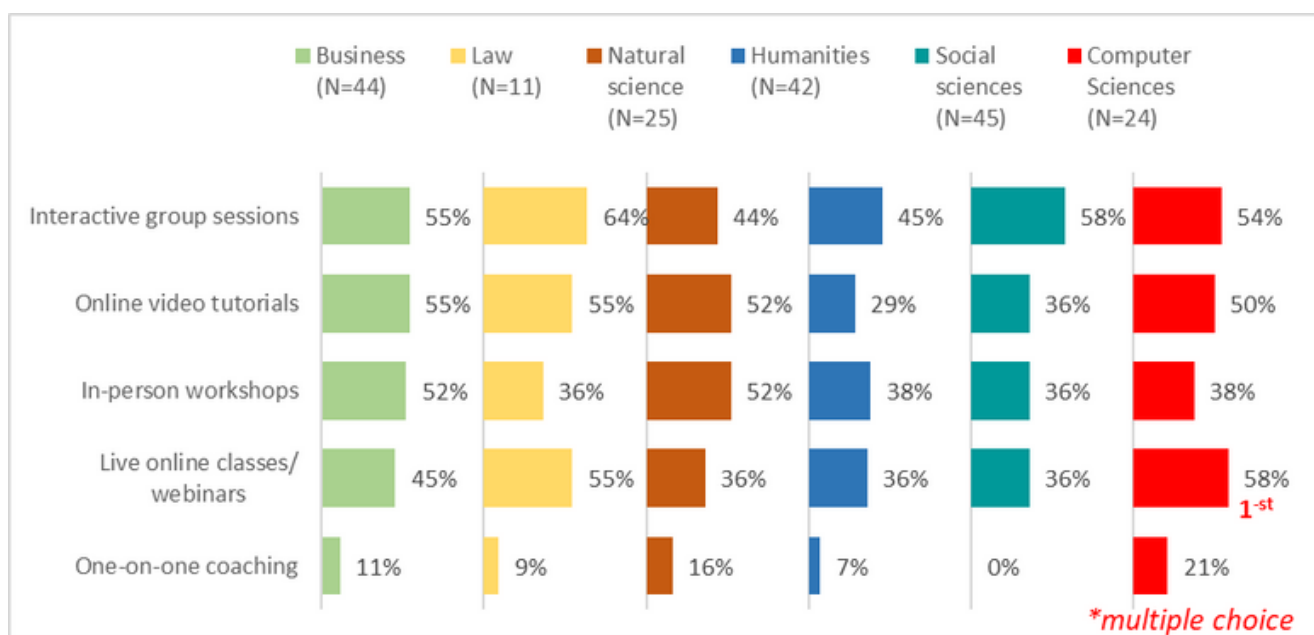


Focus Group: The focus group results echo the quantitative data regarding lecturers' preferences for Digital Literacies training formats. The trend is towards favoring face-to-face sessions, with many lecturers highlighting the benefits of interactive, engaging, and focused learning environments that these sessions provide. On the other hand, a significant number of professors see value in a hybrid approach, combining the personal touch of face-to-face training with the convenience and accessibility of online modules. This preference for in-person training is particularly pronounced among lecturers at the University of Korça “Fan S. Noli”, mirroring the quantitative findings. This preference underscores a broader trend in digital literacies education, where the perceived effectiveness of personal interaction and engagement in learning environments is highly valued.

Regarding quantitative analyses, Interactive group sessions are the preferred format of Digital Literacies training for professors with expertise in Business (55%), Law (64%), Humanities (45%), and Social Sciences (58%).

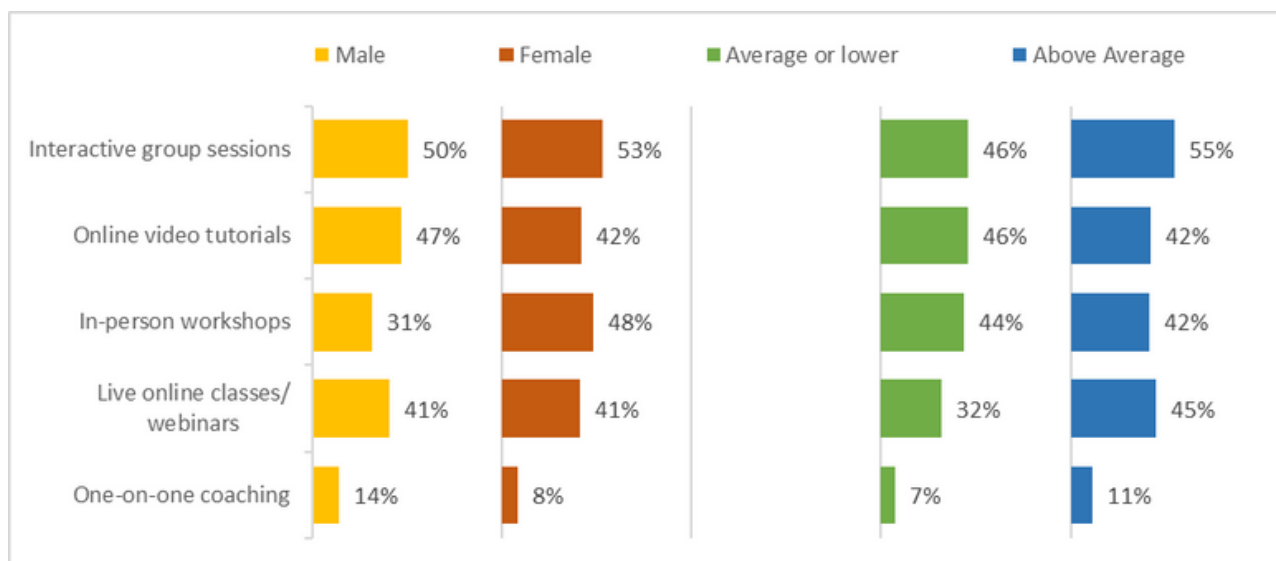
About half of the lecturers with expertise in Natural Sciences prefer Online Video Tutorials (52%) and In-Person workshops (52%). Also, Live online classes/webinars are the preferred format of training for Computer Sciences professors (58%).

Figure 50: Lecturers - Preferred formats of Digital Literacies training by discipline of expertise



In-Person workshops are preferred by 48% of females and only 31% of males. Also, the difference is shown in preference for Interactive group sessions and Live online classes/webinars regarding the Digital Literacies knowledge level.

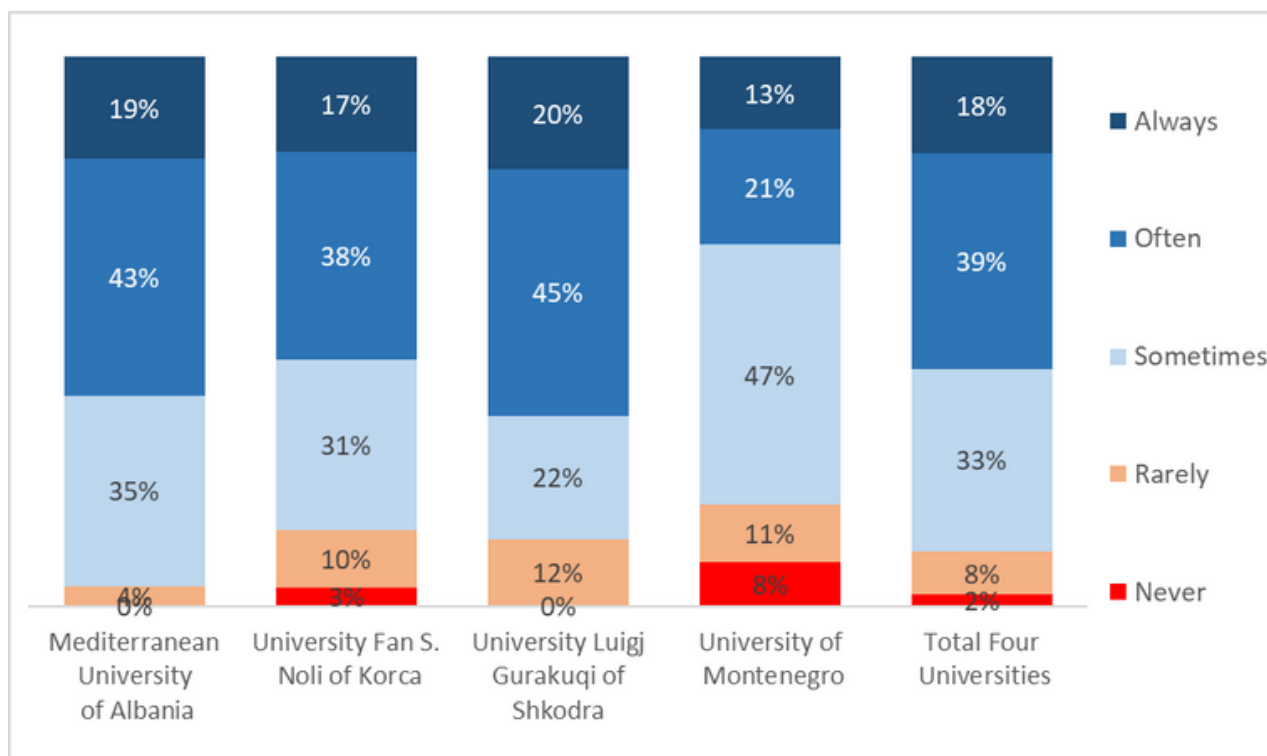
Figure 51: Lecturers - Preferred formats of Digital Literacies training by gender and by Digital Literacies knowledge



Usage of Digital Tools

When Lecturers were asked how often they use digital tools in their teaching, 18% declared to always use them and 39% often use them, 33% use them rarely, but only 2% of the lecturers never used digital tools in their teaching. Lecturers at the University of Montenegro tend to use a lower frequency the digital tools during their teaching, compared to professors at three other universities.

Figure 52: Lecturers - Digital tools usage during their teaching per University



Focus Group:

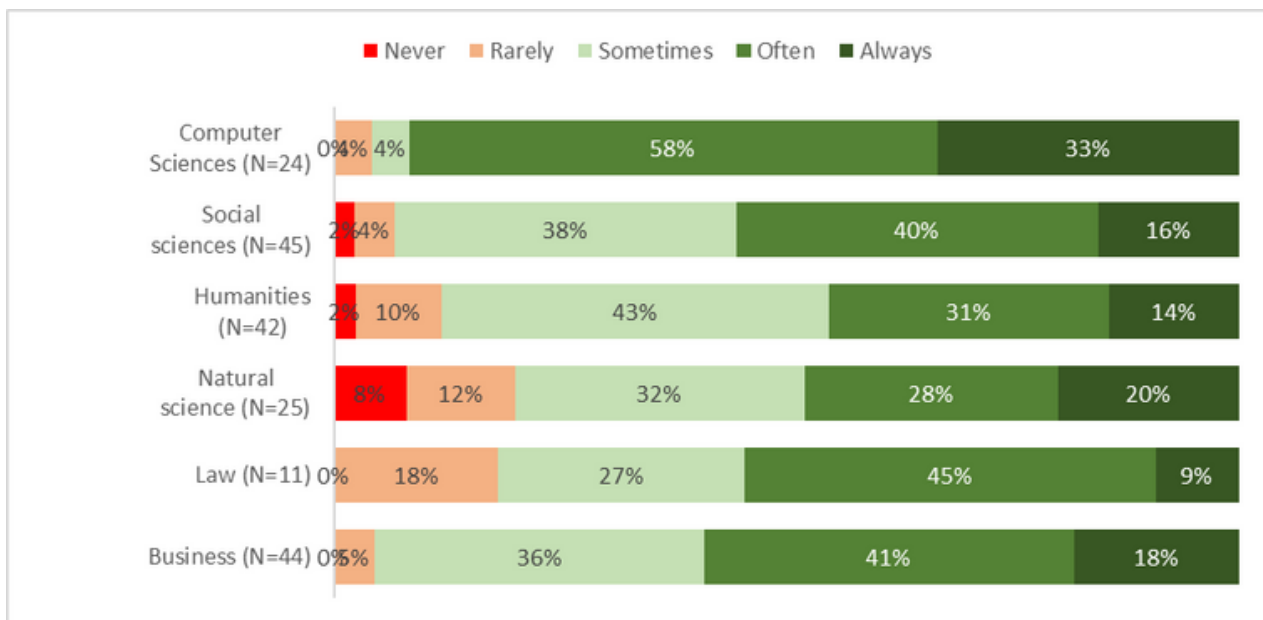
The discussions during the focus groups reveal that the Covid-19 pandemic in 2020 was a pivotal moment for many lecturers in terms of familiarizing themselves with digital tools. They heavily relied on online educational platforms like Microsoft Teams and Moodle during this period. However, their current usage of these tools is mostly limited to sharing teaching materials, and it is not a consistent practice.

A significant challenge identified is the need for both professors and students to have similar proficiency levels in these digital tools. Issues such as outdated classroom computers and limited WiFi access, often restricted to lecturers, further complicate this scenario.

At University of Montenegro, lecturers have shown an increased proficiency in online tools like Microsoft Teams, Zoom, Blue Button, and Moodle, albeit still preferring traditional teaching methods. In contrast, lecturers in Albania frequently use platforms such as Microsoft Teams, Google Meet, and Google Classroom, with Moodle being less commonly utilized, particularly at the University of Korça “Fan S. Noli”. This variation indicates differing levels of adaptation and preference for digital tools in the educational settings of Montenegro and Albania.

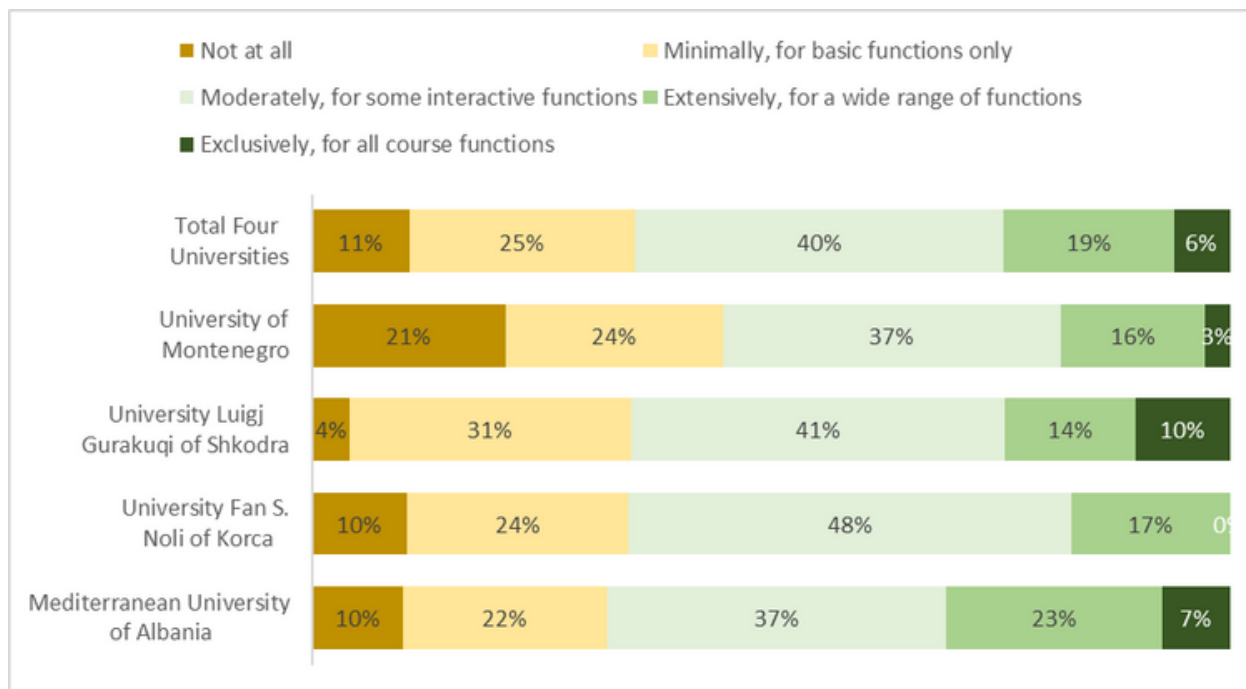
Regarding quantitative analyses, Lecturers in the field of Computer Science are those who use it more often the digital tool during their teaching. On the other hand, professors of Humanities use less often the digital tools during their teaching. Results for Law are only indicative and not statistically significant.

Figure 53: Lecturers - Usage of Digital Tools by professors during their teaching, by discipline of expertise



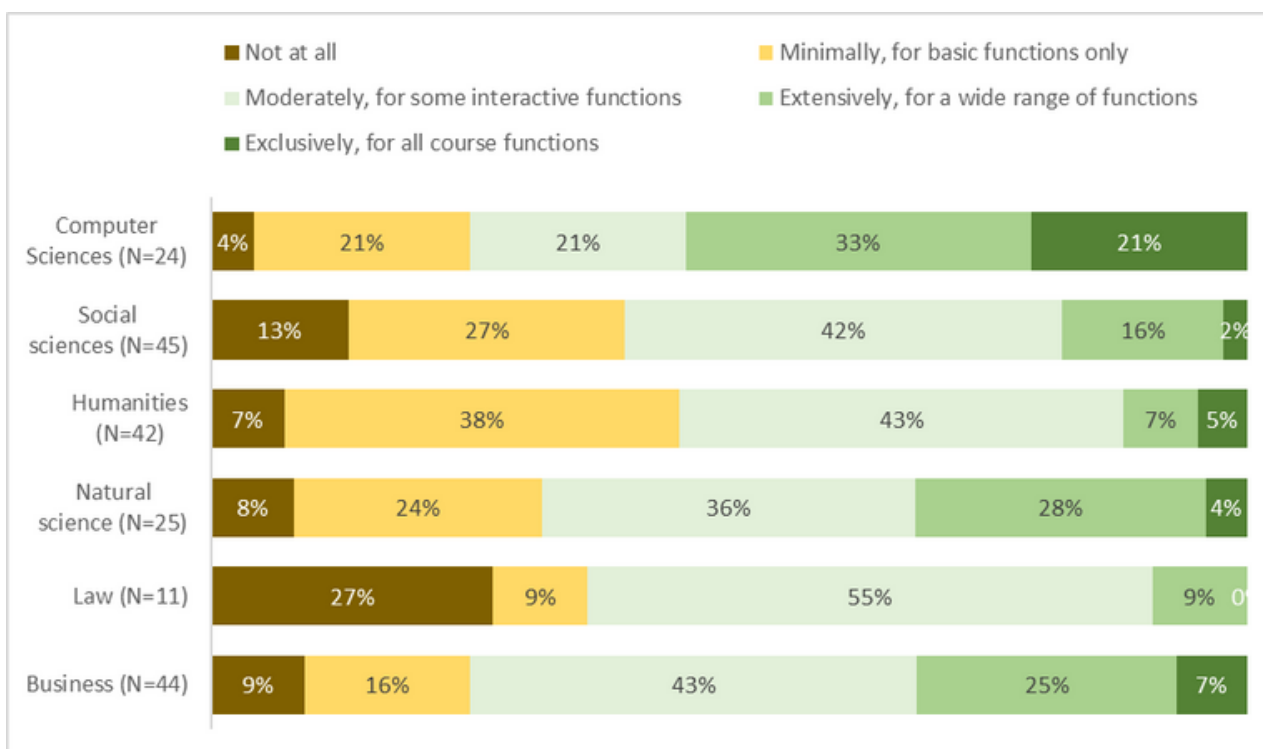
Lecturers were asked to what extent they integrate learning management systems in their courses. About 11% declared that they never integrated them. Disaggregation by university shows that 21% of lecturers at the University of Montenegro do not integrate at all the learning management systems. About 10% of the lecturers at the University of Shkodra “Luigj Gurakuqi” use Learning Management Systems exclusively, for all the course functions.

Figure 54: Lecturers - Learning Management Systems usage per University



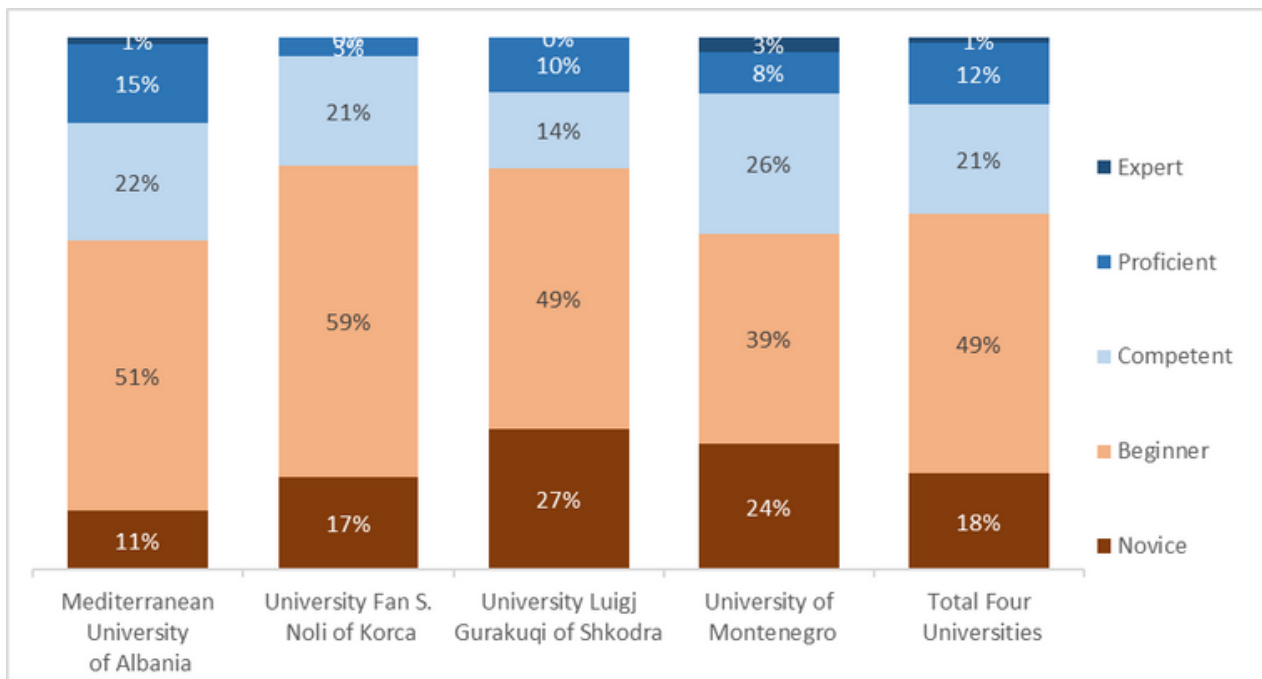
Lecturers with expertise in Computer Science tend to use more in their courses the Learning Management Systems, compared to professors of other fields.

Figure 55: Lecturers - Learning Management Systems usage per expertise



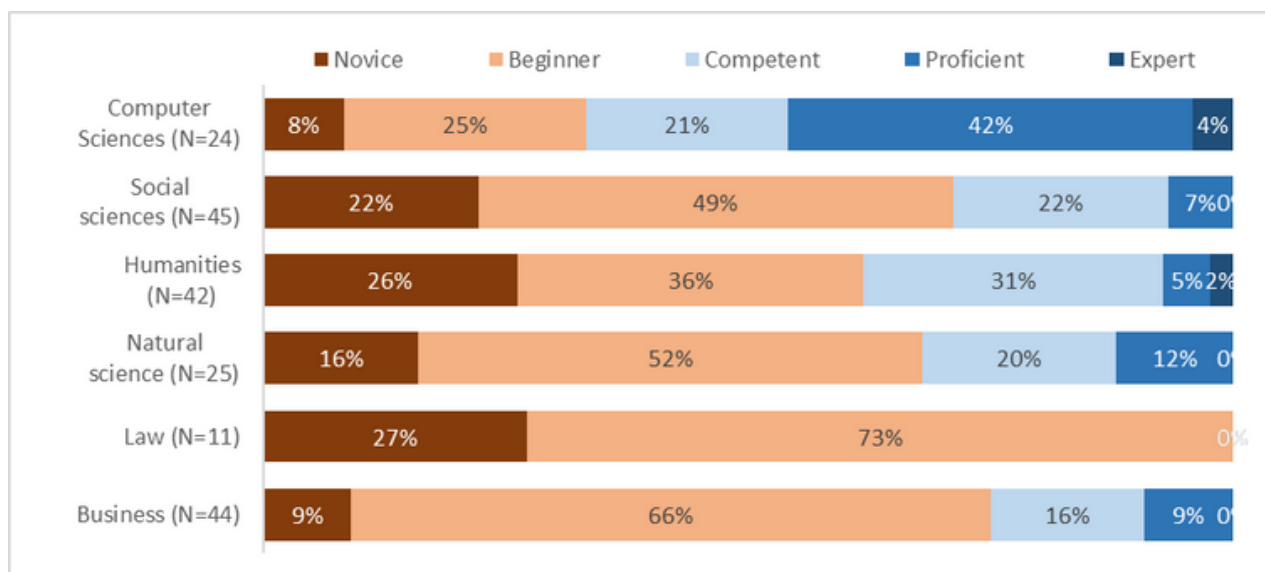
Results show that in using AI and machine learning tools, only 1% of lecturers consider themselves as “Experts”, 12% as “Proficient”, and 21% as “Competent”. On the other hand, 65% consider themselves as “Beginner” or “Novice”. Lecturers of the Mediterranean University of Albania consider themselves more proficient compared to professors of other universities.

Figure 56: Lecturers - Proficiency in usage of AI and machine learning tools, by the University



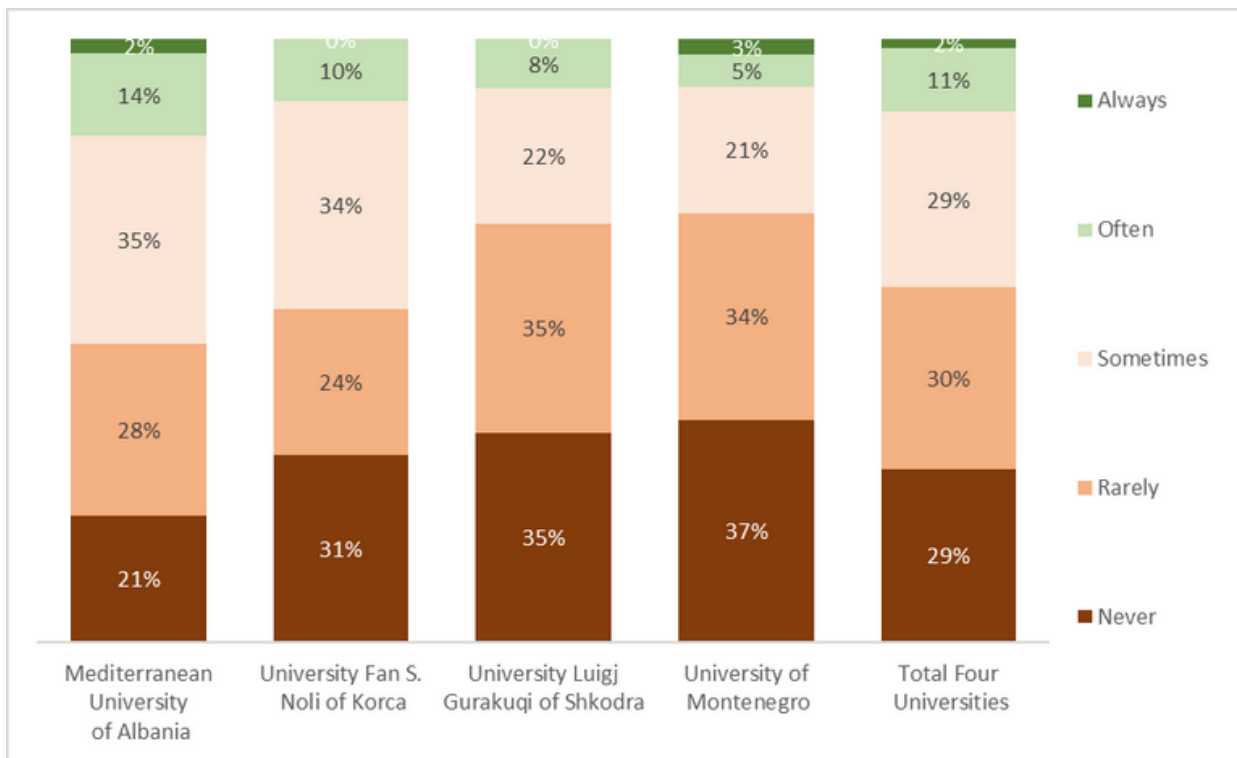
As expected, results show that lecturers of Computer Science are more proficient in the usage of AI and machine learning tools compared to professors of other disciplines. About 46% of lecturers with expertise in Computer Science consider themselves proficient in the usage of AI and machine learning tools (4% as experts and 42% as proficient), compared to less than 12% for professors of other disciplines.

Figure 57: Lecturers - Proficiency in the usage of AI and machine learning tools, by discipline of expertise



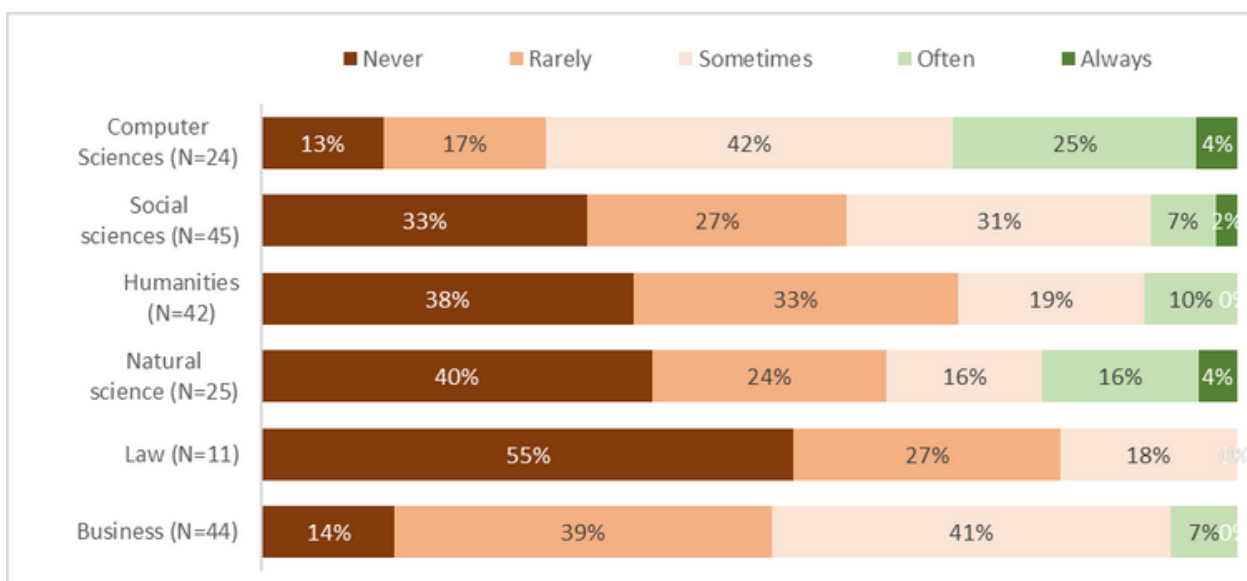
Only 2% of the lecturers always utilize AI or Learning machines in their research activities. The lowest usage of AI or learning machines in research activities is shown in the University of Montenegro (37% of lecturers never use them, compared to 35% at the University of Shkodra “Luigj Gurakuqi”, 31% at the University of Korça “Fan S. Noli”, and 21% at the Mediterranean University of Albania).

Figure 58: Lecturers - Usage of AI or learning machines in research activities, by University



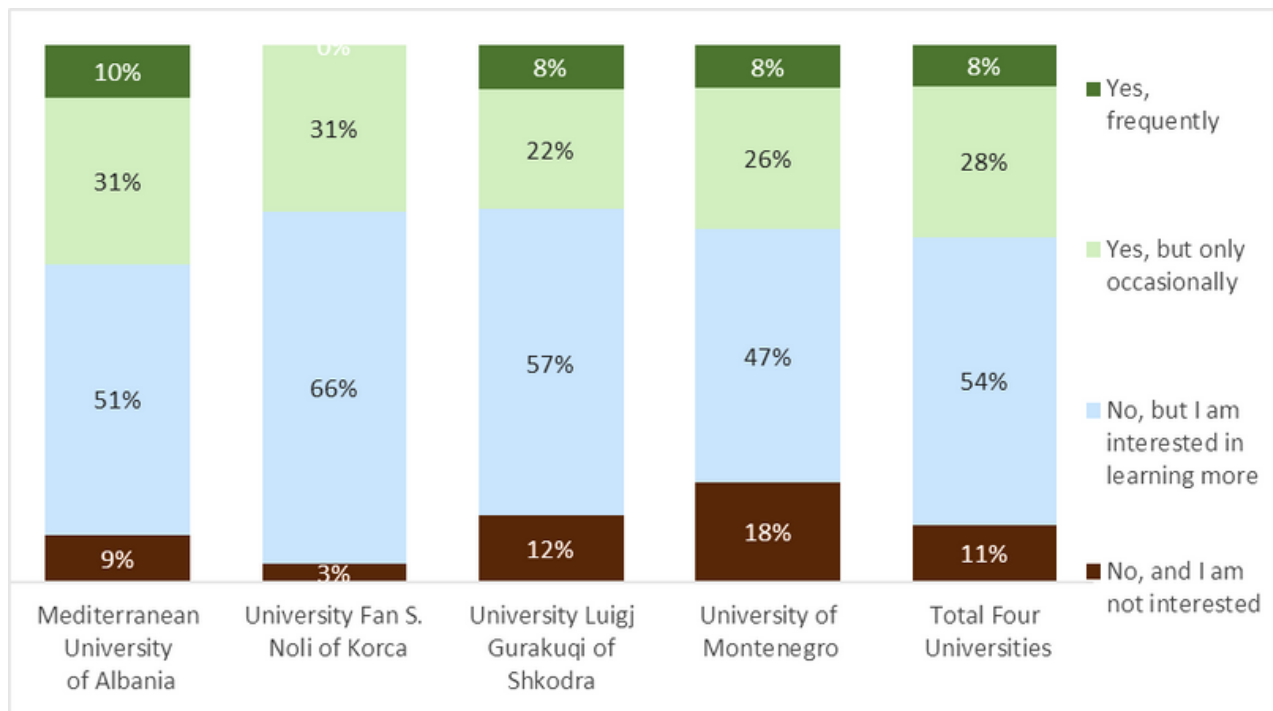
Lecturers of Computer Science use AI or learning machines in research activities at a higher frequency compared to lecturers of other disciplines. Next with a higher frequency of the use of AI or learning machines are professors of Natural Sciences. Results for Law are only indicative and not statistically significant.

Figure 59: Lecturers - Usage of AI or learning machines in research activities, by discipline of expertise



Results of the usage of AI-based tools for personalizing learning or student engagement show that only 6% of the lecturers have used them frequently and 28% occasionally. About 11% Have never used it and they are not interested in using in the future. On the other hand, more than half of the lecturers (54%) have not used them but they are interested in learning more. The lowest level of usage is shown at the University of Korça “Fan S. Noli”.

Figure 60: Lecturers - Usage of AI or learning machines in research activities, by University



The highest frequency of the usage of AI-based tools for personalizing learning or student engagement is for the lecturers with expertise in Computer Science (17% use frequently). and Natural Science (12% use frequently).

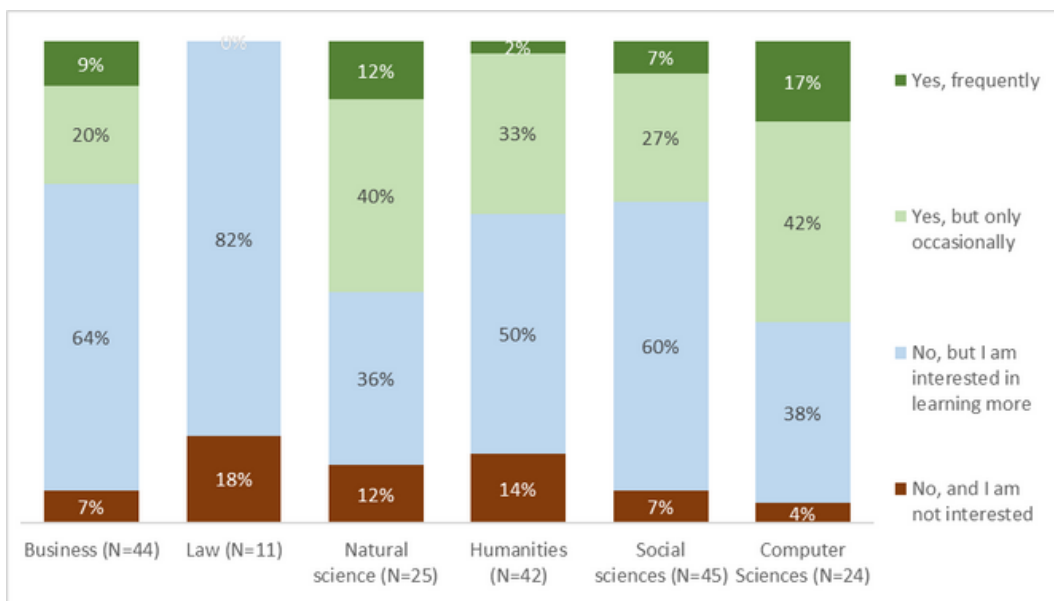


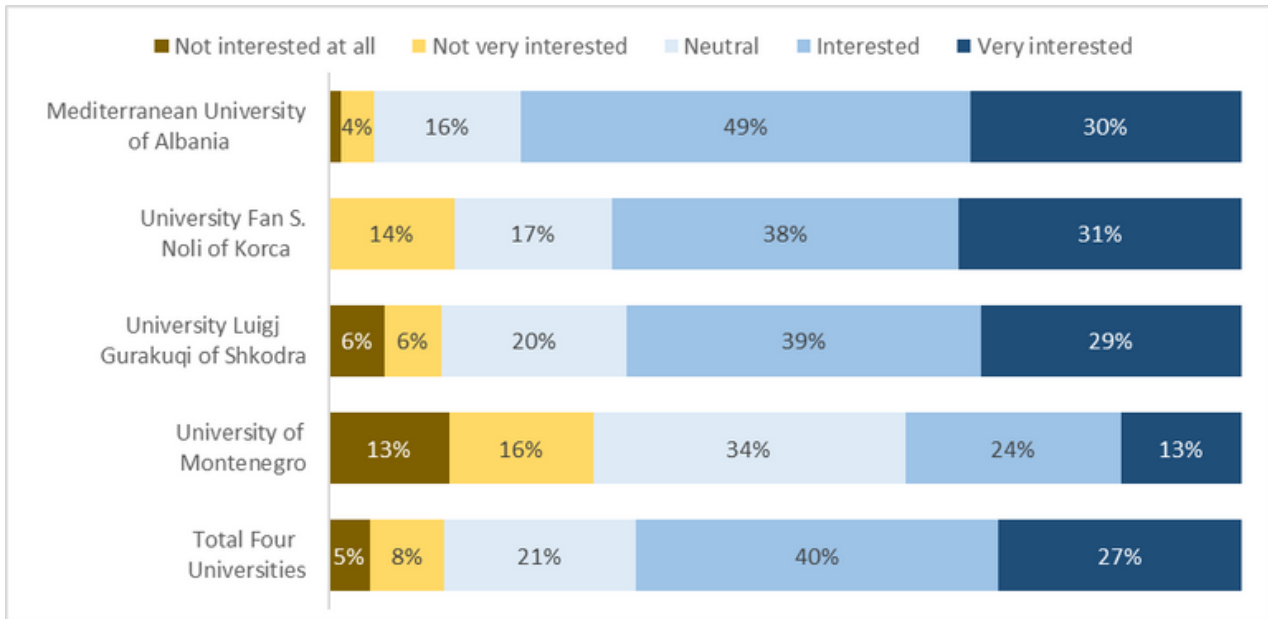
Figure 61: Lecturers - Usage of AI-based tools for personalizing learning or students engagement, by discipline of expertise

Level of Interest in Learning

When Lecturers were asked how interested they were in incorporating AI/machine learning into their curriculum, 27% are “very interested”, and 40% are “interested”.

Lecturers at the University of Montenegro are less interested in incorporating AI/machine learning into their curriculum, compared to lecturers of other three universities.

Figure 62: Lecturers - Level of interest in incorporating AI/machine learning into their curriculum by university



The highest level of interest in incorporating AI/machine learning into curriculum as expected is for lecturers with Computer Science profile. Apart from Law results which are indicative the lowest level of interest in incorporating AI/machine learning into their curriculum is shown in lecturers of Humanities.

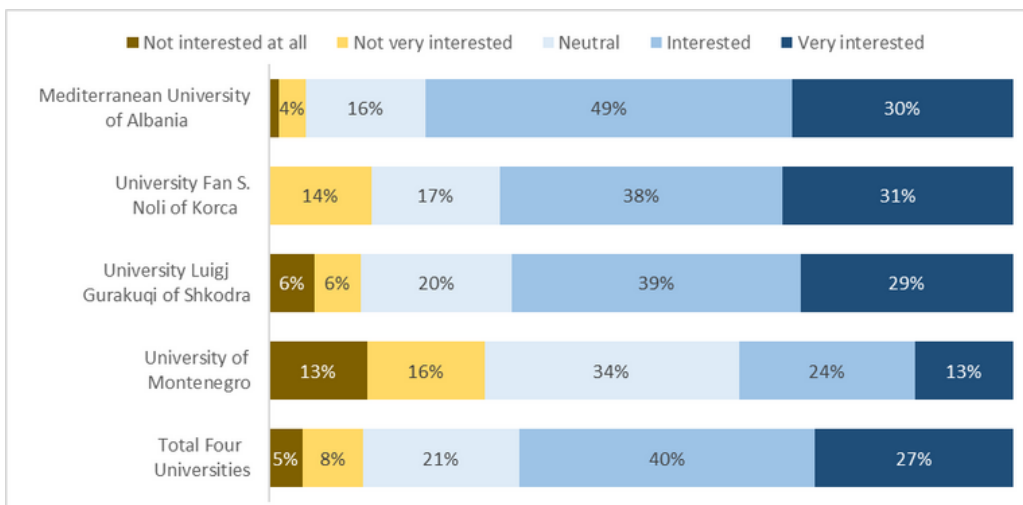


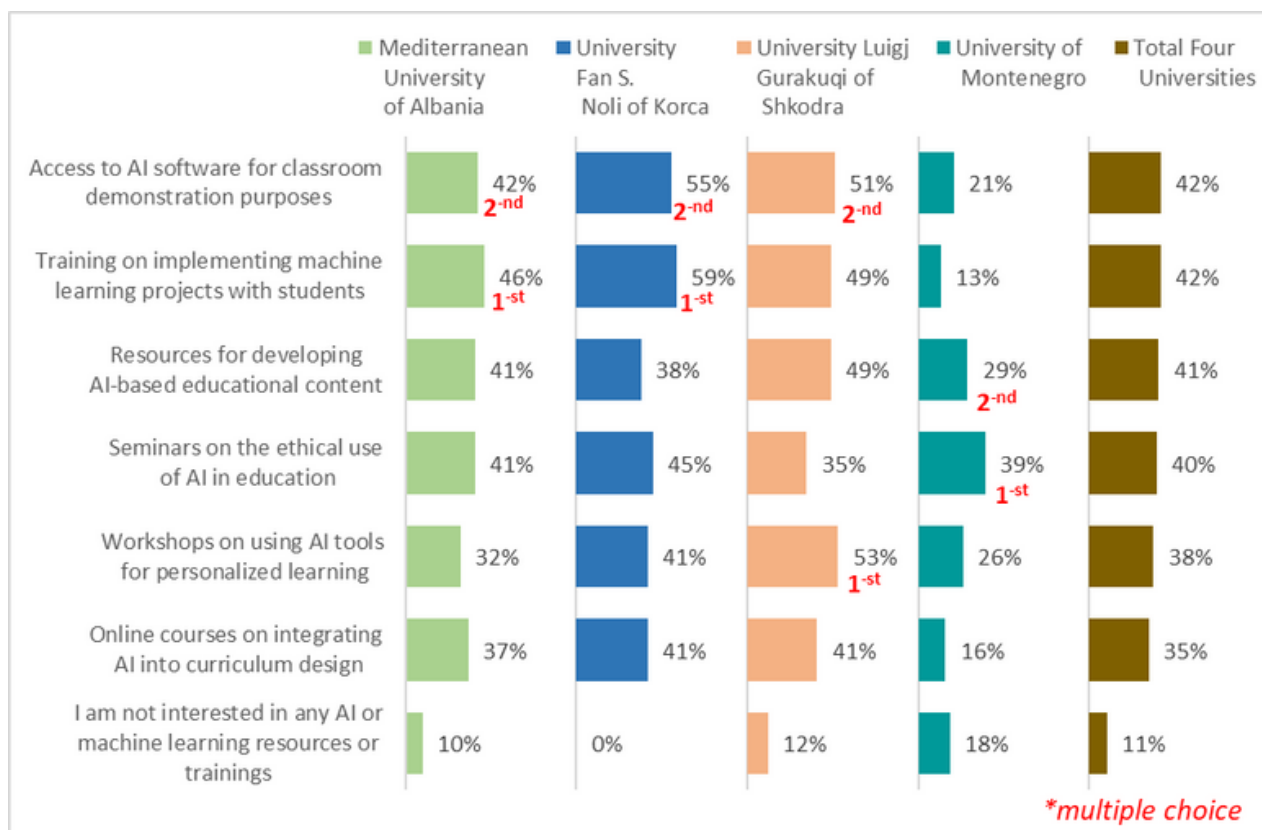
Figure 63: Lecturers - Level of interest in incorporating AI/machine learning into their curriculum, by discipline of expertise

About 42% of the lecturers wish to have access to AI software for classroom demonstration purposes, so they can improve their teaching. Also, 42% of them want to have training on implementing machine learning projects with students, 41% want to have Resources for developing AI-based educational content, and 40% want to have Seminars on the ethical use of AI in education.

Only 11% of lecturers are not interested in any AI or machine learning resources or training.

Regarding the differences by university, lecturers at the University of Montenegro want Seminars on the ethical use of AI in education (39%), and lecturers at the University of Shkodra “Luigj Gurakuqi”, want Workshops on using AI tools for personalized learning (53%). Training on implementing machine learning projects with students is wanted the most by lecturers at the University of Korça “Fan S. Noli”, and the Mediterranean University of Albania.

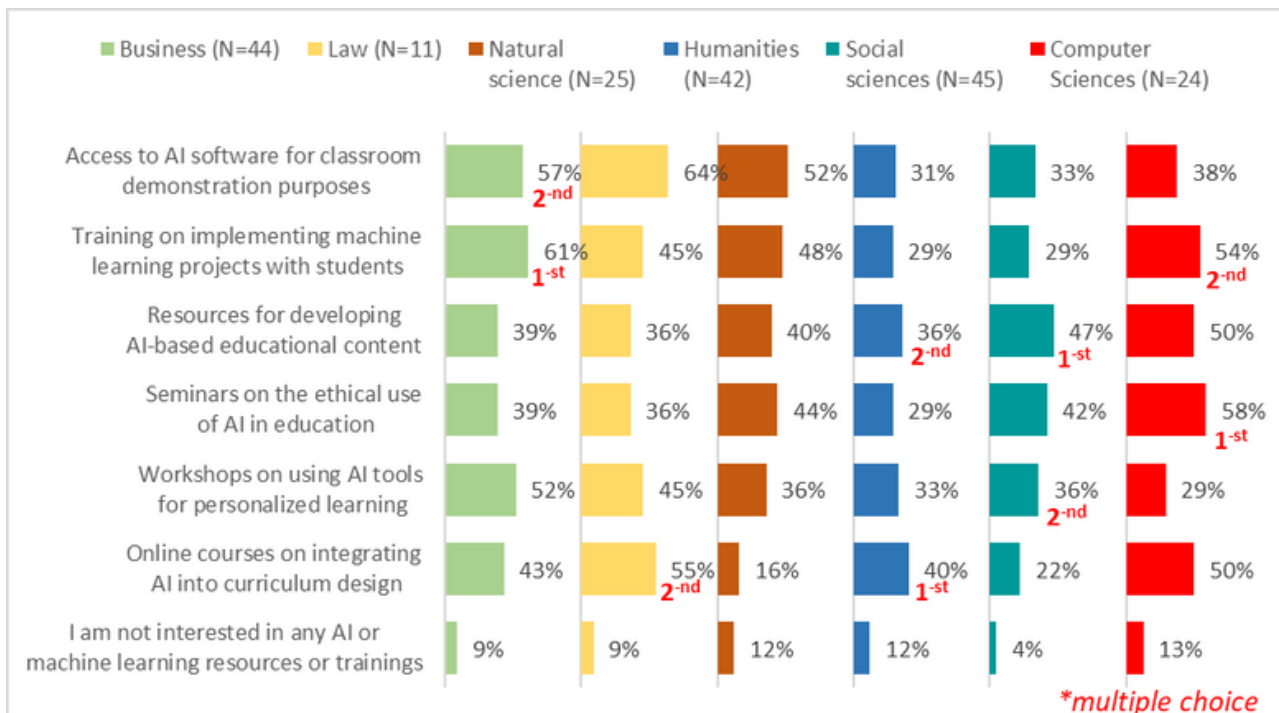
Figure 64: Lecturers - Resources and Training desired by lecturers for enhancing teaching, preferences by university



A majority of lecturers specializing in Business express a desire for access to training in implementing machine learning projects with students, constituting 61% of the respondents. Similarly, 52% of lecturers with expertise in Natural Sciences aspire to access AI software for classroom demonstration purposes. Conversely, lecturers in Humanities seek online courses on integrating AI into curriculum design (40%), while those in Social Sciences express a desire for resources to develop AI-based educational content (47%). Lecturers specializing in Computer Sciences express a preference for seminars on using AI tools for personalized learning (58%) as a means to enhance their teaching methodologies.

Notably, less than 13% of lecturers across various profiles express disinterest in any AI or machine learning resources or training opportunities.

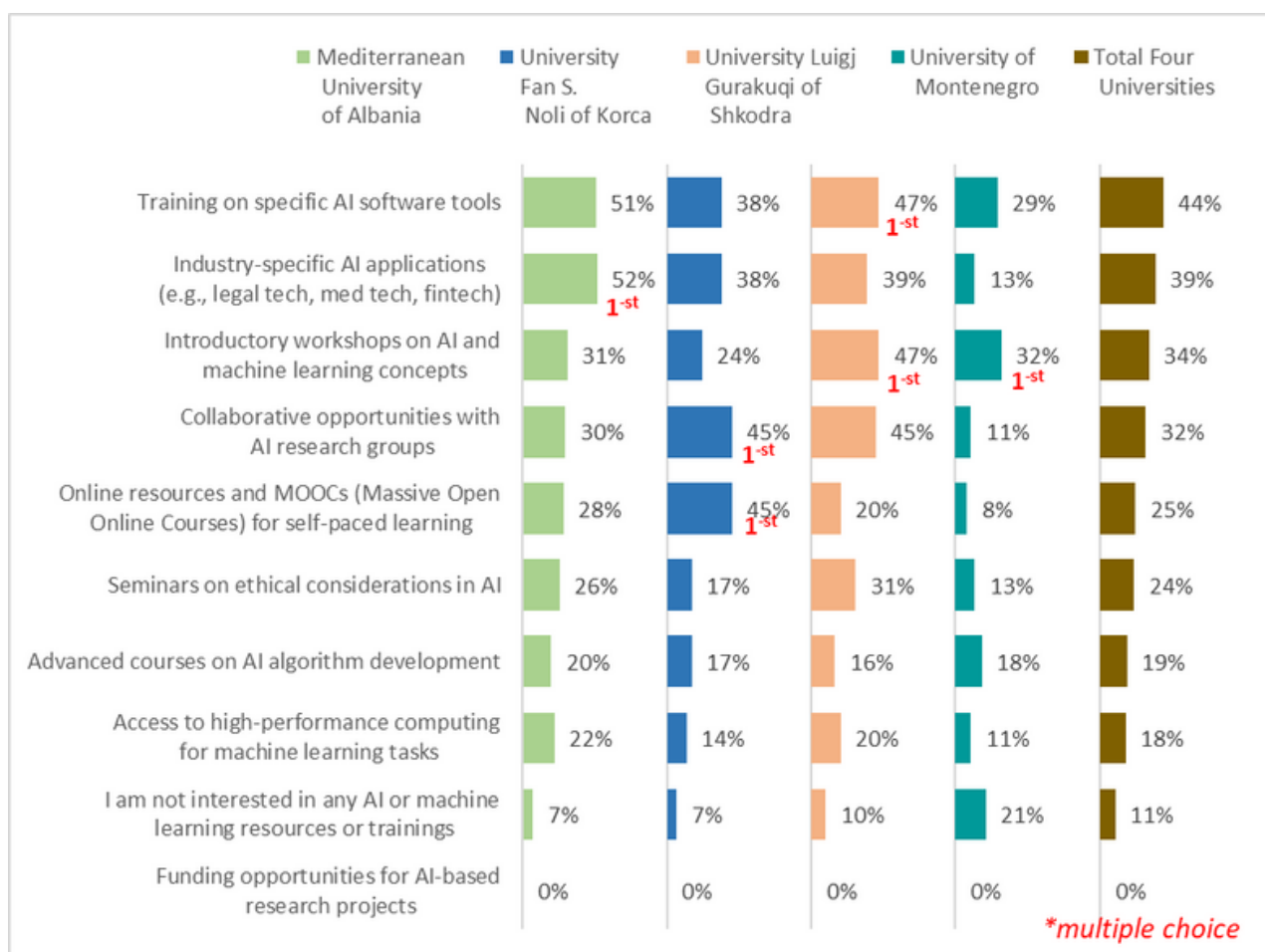
Figure 65: Lecturers - Resources and Training desired by lecturers for enhancing teaching, preferences by discipline of expertise



About 44% of the lecturer respondents wish to have Training on specific AI software tools, 39% to have Industry-specific AI applications (e.g., legal tech, med tech, fintech). The third most desired resource or training by 34% of lecturers is Introductory workshops on AI and machine learning concepts, so they can improve their research. In total 11% are not interested in any AI or machine resources or trainings. Different from the total, lecturers of the University of Korça “Fan S. Noli”, are most interested or wish to have Collaborative opportunities wish AI research groups, (45%), and Online resources and MOOCs (Massive Open Online Courses) for self-paced learning.

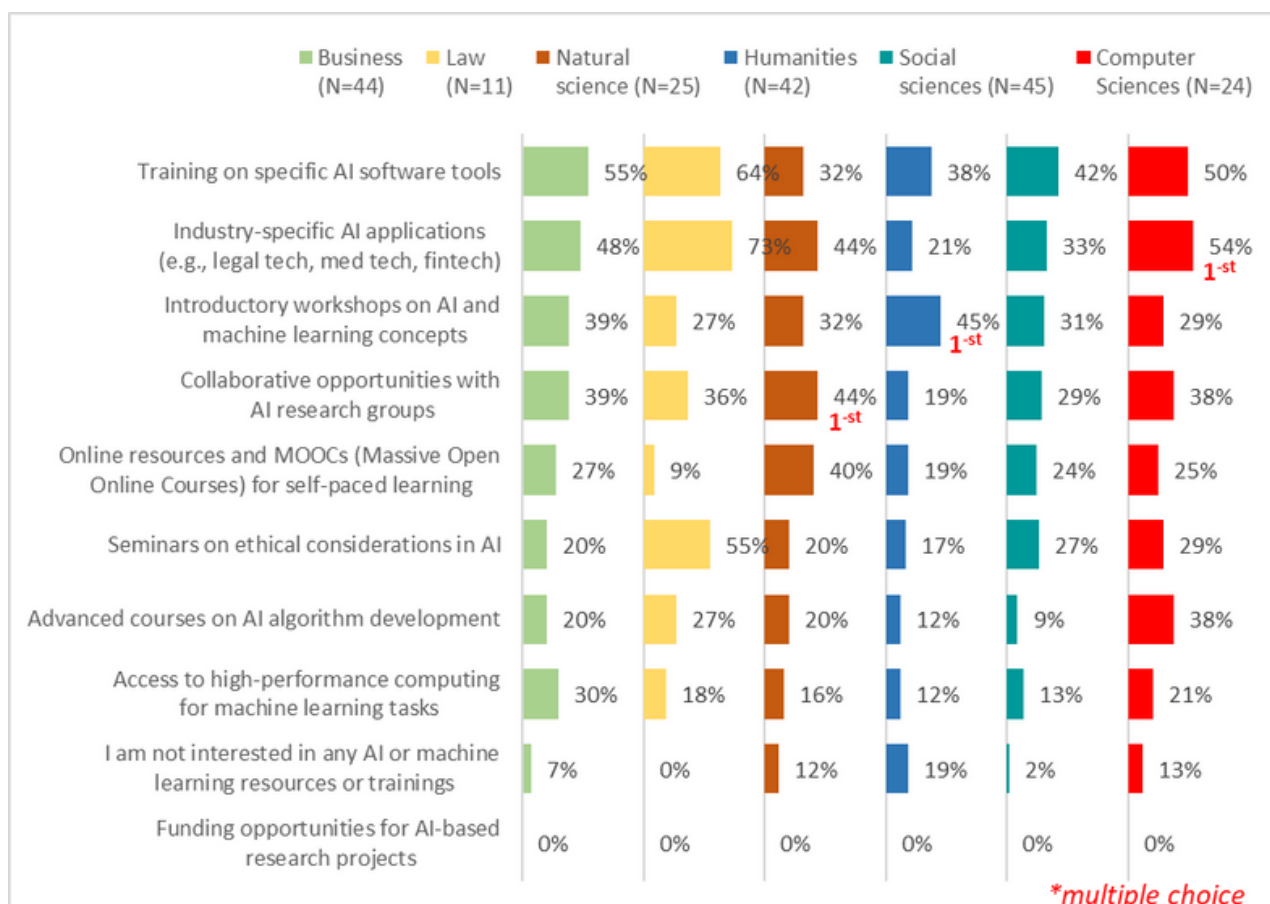
About 21% of the lecturers at the University of Montenegro are not interested in any AI or machine resources or trainings, compared to 10% of lecturers at the University of Shkodra “Luigj Gurakuqi”, and 7% of lecturers at the University of Korça “Fan S. Noli”, and Mediterranean University of Albania.

Figure 66: Lecturers - Preferred Resources and Training for lecturers to enhance research, by University



The same results disaggregated by discipline of expertise of lecturers show that Lecturers with a profile of Computer Science wish to have Industry-specific AI applications (e.g., legal tech, med tech, fintech) so they can improve their research (54%). On the other hand, Lecturers of Humanities wish to have collaborative opportunities with AI research groups (44%). About 45% of Lecturers with expertise in Social Science wish to have Introductory workshops on AI and machine learning concepts. Training on specific AI software tools is what most of the lectures of Business and Social Sciences wish to have in order to improve their research activities. The least interested in having any AI or machine learning resources or training are lecturers of Social Sciences (19%), and of Computer Sciences (13%).

Figure 67: Lecturers - Preferred Resources and Training for lecturers to enhance research, by discipline of expertise



In the focus groups, lecturers articulate a multifaceted stance on digital literacies. Their eagerness for Digital Literacies Training stems from its potential to revolutionize teaching methodologies and amplify student efficiency. They note the dual-edged nature of digital tools: on one hand, these tools, like Google Translate, significantly ease and expedite educational tasks. On the other, there's apprehension about students' dependency on AI for critical academic tasks, particularly thesis writing, which raises questions about academic integrity. This complexity elicits a desire among lecturers to master AI technologies to enhance academic productivity while mitigating the risks associated with improper use.

Additionally, lecturers highlight a critical infrastructural gap within institutions: the lack of support in accessing more sophisticated digital tools. This deficiency leads to reliance on free, non-standardized tools, resulting in inconsistent application and challenges in effective implementation. This situation underscores a broader institutional issue, indicating a pressing need for universities to invest in and standardize digital resources. Such investment would not only streamline teaching processes but also ensure that both lecturers and students are equipped with the necessary skills and tools to navigate the increasingly digital landscape of academia effectively.

4.3 Findings regarding stakeholders

Stakeholders (4 focus groups, 47 participants in total) from various sectors, including business, local government, civil society organizations, and media, have articulated specific concerns regarding digital literacies at the university level. They perceive a significant discrepancy between the digital skills that students are acquiring in universities and the more complex, advanced skills required in the professional realm. Particularly in rapidly digitalizing sectors like banking, there is a notable urgency for skills beyond basic digital literacy. These stakeholders have observed that while universities have been successful in imparting fundamental digital skills, such as basic Microsoft Office Suite proficiency, they fall short in equipping students with more sophisticated digital competencies. Stakeholders also point out the insufficient use of digital technology in administrative university processes, leading to inefficient practices like physical queues for exam registration.

The concern extends to the lack of practical application and hands-on experience in current academic curricula. Stakeholders argue that theoretical knowledge of digital tools is not sufficient; students need real-world experience to effectively apply these skills. The stakeholders' insights also reveal a disparity in digital skills across different academic levels, with undergraduate students often lacking even the basic digital competencies. This inconsistency in digital literacies progression, as observed by the stakeholders, suggests a need for a more uniform and practical approach to digital education across all levels of university study.

Furthermore, stakeholders have noted that the current educational system does not adequately prepare students for the specific digital demands of the job market. They point out that while students may eventually acquire job-specific digital skills after employment, the initial skill set provided by university education needs further enhancement to meet industry standards. This gap in preparedness could potentially hinder graduates' transition into the workforce, necessitating a more targeted and industry-relevant approach to digital skill development within university programs.

Additionally, stakeholders highlight the concern about the teaching and retention of digital skills at universities. While basic skills are included in the curriculum, the lack of their continued application leads to skill attrition over time. This suggests a deeper problem in how digital literacies is integrated into higher education; it's not just about teaching these skills, but also ensuring they are continually reinforced and applied in various academic contexts. Furthermore, the questioning of lecturers' own digital proficiency reflects a systemic challenge within the educational system, implying a need for ongoing professional development for educators. This issue extends back to secondary education, where the teaching of informatics often falls to underqualified teachers, indicating a foundational problem in the early stages of digital education. This scenario underscores the need for a comprehensive overhaul in the approach to digital literacies across all levels of education, ensuring that both students and educators are equipped with, and maintain, relevant digital competencies.

V. CONCLUSIONS & RECOMMENDATIONS

The state of digital literacy in the Western Balkans needs to be addressed promptly and qualitatively. From the analysis above it is evident that universities in Western Balkans need a comprehensive and extensive intervention when it comes to digital literacy. Poor digital literacy at the university level affects teaching and learning significantly, while also affecting the employability and job retention of students in the future.

For universities to be competitive, innovative and digital savvy, a series of recommendations are drawn as below.

Students' recommendations for enhancing their digital literacy in Albania and Montenegro:

1. Formalization of Communication

It is recommended that universities formalize their communication with students, favoring the use of emails over other tools (e.g. WhatsApp). Emails, apart from being official, allow for a more organized, traceable, documentable, and accountable means of communication.

2. Enhancement of University Infrastructure

It is recommended for universities to plan and budget for improved technology infrastructure, including an increase in the number of computers available to students, projectors and other digital tools in the classroom. These investments in technology infrastructure are detrimental to the improvement of digital literacy of students, as well as to practice skills learned in the classroom. Additionally, to fully make use of resources, WiFi availability in all university classrooms is important.

3. Optimization of Online Library Access

Universities should enhance online library access, by adding the width and depth of titles available. Also, it is important to conduct awareness campaigns, as well as offer support to students in accessing the resources available in the Online Library, allowing students to increase their outputs relying on the wealth of information available to them.

4. Adoption of Modern Teaching Methods

Modern teaching methods are essential for enhancing student engagement and learning outcomes. Lecturers should be encouraged to embrace these methods, which involve active and collaborative learning, collaborative and/or game-based and flipped classroom models. To implement these methods effectively, lecturers should incorporate more visual presentations, such as slides, videos, and diagrams, to appeal to different learning styles and preferences. Additionally, lecturers should expand the utilization of diverse digital tools, such as online platforms, interactive games, and virtual simulations, to facilitate communication, feedback, and assessment.

5.Strengthening of Digital Literacies Training

Students across all academic profiles should have access to comprehensive Digital Literacies Training that covers the skills and competencies required to use technology effectively, critically, and ethically. Such training can be provided either through university initiatives, such as courses, workshops, or online modules, or through external organizations, such as professional associations, NGOs, or online platforms. By promoting the provision of Digital Literacies Training, students can enhance their academic performance, employability, and lifelong learning.

7.Curricular Adaptation for the Digital Future: Integrate digital tools into the curriculum to align educational programs with the demands of the evolving digital landscape.

It is recommended that universities develop new curricula, or update existing ones, to provide education fit for the needs of the labor market and the ever-evolving landscape. Furthermore, extra curricular subjects on digital rights can be implemented in universities, so students can make use of an organized, updated space to enhance their digital literacy. By inviting guest lecturers and subject matter experts to share their knowledge and experiences on digital literacies, educators can enrich their students' learning and motivation, and foster their lifelong learning and curiosity.

Lecturers' recommendations for enhancing their digital literacy in Albania and Montenegro:

1.Improved technology infrastructure (More new computers, Improved network, Access to WIFI, etc.)

One of the key factors for enhancing the quality and accessibility of digital education is the improvement of the infrastructure that supports it. This includes providing more new computers, improving the network speed and reliability, and ensuring access to WIFI for all students and teachers. A well-developed infrastructure can facilitate the delivery of online courses, the use of digital tools and resources, and communication and collaboration among learners and educators. Thus, universities are recommended to plan and budget for improvement of technological infrastructure.

2.Access to Online Libraries

Universities should enhance online library access, by adding the width and depth of titles available. This can be achieved by creating partnerships with other HEIs, libraries, or other stakeholders. Planning and budgeting is detrimental to achieve access to online libraries.

3.Institutional strategic framework on digital literacy

Universities should develop digitalization strategies that drive digitalization at the university level, both on an operational and teaching level. Having a framework allows for due planning, budgeting and implementation. Such institutional strategies can foster use of digital tools in teaching.

4. Curricula and trainings on digital literacy

It is recommended that universities revise their curricula on digital literacy, and how digital literacy affects their curricula, for the best absorption of course content, and to the end benefit of students and lecturers both. Customized trainings for lecturers are highly recommended so that knowledge can be passed to students seamlessly and comprehensively.

5. Standardized tools and platforms at the university level.

Universities should offer for use access to licensed platform's software, so lecturers can access such platforms without any barriers of access.

6. Erasmus+ knowledge sharing.

It is recommended initiating Erasmus+ CBHE experience exchange with other institutions benefiting Erasmus+ CBHE support. By sharing experiences from the Erasmus + Program, students and teachers can broaden their perspectives and networks, and increase their digital literacy, and mobility. A regional platform that allows detailed information exchange is recommended as necessary for lecturers looking into widening their networks, and skills.

7. Ensuring a flexible legal framework.

It is recommended that advocacy for improving the legal and regulatory framework in place starts at the university level. The rapid pace of development of digital technologies requires agile education institutions, that have decision making and independence from an academic point of view.

8. Privacy and Security Training

Privacy and Security Training is a crucial component of ensuring the protection and integrity of personal data in the digital age. Lecturers should be provided with training sessions on how to safeguard personal data and enhance cybersecurity awareness, both for themselves and their students. Such training sessions can cover topics such as data privacy laws and regulations, data classification and handling, data breach prevention and response, encryption and authentication, phishing and malware, and online safety and ethics.

Recommendations from stakeholders for Enhancing Digital Literacies in partner universities of U2SID project in Albania and Montenegro

1. Curriculum and Training Enhancement

It is recommended to enhance the curricula by introducing new courses, workshops, or certifications focusing on digital tools. This should include the integration of advanced digital software, such as web-based Excel, finance, and accounting tools. Additionally, the provision of ongoing training opportunities for students and academic staff as extracurricular activities is advised, with a focus on tailoring these training programs to address the specific practical needs and experiences of the students.

2. Mentorship and Professional Experience

Establish mentorship programs where professionals from relevant fields can guide and mentor students, offering insights into the practical application of digital tools in professional settings. These programs should be accessible to both staff and students. Creating opportunities for internships and joint projects with industry partners is recommended to provide hands-on experience. Engaging students in projects that enhance their digital skills development is also advised.

3. Access to Resources and Collaboration

Facilitate access to industry-specific resources, databases, or case studies for both staff and students. Strengthening university-business collaboration through networks that connect students with job opportunities is crucial. Accelerating the digitization of university libraries, including rare books and periodicals, and extending this initiative to school libraries for a collective digitization effort is recommended.

4. Communication and Digital Platforms

Develop a user-friendly, real-time digital communication platform to serve as a bridge between the university, businesses, and other institutions. Establish a standard for communication with a unified platform, clearly defining its name and participation standards. Address challenges related to existing web-based platforms by focusing on immediacy and responsiveness. Ensuring open access to digitized materials, with a fair fee structure, is also recommended.

5. Innovative Digital Initiatives

Investigate the potential interest in and implementation of audiobook programs as an alternative to traditional reading. Support and promote podcast initiatives to provide a platform for young people to express themselves, integrating these into university activities and outreach. Encourage interdisciplinary collaboration by involving various departments and faculties in joint digital projects.

6. Continuous Engagement and Development

Regularly facilitate meetings with stakeholders to integrate their expertise with academic curricula. Foster continuous engagement and regularly review and enhance collaborative programs. Ensure that these initiatives are dynamic, responsive to changing needs, and contribute meaningfully to the development of both students and the community.

VI. ANNEXES

Annex 1 – Questionnaire for students

Digital literacies Survey for Students

Introduction

This questionnaire aims to better understand the level of digital literacies and specific needs of academic staff at four universities participating in the U2SID project. The data will be used to develop a report and provide specific recommendations for the upcoming activities of the U2SID project. The anonymity of responses will be ensured. It takes 7-10 minutes to complete this questionnaire. We thank you in advance for being realistic in your responses which will help better prepare for the upcoming activities of U2SID project targeting both students and academic staff.

U2SID Team

Section 1: Demographic Information

I study at:

- University “Luigj Gurakuqi” of Shkodra
- University “Fan S. Noli” of Korça
- Mediterranean University of Albania
- University of Montenegro
- Other (please specify)

My discipline of study is:

- Business (Accounting, economics, finance, management, marketing)
- Law
- Humanities (Art, history, languages, literature, music, philosophy, religion, theatre)
- Natural sciences (Biology, chemistry, geology, mathematics, physics, medicine)
- Computer Sciences, Information Technology and related fields
- Social sciences (Anthropology, education, geography, political science, psychology, sociology, communication, media)
- Engineering, architecture, design and related fields
- Other (please specify)

Gender:

- Male
- Female
- Prefer not to say

Select the type of area you live in:

- Urban area
- Rural area

Current Level of Study:

- Bachelor
- Masters

Year of Study:

- 1
- 2
- 3

Section 2: Skill Self-Assessment

For each statement, please select the option that best describes your experience.

State your level of proficiency from 1 to 5 in “Basic Computer Skills: Using an operating system, managing files, and understanding basic hardware”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Internet Navigation: Using search engines, evaluating online sources, and understanding internet safety”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Productivity Software: Proficiency in word processing, spreadsheets, and presentation software”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Communication Tools: Email, instant messaging, video conferencing, and collaboration platforms”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Digital Creation: Basic photo editing, video production, or website creation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Information Literacy: Finding, evaluating, using, and citing digital information”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Cybersecurity Awareness: Understanding of personal data protection, password security, and awareness of phishing scams”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Social Media Literacy: Creating content, understanding digital footprints, and privacy settings”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Data Literacy: Understanding of data collection, analysis, and interpretation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “E-Learning Platforms: Navigating online learning systems and digital libraries”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of prompt proficiency from 1 to 5 used in “Generative AI related to learning: Using ChatGPT or similar tools for class assignments or learning new class concepts”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your lecturers proficiency from 1 to 5 used in “Communication Tools: Email, instant messaging, video conferencing”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your lecturers proficiency from 1 to 5 used in “Information Literacy: Finding, evaluating, using, and citing digital information”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your lecturers proficiency from 1 to 5 used in “Data Literacy: Understanding of data collection, analysis, and interpretation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

Section 3: Training Preferences and Needs Identification

What specific digital literacies do you wish to improve or learn? Choose one most interested in

- Basic Computer Skills: Using an operating system, managing files, and understanding basic hardware.
- Internet Navigation: Using search engines, evaluating online sources, and understanding internet safety.
- Productivity Software: Proficiency in word processing, spreadsheets, and presentation software.
- Communication Tools: Email, instant messaging, video conferencing, and collaboration platforms.
- Digital Creation: Basic photo editing, video production, or website creation.
- Information Literacy: Finding, evaluating, using, and citing digital information.
- Cybersecurity Awareness: Understanding of personal data protection, password security, and awareness of phishing scams.
- Social Media Literacy: Creating content, understanding digital footprints, and privacy settings.
- Data Literacy: Understanding of data collection, analysis, and interpretation.
- E-Learning Platforms: Navigating online learning systems and digital libraries.
- Generative AI Literacy (ChatGPT, Claude, Barn, etc.): Accessing Generative AI, Understanding the capabilities of Generative AI, writing basic prompts.

What specific digital literacies do you wish to improve or learn? Choose three most interested in excluding the one chosen above

- Basic Computer Skills: Using an operating system, managing files, and understanding basic hardware.
- Internet Navigation: Using search engines, evaluating online sources, and understanding internet safety.
- Productivity Software: Proficiency in word processing, spreadsheets, and presentation software.
- Communication Tools: Email, instant messaging, video conferencing, and collaboration platforms.
- Digital Creation: Basic photo editing, video production, or website creation.
- Information Literacy: Finding, evaluating, using, and citing digital information.
- Cybersecurity Awareness: Understanding of personal data protection, password security, and awareness of phishing scams.
- Social Media Literacy: Creating content, understanding digital footprints, and privacy settings.
- Data Literacy: Understanding of data collection, analysis, and interpretation.
- E-Learning Platforms: Navigating online learning systems and digital libraries.
- Generative AI Literacy (ChatGPT, Claude, Barn, etc.): Accessing Generative AI, Understanding the capabilities of Generative AI, writing basic prompts.

Preferred formats for digital literacies training (select all that apply):

- Online video tutorials
- Live online classes/webinars
- In-person workshops
- Interactive group sessions
- One-on-one coaching

How often do you want the frequency of training sessions to be:

- Once a year
- Once a semester
- Once a month
- Once a week
- Twice a week
- Intensive (e.g., a full week or weekend)

What are the barriers to attending digital literacy training sessions? (select all that apply)

- Scheduling conflicts
- Lack of interest
- Not aware of available training
- Previous training sessions were not helpful
- Prefer to learn on my own
- Other [Please specify]: _____

Level of detail desired in training:

- Overview (Basic understanding)
- Intermediate (Detailed with some hands-on practice)
- Comprehensive (In-depth with extensive hands-on practice)
- Expert (Advanced techniques and use cases)

Other comments/suggestions:

Annex 2 – Questionnaire for lecturers

University Lecturers Digital Literacies Survey

Introduction

This questionnaire aims to better understand the level of digital literacies and specific needs of Bachelor and Master students at four universities participating in the U2SID project. The data will be used to develop a report and provide specific recommendations for the upcoming activities of the U2SID project. The anonymity of responses will be ensured. It takes 5-7 minutes to complete this questionnaire. We thank you in advance for being realistic in your responses which will help better prepare for the upcoming activities of U2SID project targeting both students and academic staff.

U2SID Team

Section 1: Demographic Information

I work at:

- University “Luigj Gurakuqi” of Shkodra
- University “Fan S. Noli” of Korça
- Mediterranean University of Albania
- University of Montenegro
- Other (please specify)

My discipline of expertise is:

- Business (Accounting, economics, finance, management, marketing)
- Law
- Humanities (Art, history, languages, literature, music, philosophy, religion, theater)
- Natural sciences (Biology, chemistry, geology, mathematics, physics, medicine)
- Computer Sciences, Information Technology and related fields
- Social sciences (Anthropology, education, geography, political science, psychology, sociology, communication, media)
- Engineering, architecture, design and related fields
- Other (please specify)

Gender:

- Male
- Female
- Prefer not to say

Years of Teaching Experience:

- 0-5 years
- 6-10 years
- 11-15 years
- 16-20 years
- 20+ years

Have you participated in any form of digital literacies training in the past year?

Yes

No

Please explain: _____

Section 2: Skill Self-Assessment

For each statement, please select the option that best describes your experience.

State your level of proficiency from 1 to 5 in “Basic Computer Skills: Using an operating system, managing files, and understanding basic hardware”:

1 - No proficiency

2 - Limited proficiency

3 - Moderate proficiency

4 - Proficient

5 - Highly proficient

Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Internet Navigation: Using search engines, evaluating online sources, and understanding internet safety”:

1 - No proficiency

2 - Limited proficiency

3 - Moderate proficiency

4 - Proficient

5 - Highly proficient

Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Productivity Software: Proficiency in word processing, spreadsheets, and presentation software”:

1 - No proficiency

2 - Limited proficiency

3 - Moderate proficiency

4 - Proficient

5 - Highly proficient

Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Communication Tools: Email, instant messaging, video conferencing, and collaboration platforms”:

1 - No proficiency

2 - Limited proficiency

3 - Moderate proficiency

4 - Proficient

5 - Highly proficient

Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Digital Creation: Basic photo editing, video production, or website creation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Information Literacy: Finding, evaluating, using, and citing digital information”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Cybersecurity Awareness: Understanding of personal data protection, password security, and awareness of phishing scams”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Social Media Literacy: Creating content, understanding digital footprints, and privacy settings”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “Data Literacy: Understanding of data collection, analysis, and interpretation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State your level of proficiency from 1 to 5 in “E-Learning Platforms: Navigating online learning systems and digital libraries”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your students proficiency from 1 to 5 used in “Communication Tools: Email, instant messaging, video conferencing”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your students proficiency from 1 to 5 used in “Information Literacy: Finding, evaluating, using, and citing digital information”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

State the level of your students proficiency from 1 to 5 used in “Data Literacy: Understanding of data collection, analysis, and interpretation”:

- 1 - No proficiency
- 2 - Limited proficiency
- 3 - Moderate proficiency
- 4 - Proficient
- 5 - Highly proficient
- Do Not Know/Not Used

Section 3: Usage of digital tools, AI, machine learning in teaching and research

Usage of Digital Tools in Teaching

How often do you use digital tools (such as presentation software, online quizzes, etc.) in your teaching?

- Never
- Rarely
- Sometimes
- Often
- Always

To what extent do you integrate learning management systems (e.g., Blackboard, Moodle, Canvas, MS Teams) into your course delivery?

§ Not at all

§ Minimally, for basic functions only (e.g., posting announcements)

§ Moderately, for some interactive functions (e.g., forums, quizzes)

§ Extensively, for a wide range of functions (e.g., grading, feedback, content delivery)

§ Exclusively, for all course functions

Which of the following digital assessment tools have you utilized in your teaching? (select all that apply)

- Online multiple-choice quizzes
- Automated essay grading software
- Peer assessment platforms
- Virtual labs/simulations
- None of the above
- Other _ specify

AI and Machine Learning in Teaching

Have you used any AI-based tools for personalizing learning or student engagement?

- Yes, frequently
- Yes, but only occasionally
- No, but I am interested in learning more
- No, and I am not interested

What is your level of interest in incorporating AI/machine learning into your curriculum?

- Very interested
- Interested
- Neutral
- Not very interested
- Not interested at all

Usage of Digital Tools and AI in Research

Select the digital research tools you use in your academic work. (select all that apply)

- Bibliographic and citation tools (e.g., Zotero, EndNote)
- Data analysis software (e.g., SPSS, R, MATLAB)
- Qualitative data analysis (e.g., NVivo, Atlas.ti)
- Online survey platforms (e.g., Qualtrics, SurveyMonkey)
- None of the above

How frequently do you utilize AI or machine learning tools (ChatGPT, Bard, etc.) in your research activities?

- Never
- Rarely
- Sometimes
- Often
- Always

Assess your own level of expertise in using AI and machine learning tools (ChatGPT, Bard, etc.) for research purposes.

- Novice
- Beginner
- Competent
- Proficient
- Expert

Section 4: Training Preferences and Needs Identification

What barriers do you encounter when trying to improve your digital literacy? (select all that apply)

- Lack of time
- Lack of institutional support
- Insufficient training opportunities
- Overwhelmed by the fast pace of digital change
- Comfortable with current level of digital literacy
- Other [Please specify]: _____

What specific digital literacies do you wish to improve or learn? Choose one most interested in

- Basic Computer Skills: Using an operating system, managing files, and understanding basic hardware.
- Internet Navigation: Using search engines, evaluating online sources, and understanding internet safety.
- Productivity Software: Proficiency in word processing, spreadsheets, and presentation software.
- Communication Tools: Email, instant messaging, video conferencing, and collaboration platforms.
- Digital Creation: Basic photo editing, video production, or website creation.
- Information Literacy: Finding, evaluating, using, and citing digital information.
- Cybersecurity Awareness: Understanding of personal data protection, password security, and awareness of phishing scams.
- Social Media Literacy: Creating content, understanding digital footprints, and privacy settings.
- Data Literacy: Understanding of data collection, analysis, and interpretation.
- E-Learning Platforms: Navigating online learning systems and digital libraries.
- Generative AI Literacy (ChatGPT, Claude, Barn, etc.): Accessing Generative AI, Understanding the capabilities of Generative AI, writing basic prompts.

Preferred formats for digital literacies training (select all that apply):

- Online video tutorials
- Live online classes/webinars
- In-person workshops
- Interactive group sessions
- One-on-one coaching

How frequently would you like to receive digital literacy training?

- Once a semester
- Once a year
- On-demand/as needed
- Other [Please specify]: _____

Would you be interested in becoming a digital literacy peer trainer after sufficient training?

- Yes
- No
- Maybe
- Do not know

Are there specific AI or machine learning resources or trainings you wish to have access to for improving your teaching? (Select all that apply)

- Online courses on integrating AI into curriculum design
- Workshops on using AI tools for personalized learning
- Training on implementing machine learning projects with students
- Seminars on the ethical use of AI in education
- Resources for developing AI-based educational content
- Access to AI software for classroom demonstration purposes
- I am not interested in any AI or machine learning resources or trainings
- Other (please specify): _____

Are there specific AI or machine learning resources or trainings you wish to have access to for improving your research? (Select all that apply)

- Introductory workshops on AI and machine learning concepts
- Advanced courses on AI algorithm development
- Training on specific AI software tools
- Seminars on ethical considerations in AI
- Collaborative opportunities with AI research groups
- Access to high-performance computing for machine learning tasks
- Online resources and MOOCs (Massive Open Online Courses) for self-paced learning
- Industry-specific AI applications (e.g., legal tech, med tech, fintech)
- Funding opportunities for AI-based research projects
- I am not interested in any AI or machine learning resources or trainings
- Other (please specify): _____

Annex 3 – Focus group guideline for students

Focus group guideline: Students

Objective:

To gather qualitative insights from university students about their experiences, challenges, and needs related to digital literacies, digital tools, AI, and machine learning in their learning.

Participants:

10-12 students from each university partner, representing diverse faculties and both Bachelor and Master levels.

Facilitation Team:

Facilitated by the U2SID project team member in each of 4 partner universities with briefing if needed by SCiDEV team.

Duration:

1-2 hours per focus group session.

Preparation:

- Ensure a comfortable venue that promotes open discussion.
- Prepare and test all recording equipment (use smartphone recording options).
- Create an attendance list as per U2SID template that includes consent for photos and recordings.
- Designate roles among the facilitation team (e.g., moderator, note-taker, photographer).
- Make sure participants are aware of what will be done with the collected data and who will have access to it.

During the focus group

Introduction (10 -15 minutes):

- Welcome and introductions by the facilitation team.
- About U2SID project
- About this need assessment exercise and study aim
- Overview of the focus group's objectives and structure.
- Anonymity and confidentiality assurances.

Guided Discussion (40-75 minutes)

- Begin with general questions to ease into the discussion.
- Use open-ended questions to explore lecturers' experiences with digital tools and AI.
- Encourage sharing of both positive experiences and challenges.
- Facilitate the discussion, ensuring all participants have the opportunity to contribute.
- Go in depth in any specific topics of interest for the assessment and participants

Guiding questions:

- Could you please introduce yourself and share one technology tool or app you cannot imagine studying without?
- Have you ever had to create digital content (such as a video or website) for a class? What did you learn from that experience?
- How do you determine the credibility and relevance of digital information for your assignments?
- Can you share any personal rules or practices you follow to protect your privacy and data online?
- In what ways do you use social media for academic and professional networking?
- Which e-learning platforms are you required to use for your courses, and what has been your experience with them?
- What are your thoughts on AI and machine learning? Have you had any exposure to these technologies in your studies?
- How do you think AI could change your chosen field or profession in the future?
- What additional skills or training do you think would help you to be more successful in your academic and future professional life?
- What format of training do you prefer when you want to learn something new (e.g., face-to-face workshops, online tutorials, etc.)?
- Are there any suggestions you have for the university to better assist students in becoming digitally literate?

Closing (10-15 minutes)

- Summarize key points discussed.
- Thank participants and explain the next steps

Post-Focus Group Actions**Documentation**

- Transcribe recordings as soon as possible while the discussion is fresh.
- Prepare reports summarizing the key themes, insights, and quotes (use Template prepared by SCiDEV in English)
- Ensure confidentiality when preparing reports (no direct quotes with names and surnames)

Photography and Social Media

- Select photos for quality and relevance.
- Prepare brief, engaging descriptions for social media and share with University of Shkodra for Publication
- Prepare dissemination report for website as per U2SID Template and share with University of Shkodra for publication on website once all three focus groups are completed

Annex 4 – Focus group guideline for lecturers

Focus group guideline: Lecturers

Objective:

To gather qualitative insights from university lecturers about their experiences, challenges, and needs related to digital literacies, digital tools, AI, and machine learning in their teaching and research.

Participants:

10-12 lecturers from each university partner, representing diverse faculties and experience levels.

Facilitation Team:

Facilitated by the U2SID project team member in each of 4 partner universities with briefing if needed by SCiDEV team

Duration:

1-2 hours per focus group session.

Preparation:

- Ensure a comfortable venue that promotes open discussion.
- Prepare and test all recording equipment (use smartphone recording options).
- Create an attendance list as per U2SID template that includes consent for photos and recordings.
- Designate roles among the facilitation team (e.g., moderator, note-taker, photographer).
- Make sure participants are aware of what will be done with the collected data and who will have access to it.

During the focus group

Introduction (10 -15 minutes):

- Welcome and introductions by the facilitation team.
- About U2SID project
- About this need assessment exercise and study aim
- Overview of the focus group's objectives and structure.
- Anonymity and confidentiality assurances.

Guided Discussion (40-75 minutes)

- Begin with general questions to ease into the discussion.
- Use open-ended questions to explore lecturers' experiences with digital tools and AI.
- Encourage sharing of both positive experiences and challenges.
- Facilitate the discussion, ensuring all participants have the opportunity to contribute.
- Go in depth in any specific topics of interest for the assessment and participants

Guiding questions:

a) Digital Literacy and Tool Usage

- How would you describe your current level of digital literacy, and how does it impact your teaching and research?
- Can you share some examples of how you integrate digital tools into your curriculum?
- What challenges have you faced when using digital tools in your teaching or research?

b) AI, Machine Learning, and E-Learning Platforms

- Have you had any experience with AI or machine learning in your teaching or research? If so, could you elaborate?
- How do you perceive the role of AI and machine learning in the future of education and your field specifically?
- What e-learning platforms are you familiar with, and how do they support your teaching methods?
- What are the challenges? What are the opportunities?
- How does your approach to these platforms change from that of students?

c) Training Preferences and Needs Identification

- What types of professional development or training would enhance your ability to use digital tools and AI in your work?
- How do you prefer to receive this training (workshops, online courses, peer-to-peer sessions, etc.)?

d) Final Thoughts and Open Discussion

- Is there anything you feel is essential for the institution to understand about lecturers' needs in terms of digital literacy and tool usage?
- Are there any additional comments or topics you'd like to discuss that we haven't covered?

Closing (10-15 minutes)

- Summarize key points discussed.
- Thank participants and explain the next steps

Post-Focus Group Actions

Documentation

- Transcribe recordings as soon as possible while the discussion is fresh.
- Prepare reports summarizing the key themes, insights, and quotes (use Template prepared by SCiDEV in English)
- Ensure confidentiality when preparing reports (no direct quotes with names and surnames)

Photography and Social Media

- Select photos for quality and relevance.
- Prepare brief, engaging descriptions for social media and share with University of Shkodra for Publication
- Prepare dissemination report for website as per U2SID Template and share with University of Shkodra for publication on website once all three focus groups are completed

Annex 5 – Focus group guideline for stakeholders

Focus group guideline: Stakeholders

Objective:

To engage with key stakeholders in a collaborative discussion about enhancing digital literacy skills among academics and students to better prepare them for the demands of the contemporary digital landscape.

Participants:

8-12 participants from the stakeholders database: CSOs, local businesses, media, public authorities

Facilitation Team:

Facilitated by the U2SID project team member in each of 4 partner universities with briefing if needed by SCiDEV team .

Duration:

1 hour per focus group session.

Preparation:

- Ensure a comfortable venue that promotes open discussion.
- Prepare and test all recording equipment (use smartphone recording options).
- Create an attendance list as per U2SID template that includes consent for photos and recordings.
- Designate roles among the facilitation team (e.g., moderator, note-taker, photographer).
- Make sure participants are aware of what will be done with the collected data and who will have access to it.

During the focus group

Introduction (10 -15 minutes):

- Welcome and introductions by the facilitation team.
- About U2SID project
- About this need assessment exercise and study aim
- Overview of the focus group's objectives and structure.
- Anonymity and confidentiality assurances.

Guided Discussion (40-75 minutes)

- Begin with general questions to ease into the discussion.
- Use open-ended questions to explore lecturers' experiences with digital tools and AI.
- Encourage sharing of both positive experiences and challenges.
- Facilitate the discussion, ensuring all participants have the opportunity to contribute.
- Go in depth in any specific topics of interest for the assessment and participants

Guiding questions:

- What are your initial thoughts when you hear 'digital literacy' in the context of higher education?
- Can you describe the current level of digital literacy you observe among students and faculty within our institution based on your cooperation so far?
- What digital skills do you think are most essential for students and faculty in today's academic environment?
- What are the most significant challenges or barriers that students and faculty face in achieving a satisfactory level of digital literacy?
- Are you aware of any existing programs or resources aimed at improving digital literacy? How effective have they been?
- How does your institution currently support the development of digital literacy skills? Are there any gaps? Any opportunities for cooperation?
- Would you be willing to join collaborative training on digital literacies with our faculty?
- What strategic partnerships or collaborations could we pursue to enhance our digital literacy initiatives?
- What emerging digital skills should we be preparing our students and faculty to handle in the near future?
- How can we foster a culture of continuous improvement and adaptation regarding digital literacy?
- Any other comments

Closing (10-15 minutes)

- Summarize key points discussed.
- Thank participants and explain the next steps

Post-Focus Group Actions

Documentation

- Transcribe recordings as soon as possible while the discussion is fresh.
- Prepare reports summarizing the key themes, insights, and quotes (use Template prepared by SCiDEV in English)
- Ensure confidentiality when preparing reports (no direct quotes with names and surnames)

Photography and Social Media

- Select photos for quality and relevance.
- Prepare brief, engaging descriptions for social media and share with University of Shkodra for Publication
- Prepare dissemination report for website as per U2SID Template and share with University of Shkodra for publication on website once all three focus groups are completed



U2SID PROJECT

<https://u2sid.al/home>

FOLLOW US

