Co-funded by the Erasmus+ Programme of the European Union

Project:	Boosting the telecommunications engineer profile to meet modern society and industry needs [BENEFIT]
Project ID:	585716-EPP-1-2017-1-AT-EPPKA2-CBHE-JP
Work Package 4:	Training and internship implementation
Title:	D4.5 Surveys and reports on training/internship
Lead Organization:	UL, UB
Participating Organization:	UNI-KLU, UL, FERIT, UBL, UNSA, UNTZ, UNI, UNS, ENT, BICOM, BIT, CISCO, NiCAT, RT-RK, AN, SE-DMS, ZM
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Deliverable data	Work Package and Outcome ref.nr	WP4 - D4.5
	Title	Surveys and reports on training/internship
	Type	☐Teaching material ☐Event ☐Learning material ☒Report ☐Training material ☐Service/Product
	Description	The set of annual and individual reports were defined and applied for each trainee attending training events and internships in industry. Surveys and questionnaires were defined to collect feedback from all participants. The deliverable presents short review of the results of these surveys and questionnaires, and provides some conclusions regarding the implemented activities based on the collected feedback from participants.
	Date	12.02.2021.
	Language	English
Target groups	☒Teaching staff ☒Students ☒Trainees ☐ Administrative staff ☒ Technical staff ☐ Librarians ☒ Industry partners, WB Higher education authorities	
Dissemination level	☐ Department / Faculty ☐ Local ☐ National ☐ Institution ☐ Regional ☒ International	
WP Lead Organization	UB	
Participating Organization	UNI-KLU, UL, FERIT, UBL, UNSA, UNTZ, UNI, UNS, ENT, BICOM, BIT, CISCO, NiCAT, RT-RK	
Task	T4.2 Implement framework for student training in cooperation with EU partners and industry (Task leader: UB). T4.3 Offer techno-economic, entrepreneurial and IPR related training modules (Task leader: UNS). T4.4 Implement framework for support of student internships in companies (Task leader: ENT). T4.5 Implement teacher staff training on ICT teaching tools and lab operations and modern prototyping tools (Task leader: CISCO).	

Revision History				
Version	Date	Author(s)	Organization(s)	Brief description of change
1	5.2.2021.	J. Ćertić, M. Zajc, U. Burnik, M. Koprivica, G. Marković	UL, UB	Super draft
2	12.2.2021.	All	UNI-KLU, UL, UB, UBL, UNSA, UNS, UNI, UNTZ, FERIT	Final version
3	12.3.2021.	J. Ćertić, M. Zajc, U. Burnik, M. Koprivica, G. Marković	UL, UB	Updated with result for Cisco Online Winter School 2021 and Online seminar on Entrepreneurship
4	15.3.2021	F. Marcuzzi	UNIKLU	Deliverable review
5	16.3.2021	J. Ćertić	UB	Minor revisions
6	16.3.2021	N. Maleš-Ilić	UNI	QB evaluation

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1. Introduction

The deliverable **D4.5 Surveys and reports on training/internship** reports the results of the surveys and questionnaires defined to collect feedback from all participants attending training events, student internships and co-supervised thesis in industry, which includes activities carried out in:

T4.2: Implement framework for **student training** in cooperation with EU partners and industry **(Task leader: UB)**.
T4.3: Offer **techno-economic, entrepreneurial and IPR related training** modules **(Task leader: UNS)**.
T4.4: Implement framework for support of **student internships** in companies **(Task leader: ENT)**.
T4.5: Implement **teacher staff training** on ICT teaching tools and lab operations and modern prototyping tools **(Task leader: CISCO).**

The project BENEFIT recognized continuous training of teaching staff as an important prerequisite for the successful implementation of modernized study programs in telecommunication engineering by the involved Western Balkans higher education institutions (WB HEI), [1]. Hence, in the scope of the project BENEFIT the training on ICT (Information-Communications Technologies) teaching tools and lab operations and modern prototyping tools were planned and offered to teacher staff of six WB HEI and other participating universities. In total, six teaching staff training workshops and seminars have been prepared and delivered:

1. The professional training workshop, organized by the University of Klagenfurt (UNI-KLU), which was held in Klagenfurt in July 2019;
2. The workshop on new teaching methodologies and instructional approaches in ICT engineering education with emphasis on learning outcomes and competence development for engineering professions, organized by the University of Ljubljana (UL), which was held in Ljubljana in September 2019;
3. Teacher training seminar "*Deep Learning in a Classroom – Education, Research, and Industry Needs*", organized by the University of Banja Luka (UBL), which was held in Banja Luka in December 2019;
4. The workshop "*ICT Teaching Practice Training*", organized by the University of Osijek, which was held in February 2020;
5. The teacher training seminar "*Designing a Course for Stimulating Entrepreneurship in Higher Education*", organized by the University of Sarajevo, which was held in two parts due to the COVID-19 pandemic. The first part was organized as online event (webinar) in July 2020. The second part was held as the face-to-face seminar/practical workshop at Jahorina (Sarajevo)in September 2020.
6. Thr teacher training seminar "*Role of software in education, research and practice*", organized by University of Nis, which was held face-to-face for WB HEI from Serbia and online (due to the COVID-19 pandemic) for WB HEI from Bosnia and Hercegovina and other participating organizations in September 2020.

Training for students in the project BENEFIT assumed training modules on technical and entrepreneurial subjects. Training topics were devoted to different fields that are important for future ICT engineering development. Collection of surveys was conducted for several organized events that included student trainings:

1. Ericsson Nikola Tesla Summer Camp 2019 – July and August 2019, Zagreb.
2. Cisco Summer School 2019 – September 2019, Belgrade.
3. AlfaNum seminar "*Speech technology progress based on advanced signal processing and AI-ML paradigm - one lab practice*" – December 2019, Banja Luka.
4. Seminar on IoT Security 2020 – January 2020, Belgrade.

5. NiCAT online training on "*How to achieve a successful career and what is the first step – the key elements of success*" – December 2020, Niš.
6. NiCAT online training on "*Business in the field of application of artificial intelligence and development of a team of cyber security analysts*" – December 2020, Niš.
7. Online seminar on IoT Security 2021 – January 2021, Belgrade.
8. Cisco Online Winter School 2021 – February 2021, Belgrade.
9. Online seminar on "*Entrepreneurship based on added knowledge*" – February 2021, Novi Sad.

One of the BENEFIT project goals was to enable internship for many students who wanted to experience work in an industry environment, but are currently not provided with many opportunities to do so. Another option for students in the scope of the BENEFIT project were co-supervised thesis in the industry. Two questionnaires for these activities were defined, one for students who participated in the internships and another one for students who worked on co-supervised theses in industry.

The overall result of the tasks **T4.2, T4.3, T4.4** and **T4.5** activities that were reached through the implementation of the project BENEFIT are documented with: the separate reports on the each of the implemented teacher staff training and student training event (also reported in deliverables **D4.4** and **D4.2**, respectively), and the individual and annual reports regarding student internships and co-supervised theses in the industry (also reported in deliverable **D4.3**). This deliverable (report) presents the main information regarding feedback collected through the appropriate surveys and/or questionnaires for each of these activities which are filled by training event attendees (teaching staff members or students depending on the type of training activity) and students that have participated in the internships and co-supervised theses in industry. The deliverable gives a short review of the results for the surveys and questionnaires collected for each of these activities (teacher staff training, student training, student internships in the industry, and co-supervised thesis in the industry). Also, it provides some conclusions regarding the implemented activities based on the collected feedback from the participants.

2. Objectives of the Deliverable

The main objectives of the deliverable are to present survey structure and an overview of the surveys' outputs of training/workshop/seminar events organised for the teachers and for the students as well as internships and cosupervised theses provided for students within the framework of the BENEFIT Project. The collected questionnaires data can be used as a metric of the success of the tasks **T4.2, T4.3, T4.4,** and **T4.5**, as described in section 1.

3. Review of surveys of teacher training workshops/seminars

In this section, a short overview of the surveys is presented. for each of the six teaching staff training workshops and seminars. After each event, attendees were asked to complete a short anonymous survey and provide their impressions of the event. The results here reported were collected by using the online tool 1ka (https://www.1ka.si/). The minimal number of fully completed surveys was 21 (for a single training event), and, based on that, there was enough information for the review of the survey.

The survey form was the same for all events and is given in Appendix 1.

The survey consists of several groups of questions. The first three questions are about the basic information of the attendees (gender, age, country).

There are five groups of questions that are important for the evaluation of the event. Each question asks the attendee to estimate a certain aspect of the event:

- The first group of questions (Q5) is related to the general impression of the event, including communication during the event preparation phase, materials provided, agenda, and similar.
- The second group of questions (Q7) is related to the attendees' evaluation of the presenters/speakers/teachers including the effectiveness of implemented teaching methodology.
- The third group of questions (Q8) is related to the evaluation of the training part of the event, including the evaluation of the practical part of the training (exercise).
- By the fourth group of questions (Q11), attendees are asked to evaluate the subject chosen for the training, their previous knowledge of the subject, their motivation to attend the seminar/workshop, and improvement in their understanding of the event subject.
- By the fifth group of questions (Q12) attendees are asked to evaluate the success of the event, and the impact of the training on their future career.

Besides these, there are four free-form questions (Q6, Q9, Q10 and Q13) for additional suggestions and comments:

- “Here you can provide your general remarks or suggestions about the event. For example. which aspects of the training could be improved?”,
- “Suggest new technical topics that training should cover.”,
- “Suggest new learning/teaching technology that can improve courses like this.” and
- “Please share any other comments :”

3.1. Training workshop at University of Klagenfurt – July 2019

The professional training workshop, organized by the University of Klagenfurt (UNI-KLU), was held in Klagenfurt on July 10th and 11th 2019 (M22). This teacher training workshop was devoted to joint training activities in the framework of the ERASMUS+ projects BENEFIT and SGT-MAP. The total number of participants (attendees) at this training was 42 teacher staff members from the nine universities that participate in the project BENEFIT (the participants of project SGT-MAP were not included in this number).

The training topics of this two-day professional training workshop were presentation on the data acquisition with National Instruments (NI) hardware and software with the hands-on practice lecture regarding National Instruments USRPs and LabViev, and sessions devoted to the different research and teaching topics such as: IoT and 5G, research and teaching in ICT courses, and smart grids.

The total number of valid survey records was 29. There were 21 male and 8 female attendees who completed the survey. The age span of attendees who completed the survey was from 24 to 51, mean 39.1, standard deviation 9.3.

In Figures 3.1.1 to 3.1.5 survey results relevant for the workshop evaluation are presented:

- In Figure 3.1.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.1.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.

- In Figure 3.1.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.1.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the workshop.
- Figure 3.1.5 provides results of the attendees' impression of the workshop's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.1.1 to 3.1.5. Those values are calculated based on the marks of all attendees who completed the survey.

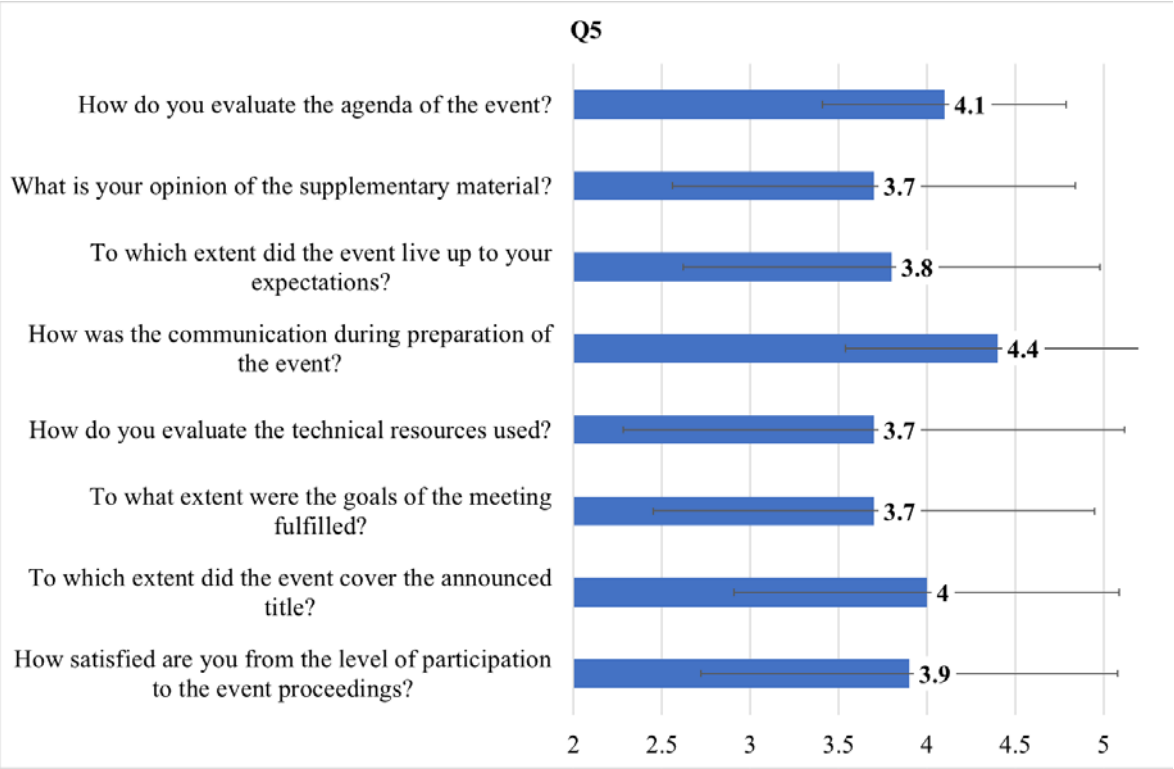

Figure 3.1.1 – General attendees' impression of the training workshop at the University of Klagenfurt.

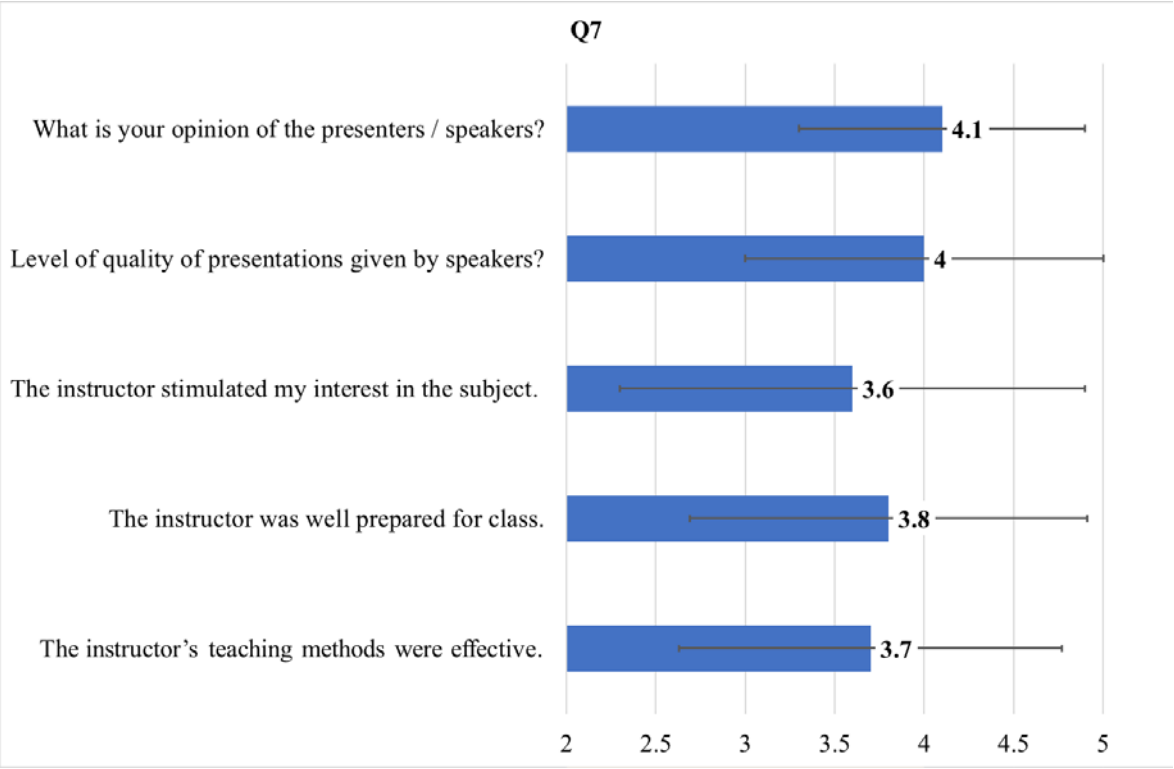

Figure 3.1.2 – Attendees' opinion of the presenters/teachers/instructors of the training workshop at the University of Klagenfurt.

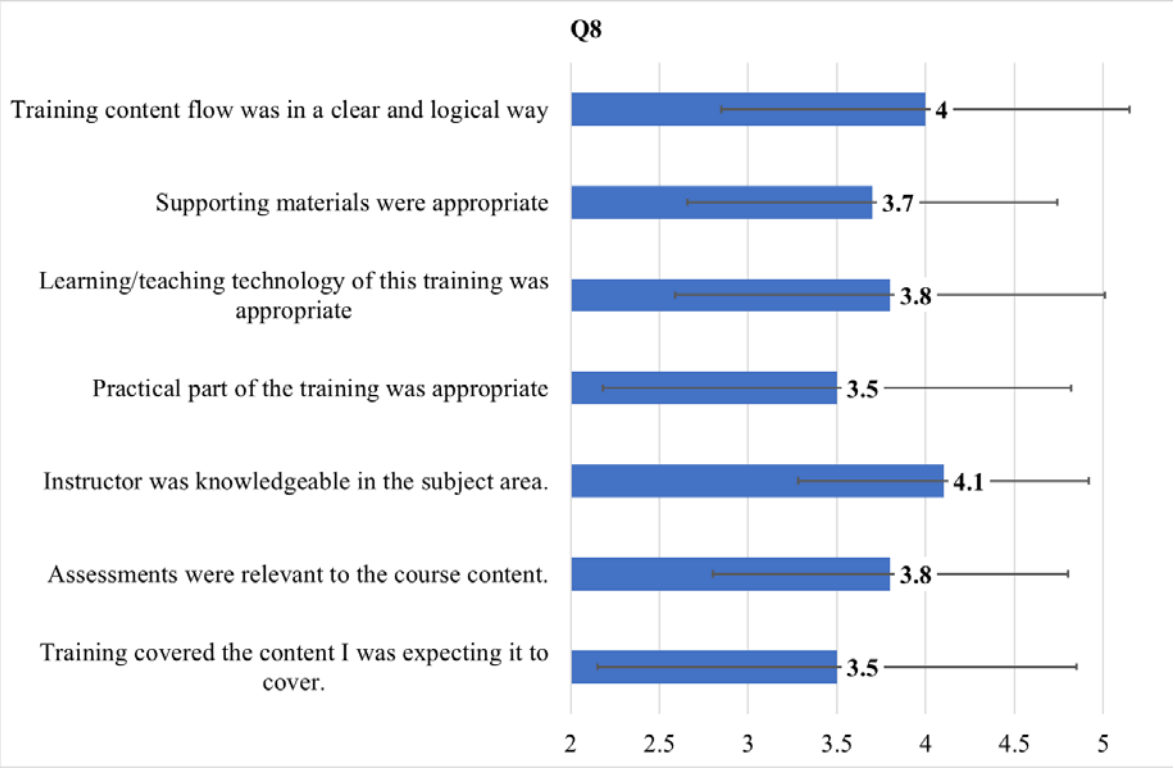

Figure 3.1.3 – Attendees' opinion of the training part of the workshop at the University of Klagenfurt.

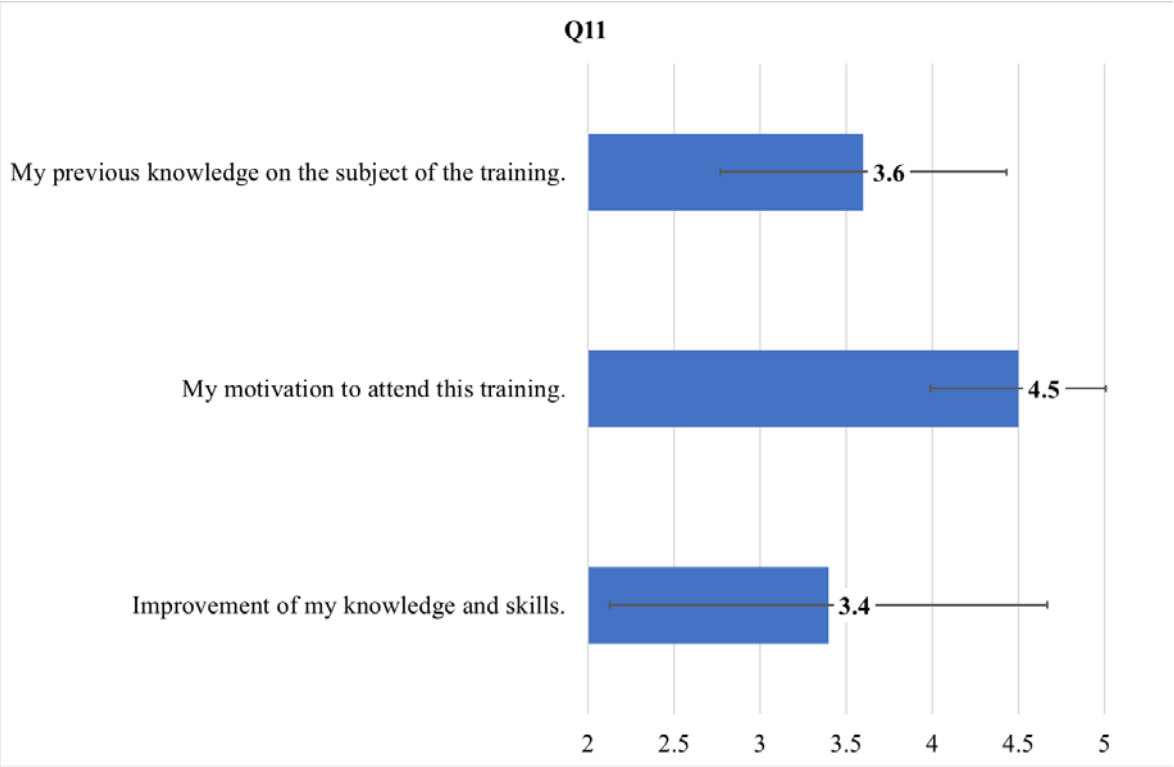

Figure 3.1.4 – The attendees' impression of the subject chosen for the training workshop at the University of Klagenfurt.

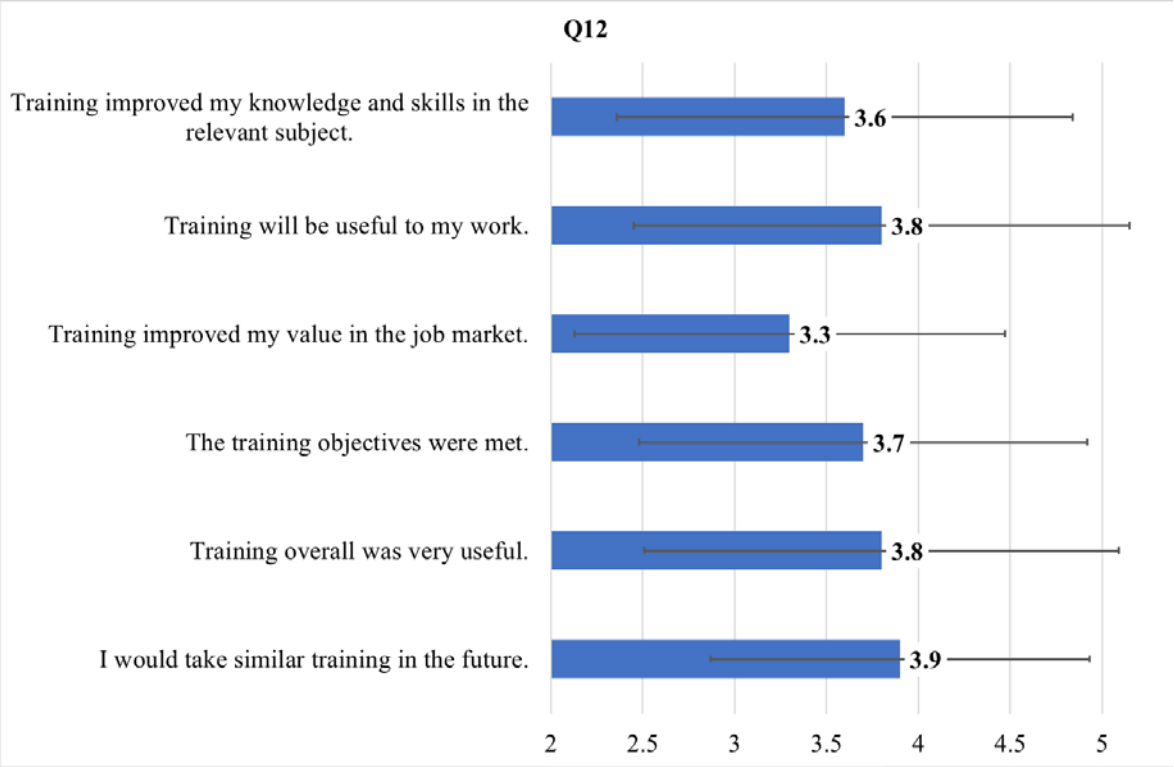

Figure 3.1.5 – The attendees' opinion of the success of the training workshop at the University of Klagenfurt.

From the presented numerical and statistical results, the overall impression of the event is positive. The standard deviation is relatively large, which can be an indication of the discrepancy of the interests and previous knowledge of the attendees regarding the selected workshop topics.

The relatively large standard deviation of the indicators is in correlation with different expectations of the workshop topics that can be seen from additional comments provided in the survey and given below.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*The event was organized in an excellent way. The topics were very interesting for me and my work. The training NI day was perfect choice from my point of view. It was useful and interesting to hear the activities of other participant institutions. Longer talks were well prepared and attracted significant attention.*"
- "*In overall, the training was very successful. For a future activities, the only part that should be someway improved is the practical/lab sessions in terms of adequate space and group allocation*."

Question: Suggest new technical topics that training should cover.

Selected answers:

- "*Applying machine learning to IoT data.*"
- "*Training should be more about telecommunications, especially the primary telecommunications segments (radio, switching systems, networking and network management). Electronics (data acquisition) is not fundamental to the telecommunications sector compared to the fields mentioned above. Training should provide specific examples of tutorials, lab exercises that can be used, and ways of realizing, equipment usage, results evaluating and big-picture impact of these tasks.*."
- "*Electrical Vehicles and their integration in the smart grid.*"

3.2. Training workshop at University of Ljubljana – September 2019

The training workshop on the new teaching methodologies and instructional approaches in ICT engineering education with emphasis on learning outcomes and competence development for engineering profession, organized by the University of Ljubljana (UL), was held in Ljubljana on September 25th and 26th 2019 (M24). The total number of participants at this training workshop was 34 teacher staff members from the nine universities that participate in the project BENEFIT.

An intensive two day program included higher education experts from UL and UB, while the workshop activities were interactive. The topics covered during this training workshop were lectures related to the teaching methodologies, the modernization of teaching methodologies, instructional approaches in engineering education and the competence development for engineering profession, as well as the separate workshops on teaching entrepreneurship and on learning outcomes.

The total number of valid survey records was 21. There were 9 male and 12 female attendees who completed the survey. The age span of attendees who completed the survey was from 26 to 58, mean 49.3, standard deviation 11.1.

In Figures 3.2.1 to 3.2.5 survey results relevant for the workshop evaluation are presented:

- In Figure 3.2.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.2.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 3.2.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.2.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the workshop.
- Figure 3.2.5 provides results of the attendees' impression of the workshop's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.2.1 to 3.2.5. Those values are calculated based on the marks of all attendees who completed the survey.

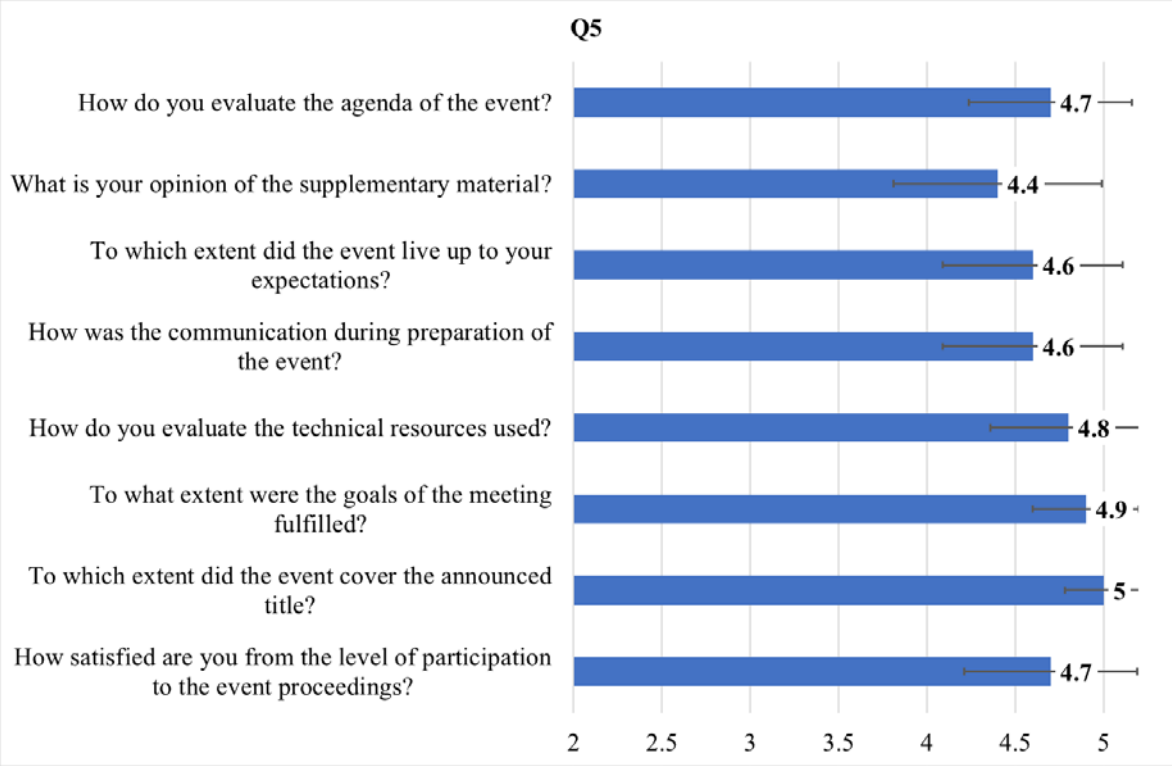

Figure 3.2.1 – General attendees' impression of the training workshop at the University of Ljubljana.

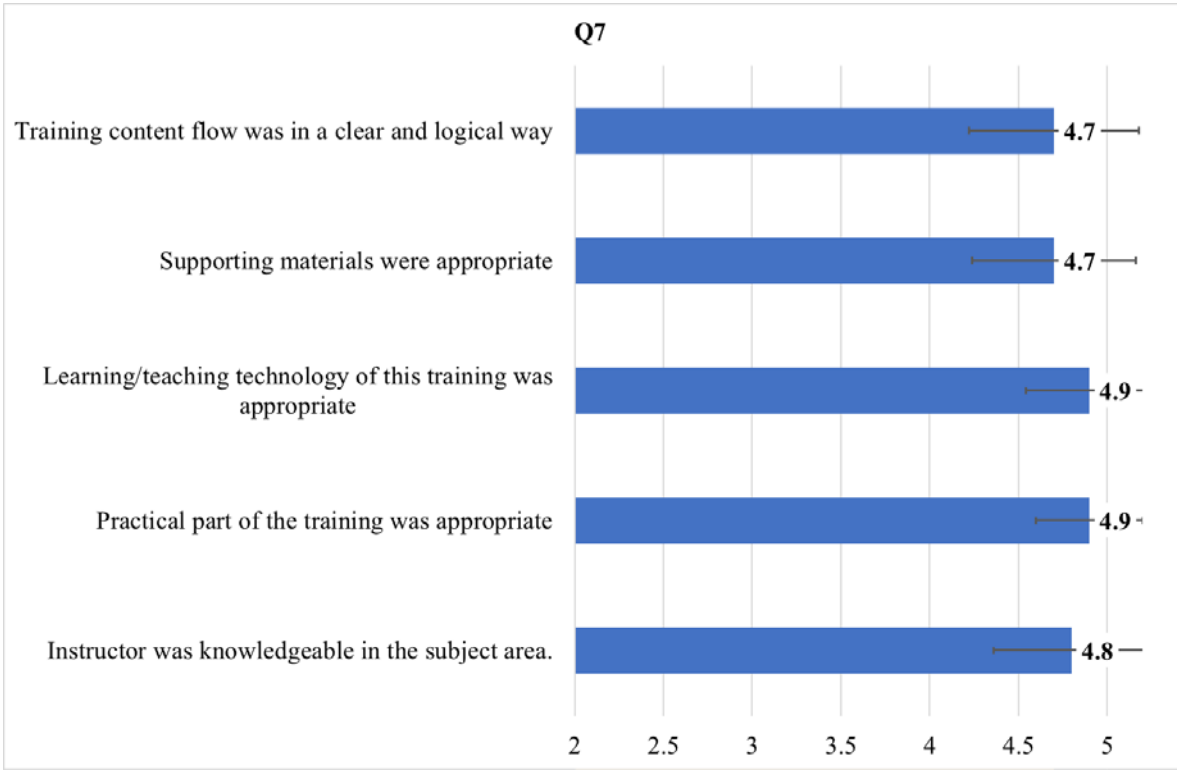

Figure 3.2.2 – Attendees' opinion of the presenters/teachers/instructors of the training workshop at the University of Ljubljana.

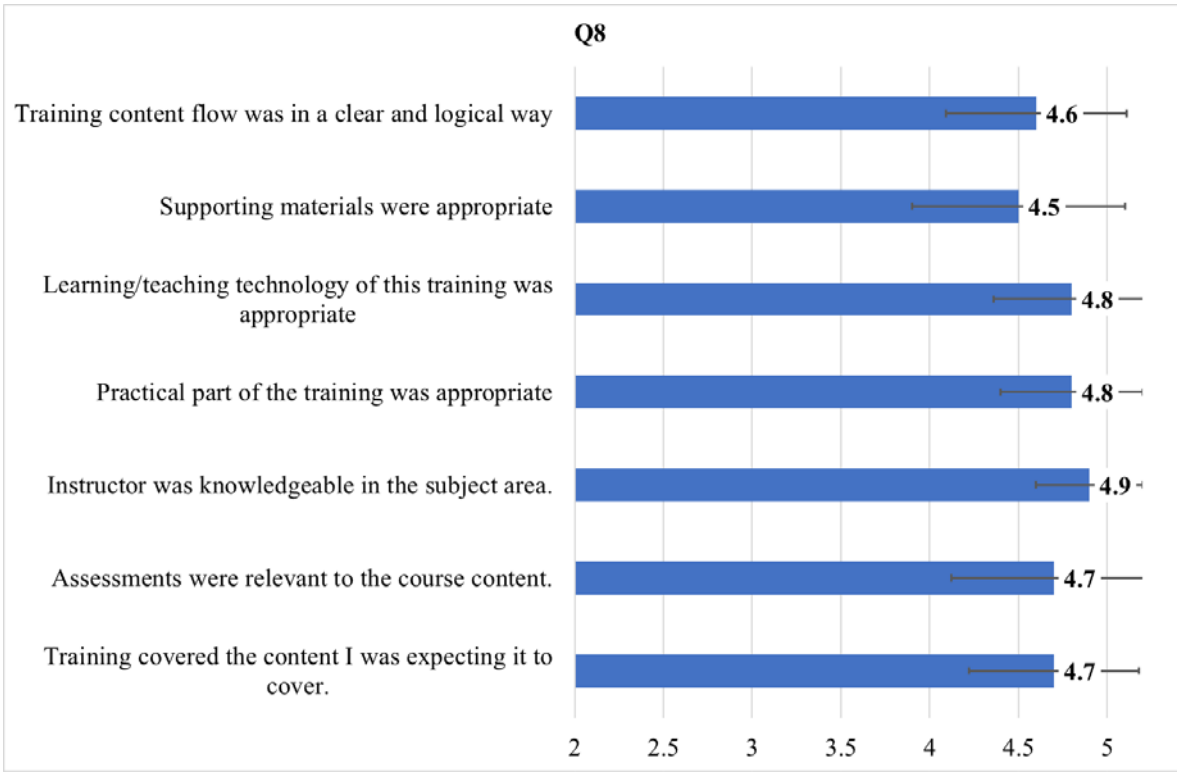

Figure 3.2.3 – Attendees' opinion of the training part of the workshop at the University of Ljubljana.

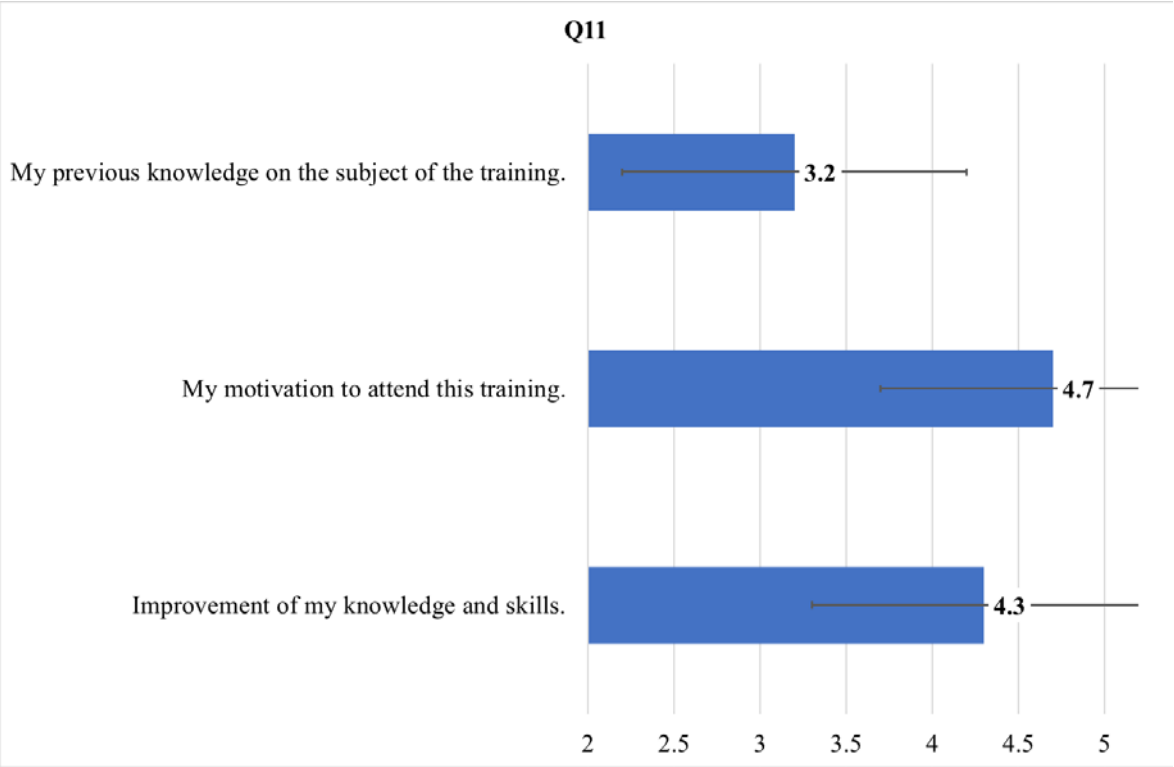

Figure 3.2.4 – The attendees' impression of the subject chosen for the training workshop at the University of Ljubljana.

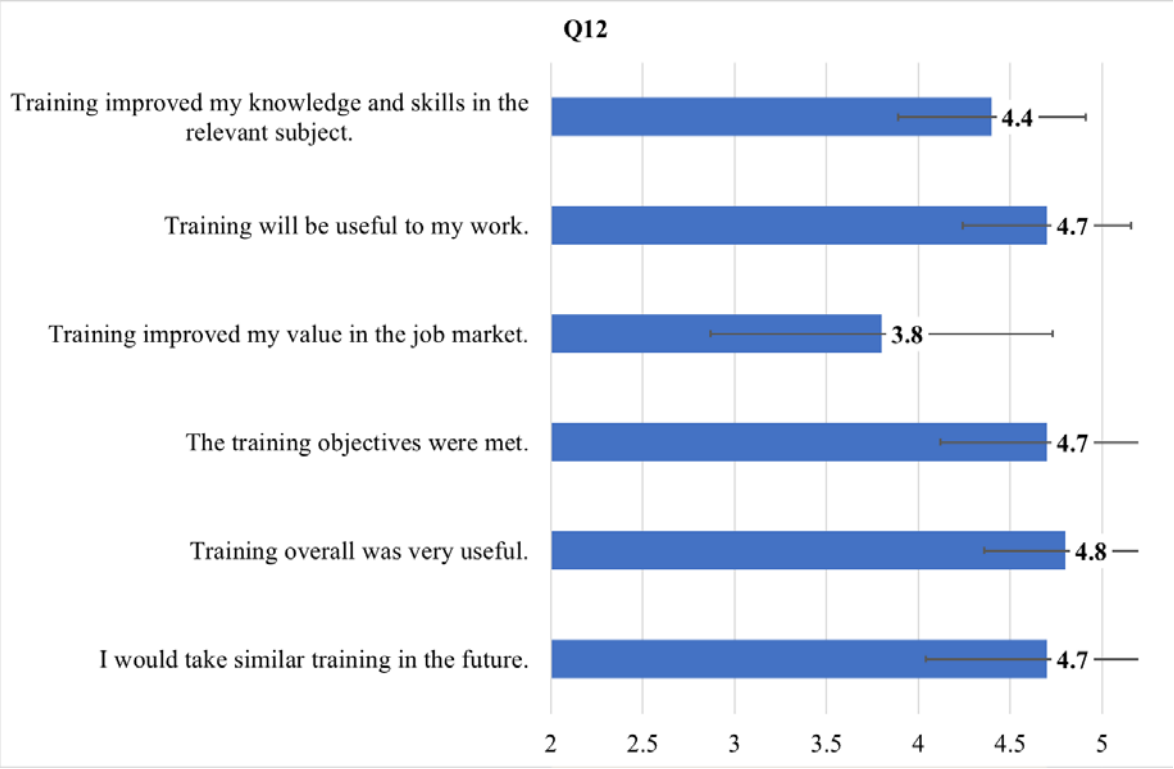

Figure 3.2.5 – The attendees' opinion of the success of the training workshop at the University of Ljubljana.

From the presented numerical and statistical results, the overall impression of the event was very positive. The main part of the training workshop was related to topics highly relevant for the BENEFIT

project, modern teaching methodologies in ICT engineering, and defining objectives, goals, and learning outcomes. The attendees were not too familiar with the workshop topics before the event, see Figure 3.2.4, and the overall impression was that the training was very useful, see Figure 3.2.5.

From additional comments provided in the survey and given below, it can be seen that the training workshop improved the understanding of the topics related to teaching methodologies.

Question: Please share any other comments.

Selected answer:

- "*The workshop was very useful to me, especially because I did not attend many trainings on the topic of teaching methodologies.*"

Question: Suggest new technical topics that training should cover.

Selected answer:

- "*Constructive compliancy between LO teaching methods and assessment types.*"

3.3. Teacher training seminar at University of Banja Luka – December 2019

The teacher training seminar "Deep Learning in a Classroom – Education, Research, and Industry Needs", organized by the University of Banja Luka (UBL), was held in Banja Luka onDecember 19th to 21st 2019 (M26). The total number of participants (attendees) at this training workshop was 52 including students from UBL (that attended the second day of the training event), of which 32 teacher staff members from the nine universities that participate in the project BENEFIT.

The lecturers were from the Imperial College at London, United Kingdom, and the University of Banja Luka, but besides academia, the industry representatives from Croatia and Bosnia and Herzegovina presented topics related to the industry needs in modern technologies, including machine learning technologies, applications and solutions. The training topics were mostly related to the artificial intelligence (AI) and machine learning (ML) technologies in education and research, as well as on industry needs in this area. The second day of the seminar was open to students, with the topics including a lecture on teaching machine learning and signal processing as the introduction of student to innovations, and lecture on experience in the ML research and application, and the collaboration with the university partners in that field from company AlfaNum from Novi Sad.

The total number of valid survey records was 26. There were 21 male and 8 female attendees who completed the survey. The age span of attendees who completed the survey was from 24 to 51, mean 39.1, standard deviation 9.3.

In Figures 3.3.1 to 3.3.5 survey results relevant for the workshop evaluation are presented:

- In Figure 3.3.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.3.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 3.3.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.3.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the seminar.

- Figure 3.3.5 provides results of the attendees' impression of the seminar's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.3.1 to 3.3.5. Those values are calculated based on the marks of all attendees who completed the survey.

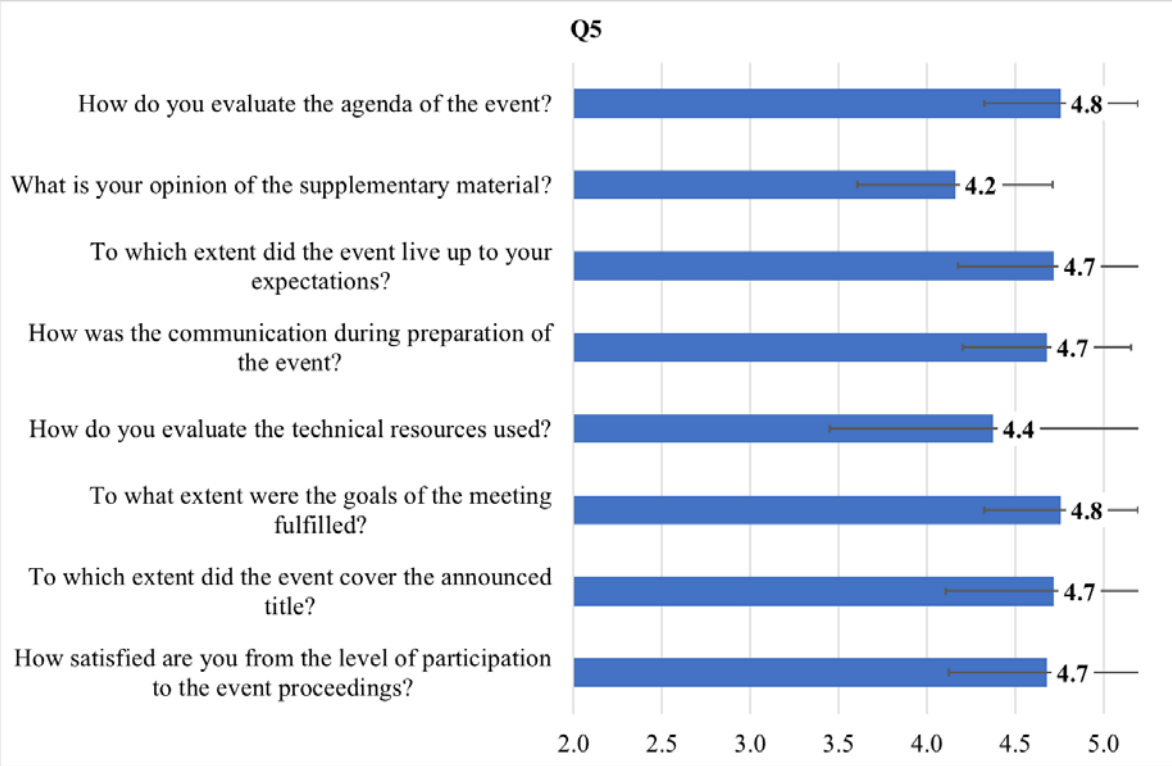

Figure 3.3.1 – General attendees' impression of the training seminar at the University of Banja Luka.

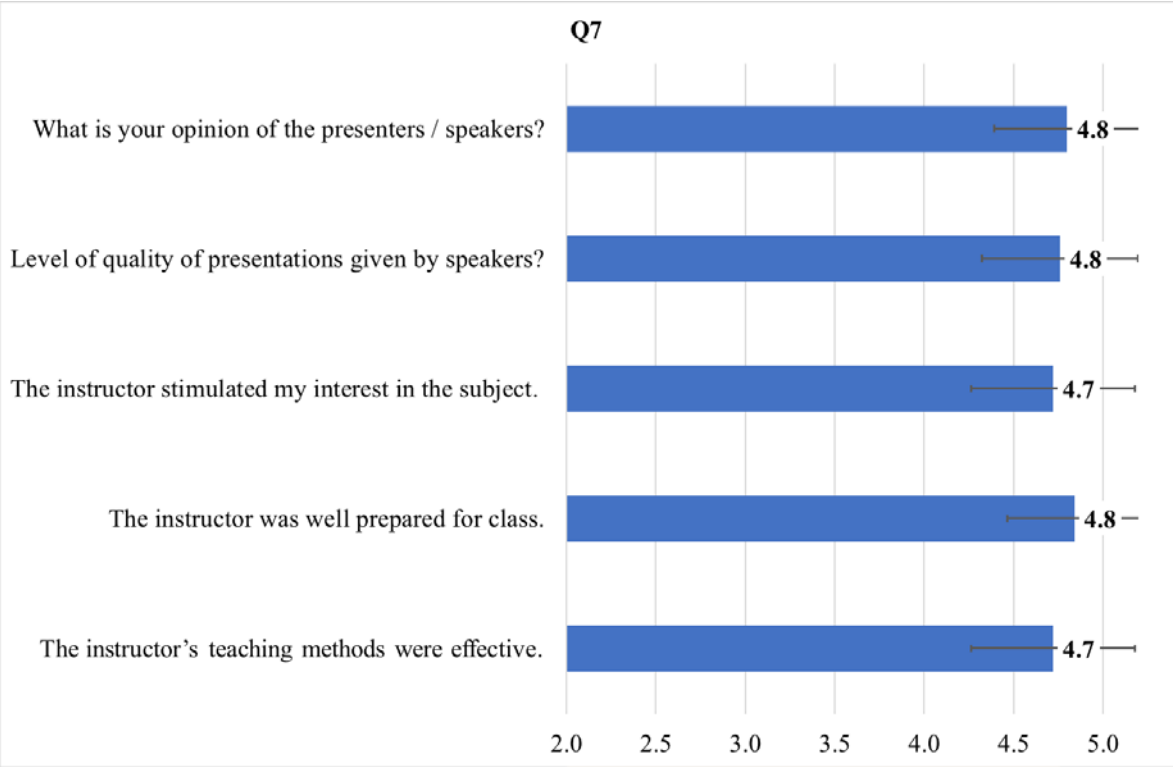

Figure 3.3.2 – Attendees' opinion of the presenters/teachers/instructors of the training seminar at theUniversity of Banja Luka.

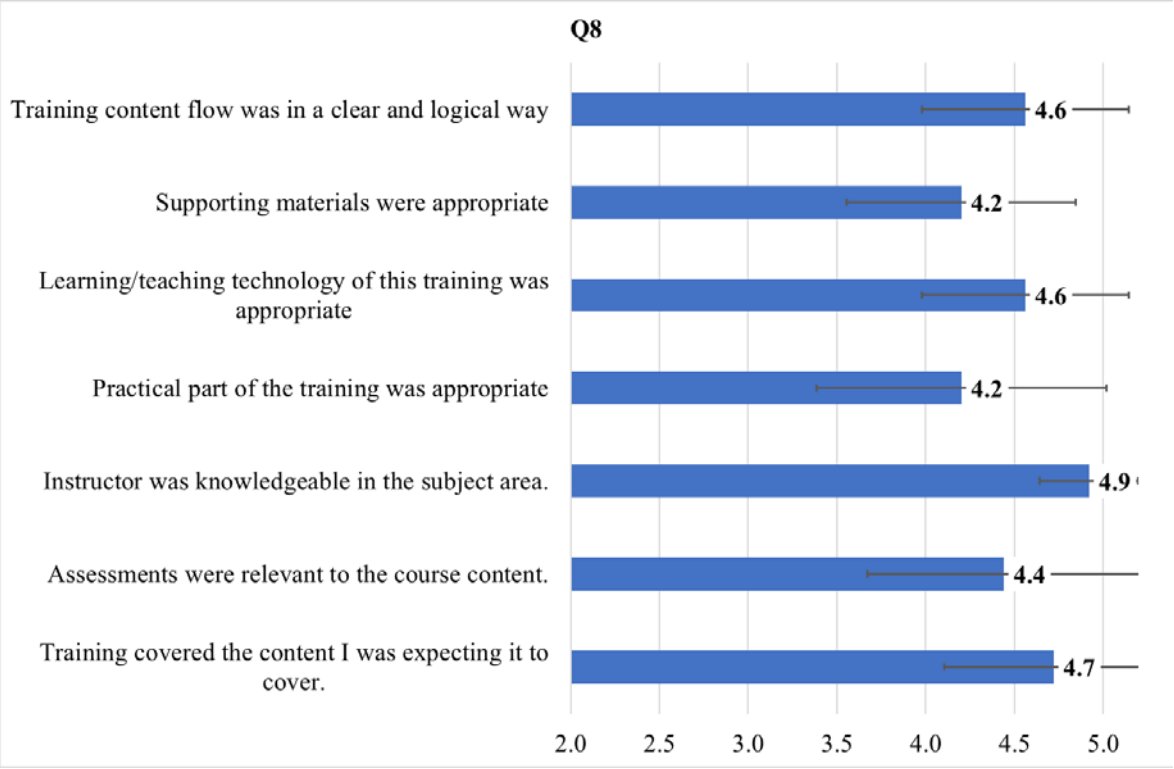

Figure 3.3.3 – Attendees' opinion of the training part of the seminar at the University of Banja Luka.

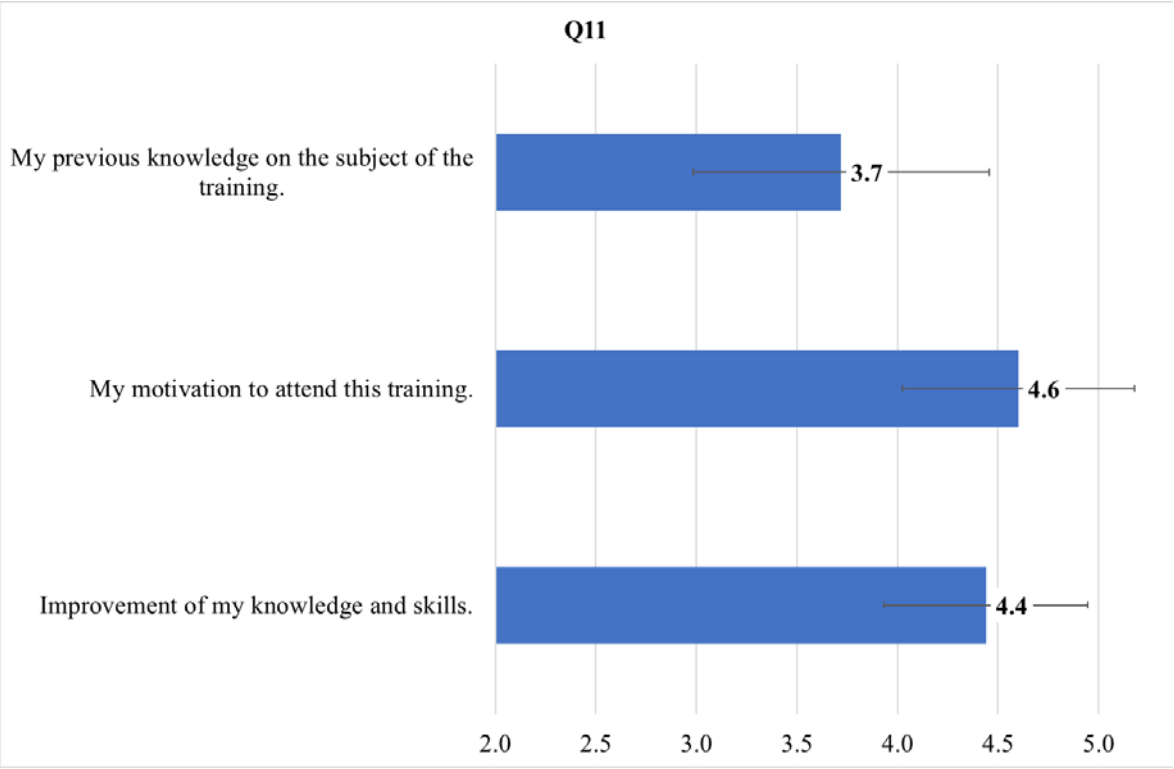

Figure 3.3.4 – The attendees' impression of the subject chosen for the training seminar at the University of Banja Luka.

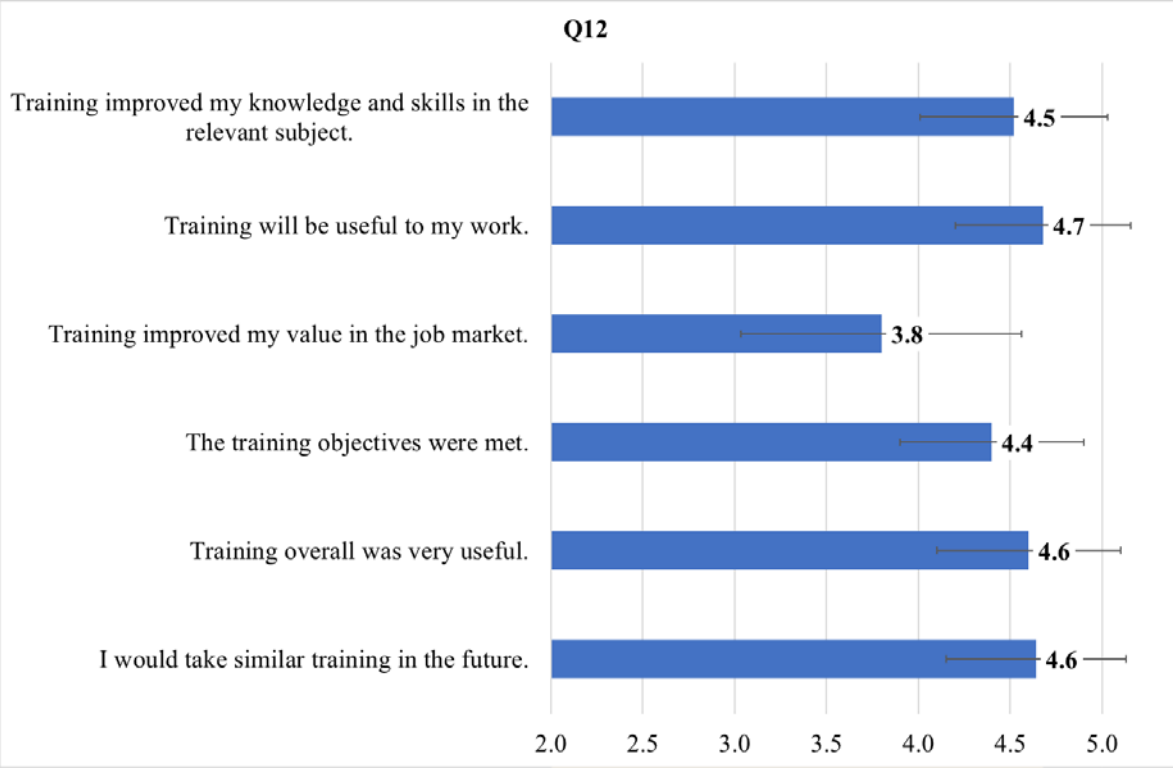

Figure 3.3.5 – The attendees' opinion of the success of the training seminar at the University of Banja Luka.

From the presented numerical and statistical results, the overall impression of the event was very positive. The main part of the training workshop was related to machine learning, a hot topic, highly

relevant to the ICT engineering curriculum. The attendees were not too familiar with the workshop topics before the event, see Figure 3.2.4, and the overall impression was that the training was useful, see Figure 3.2.5.

From additional comments provided in the survey and given below, it can be seen that the training workshop improved the understanding of the topics related to teaching methodologies.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*The training was organized very well and the topics covered various aspects of the application of deep learning. The speakers are excellently selected in terms of expertise as well as in terms of interesting presentation.*"
- "*Well organized meeting with well-chosen topics. The discussions during the meetings were extremely interesting and helpful*."

Question: Suggest new technical topics that training should cover.

Selected answer:

- "*Concrete implementation of machine learning methods to real-world problems.*"

3.4. Training workshop at University of Osijek – February 2020

The training workshop "ICT Teaching Practices", organized by the University of Osijek (FERIT), was held in Osijek on Februaty 12th and 13th 2020 (M28). The total number of participants at this training workshop was 33 teacher staff members from the universities that participate in the project BENEFIT.

The specific training activities at this workshop lasted for two days, and the given lectures and training sessions included training topics were related to the application of MikroTik router boards in the scope of the university teaching, coupled with the hand-on approach, the role of ICT in the automotive industry with the specific insight on traini ng practices related to the image processing (i.e the research, development and implementation on embedded platforms).

The total number of valid survey records was 25. There were 12 male and 13 female attendees who completed the survey. The age span of attendees who completed the survey was from 23 to 59, mean 38.6, standard deviation 10.7.

- In Figures 3.4.1 to 3.4.5 survey results relevant for the workshop evaluation are presented:
- In Figure 3.4.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.4.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 3.4.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.4.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the workshop.
- Figure 3.4.5 provides results of the attendees' impression of the workshop's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.4.1 to 3.4.5. Those values are calculated based on the marks of all attendees who completed the survey.

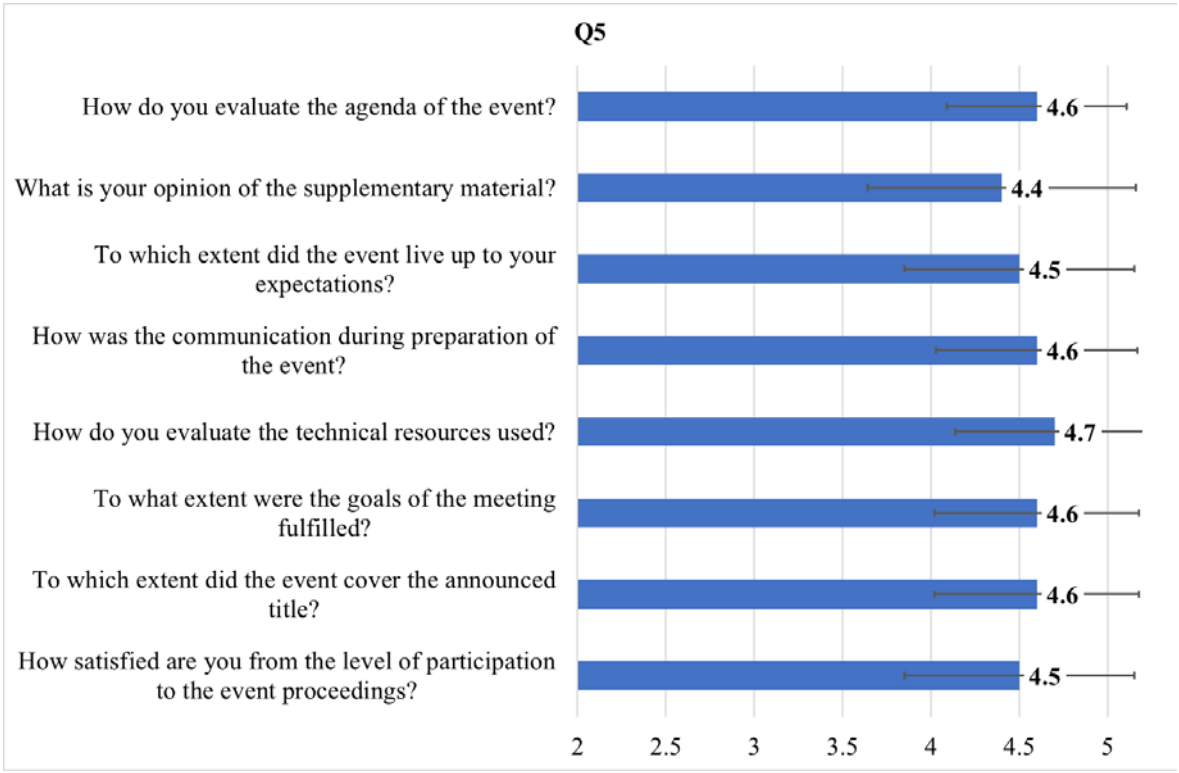

Figure 3.4.1 – General attendees' impression of the training workshop at the University of Osijek.

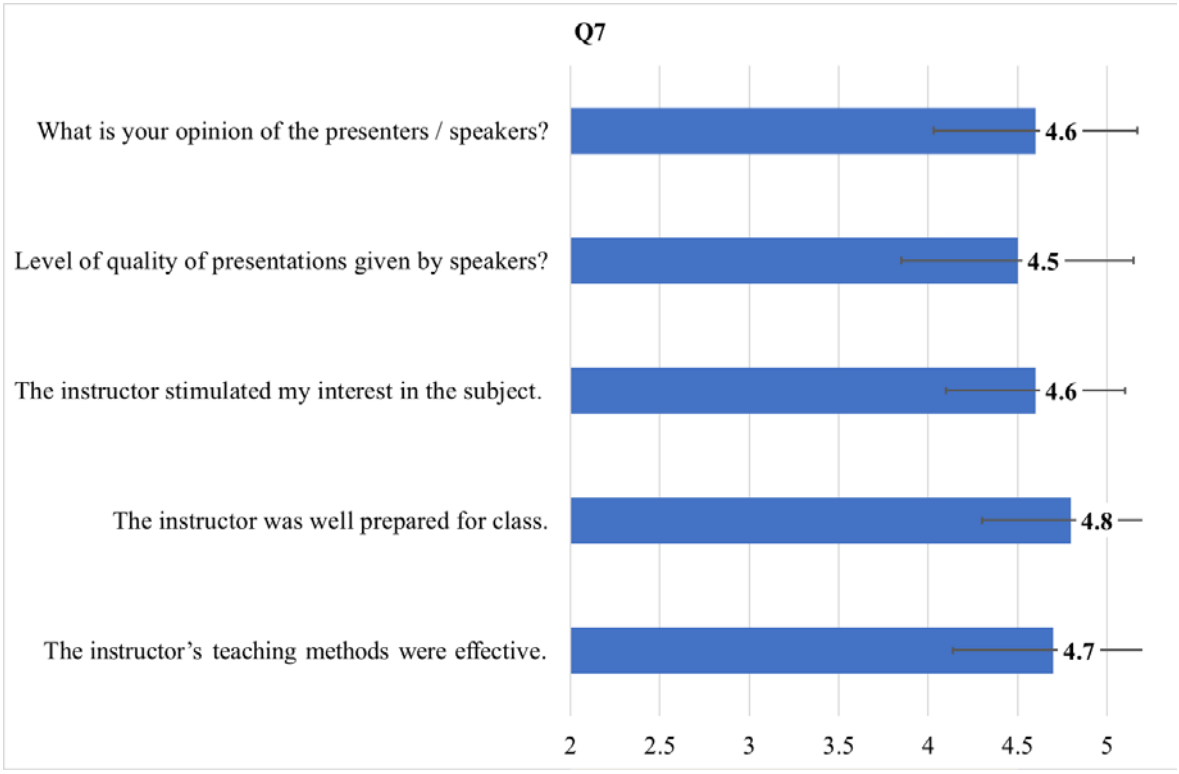

Figure 3.4.2 – Attendees' opinion of the presenters/teachers/instructors of the training workshop at the University of Osijek.

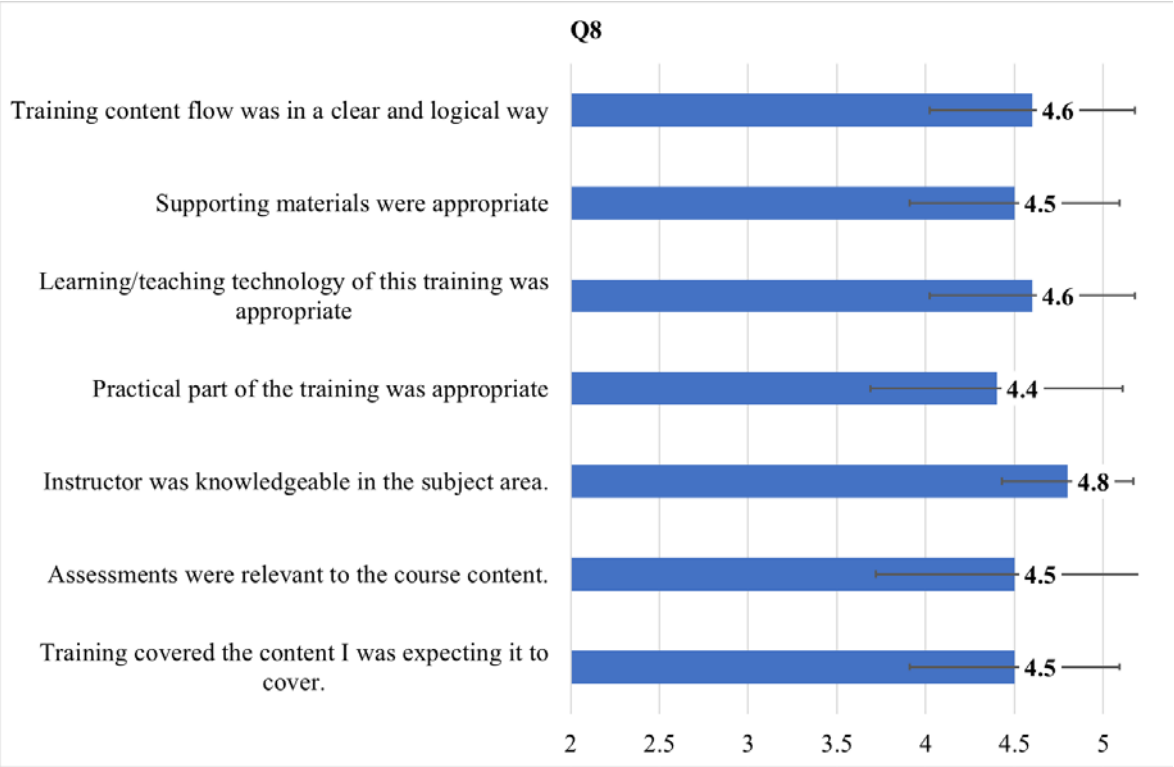

Figure 3.4.3 – Attendees' opinion of the training part of the workshop at the University of Osijek.

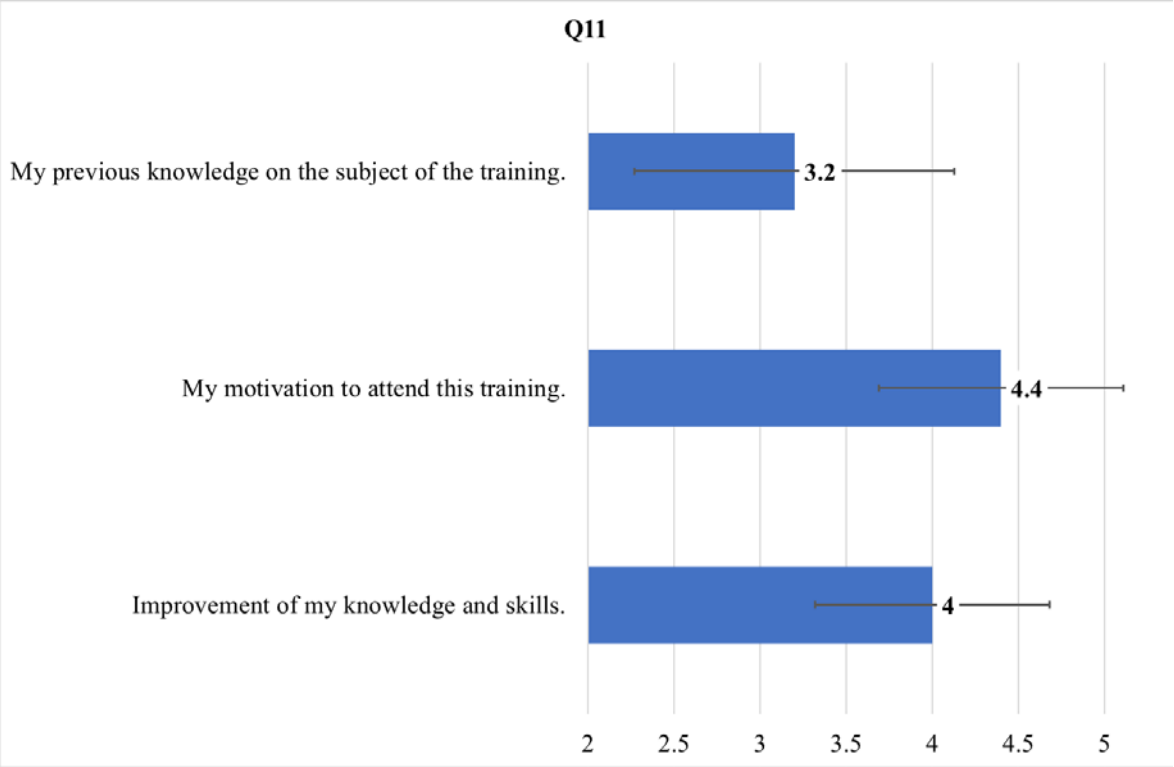

Figure 3.4.4 – The attendees' impression of the subject chosen for the training workshop at the University of Osijek.

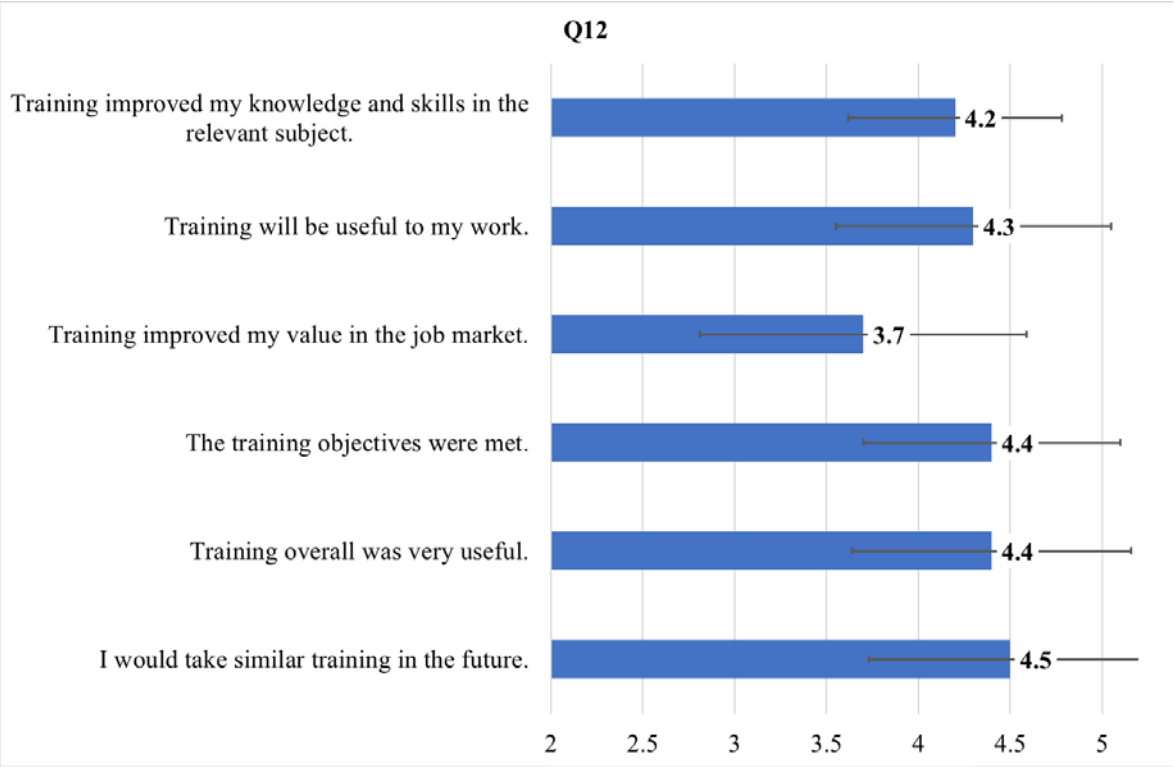

Figure 3.4.5 – The attendees' opinion of the success of the training workshop at the University of Osijek.

From the presented numerical and statistical results, the overall impression of the event was very positive. The successful industry-university cooperation was presented during the workshop and recognised by the attendees, see selected additional comments.

From additional comments provided in the survey and given below, it can be seen that the attendees particularly appreciated the practical part of the training.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*The event was well organized with good lectures and interesting topics. It was good that we were able to test the equipment ourselves.*"
- "*I like the idea to offer students possibility to obtain the MTCNA certificate*."
- "*At the end of the training the participants might have solved some kind of test, so to organizer may see how well the presented matter is adopted.*"

Question: Suggest new technical topics that training should cover.

Selected answer:

- "*New technical topics might include the creation of teaching materials for students, and coming up with ideas for student's projects and involvement in research.*"

3.5. Teacher training seminar at University of Sarajevo – July 2020 and September 2020

The teacher training seminar "Designing a Course for Stimulating Entrepreneurship in Higher Education", organized by the University of Sarajevo (UNSA), was held in two parts:

- The first part was held as the two-day online training session due to the COVID-19 pandemic, realized on July 15th and 16st 2019 (M32), and was hosted by the University of Sarajevo (UNSA). The total number of participants at this training seminar was 50, of which 49 participants were from the universities that participate in the project BENEFIT.
- The second part (the practical part) was held as a follow-up face-to-face seminar (with exercises) at Jahorina on September 23rd to 25th 2020 (M36). The total number of participants from the universities located in Bosnia and Hercegovina (UNTZ, UBL and UNSA) that participate in the project BENEFIT at this part of the teacher training seminar was 19.

The first part of teacher training seminar, which was held online in July 2020, has been dedicated to didactics and the teaching product development within engineering courses (based on experiences in collaboration of industry and university). The seminar is extended with practical part (second part of seminar held at Jahorina in September 2020), i.e. the exercises related to the creation of Rubrics as assessment tool, and teaching Product-Market-Fit canvas for designing engineering solutions in a form of a product fulfilling the needs of the future user.

The total number of valid survey records was 26. There were 17 male and 9 female attendees who completed the survey. The age span of attendees who completed the survey was from 24 to 60, mean 38.2, standard deviation 10.5.

- In Figures 3.5.1 to 3.5.5 survey results relevant for the workshop evaluation are presented:
- In Figure 3.5.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.5.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 3.5.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.5.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the seminar.
- Figure 3.5.5 provides results of the attendees' impression of the seminar's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.5.1 to 3.5.5. Those values are calculated based on the marks of all attendees who completed the survey.

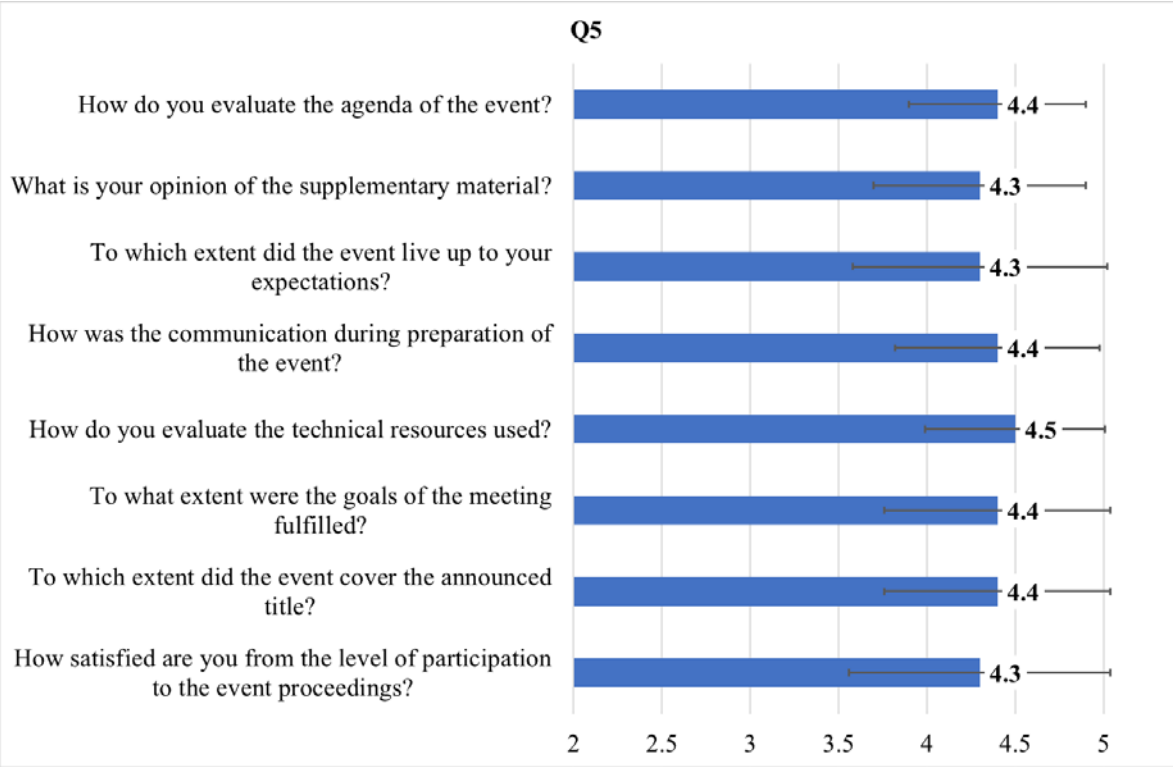

Figure 3.5.1 – General attendees' impression of the training seminar at the University of Sarajevo.

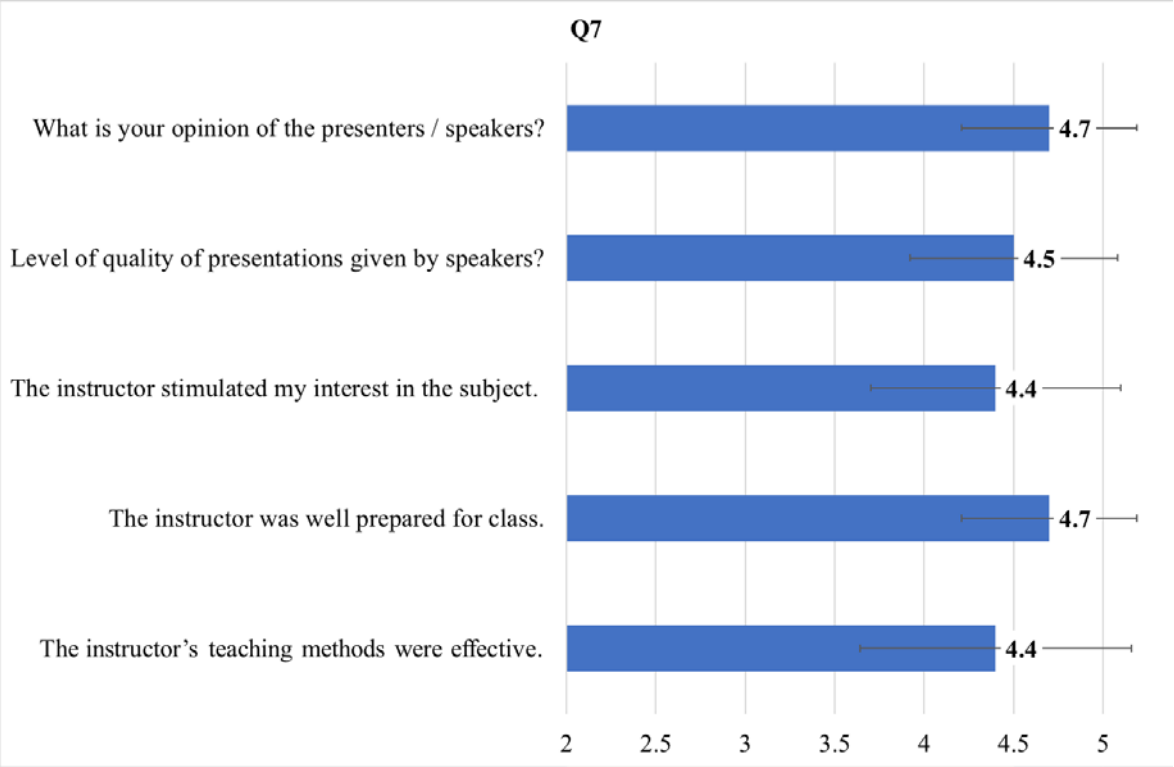

Figure 3.5.2 – Attendees' opinion of the presenters/teachers/instructors of the training seminar at the University of Sarajevo.

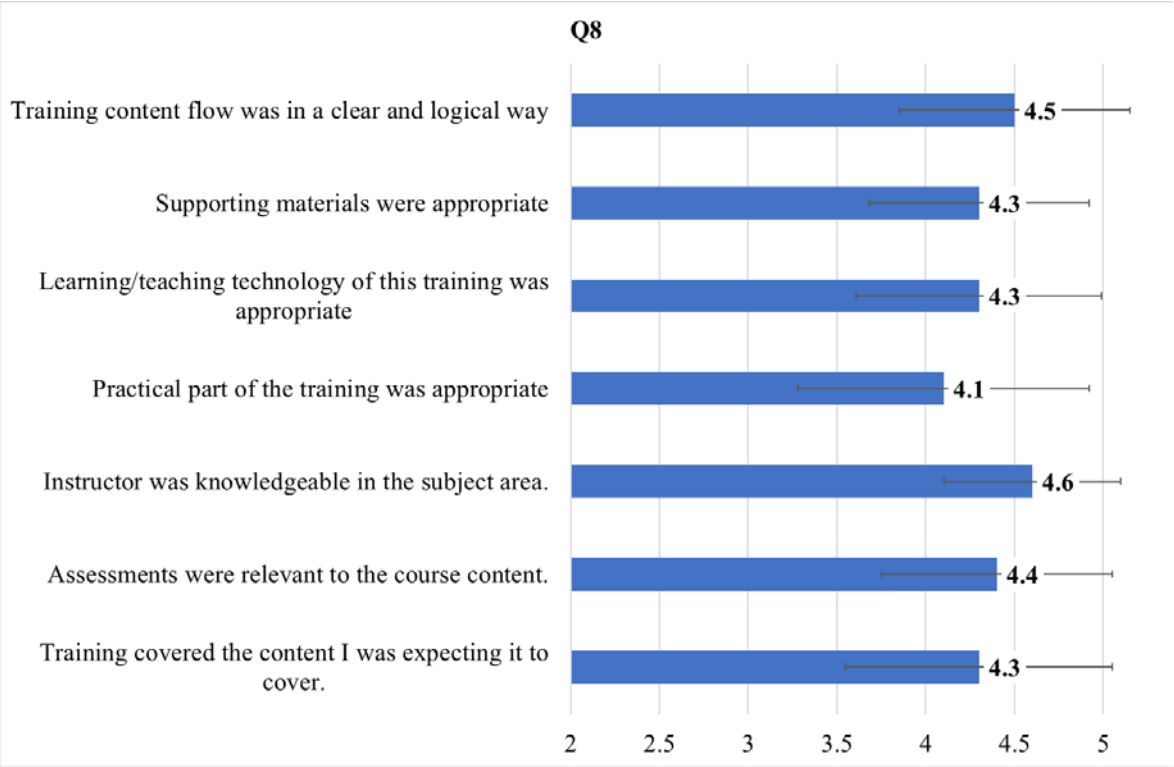

Figure 3.5.3 – Attendees' opinion of the training part of the seminar at the University of Sarajevo.

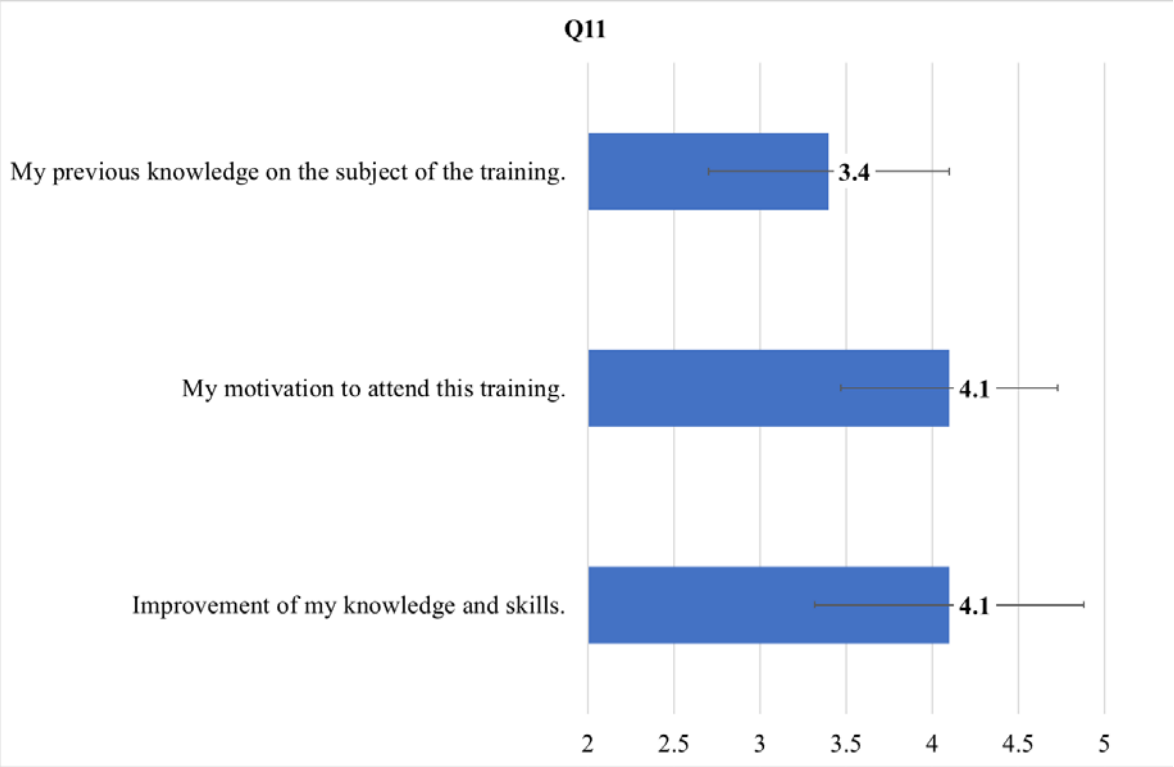

Figure 3.5.4 – The attendees' impression of the subject chosen for the training seminar at the University of Sarajevo.

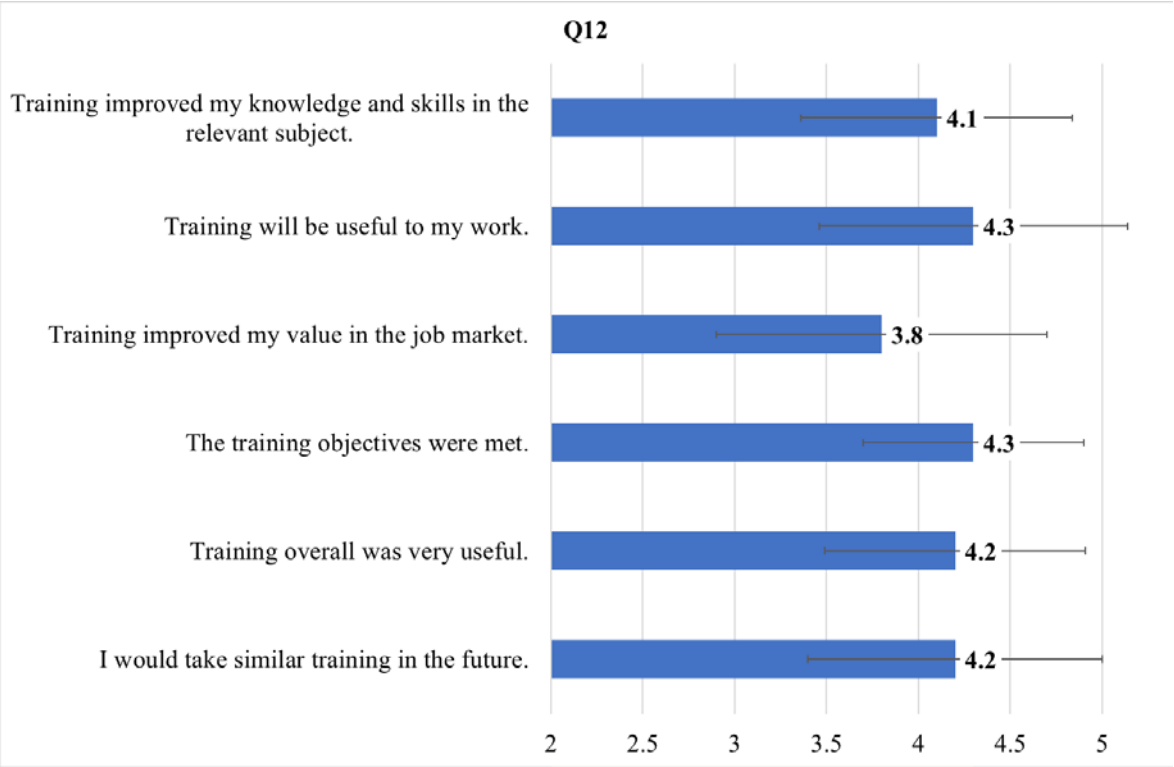

Figure 3.5.5 – The attendees' opinion of the success of the training seminar at the University of Sarajevo.

From the presented numerical and statistical results, the overall impression of the event was very positive. The organisation of such an event during the Covid-19 was a great challenge. Organizers decided to split the event into two parts to provide practical "face-to-face" exercises at least to a group of attendees. The attendees were satisfied with the organisation of the event, see additional comments below.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*It was great organized teacher training.*"
- "*Satisfactory event*."

3.6. Teacher training seminar at University of Niš – September 2020

The teacher training seminar "*Role of software in education, research and practice*", organized by the University of Niš (UNI), was held in Niš on September 7th to 8th 2020 (M35). This training seminar was held as a face-to-face meeting for the teaching staff participant from WB HEI located in Serbia (the total number od 32 participants were present at UNI), while the attendees from the other participating universities (other countries), due to the COVID-19 pandemic, joined the training seminar through hosted online session (the total number of online participants was 34). The total number of participants at this training seminar (i.e. those present at UNI and those connected online) was 57, of which 53 were the teacher staff members from the universities that participate in the project BENEFIT.

The first day, seminar was devoted to software tools that have been developed at UNI - Faculty of Electronic Engineering (UNI-FEE) within the Telecommunication group and the tool that is applied in education and in company “Pogled Telekomunikacije”, a member of NiCAT cluster and UNI industrial partner on the project BENEFIT. The second day of this teacher training seminar was devoted to presentation related to free software and Python programming language.

The total number of valid survey records was 33. There were 16 male and 17 female attendees who completed the survey. The age span of attendees who completed the survey was from 23 to 63, mean 39.3, standard deviation 13.0.

- In Figures 3.6.1 to 3.6.5 survey results relevant for the workshop evaluation are presented:
- In Figure 3.6.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 3.6.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 3.6.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 3.6.4 provides results of the attendees’ opinion of the importance of the subject that was chosen for the seminar.
- Figure 3.6.5 provides results of the attendees’ impression of the seminar's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 3.6.1 to 3.6.5. Those values are calculated based on the marks of all attendees who completed the survey.

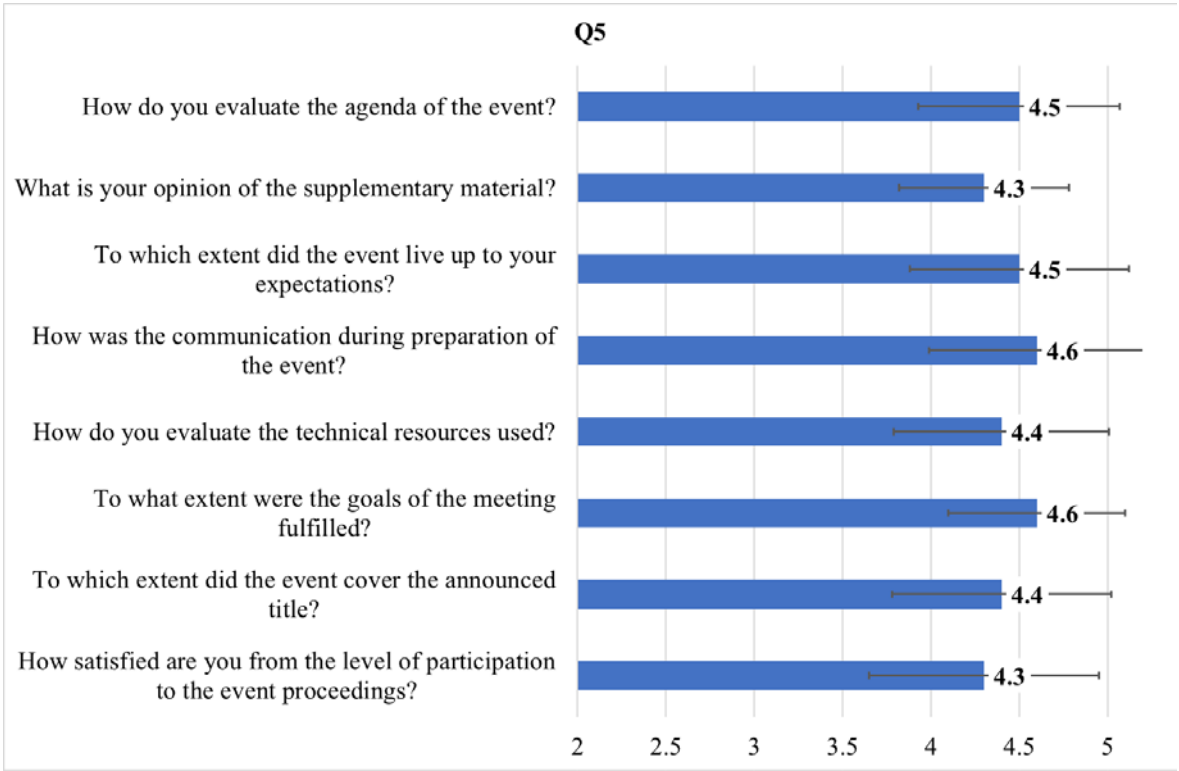

Figure 3.6.1 – General attendees’ impression of the training seminar at the University of Niš.

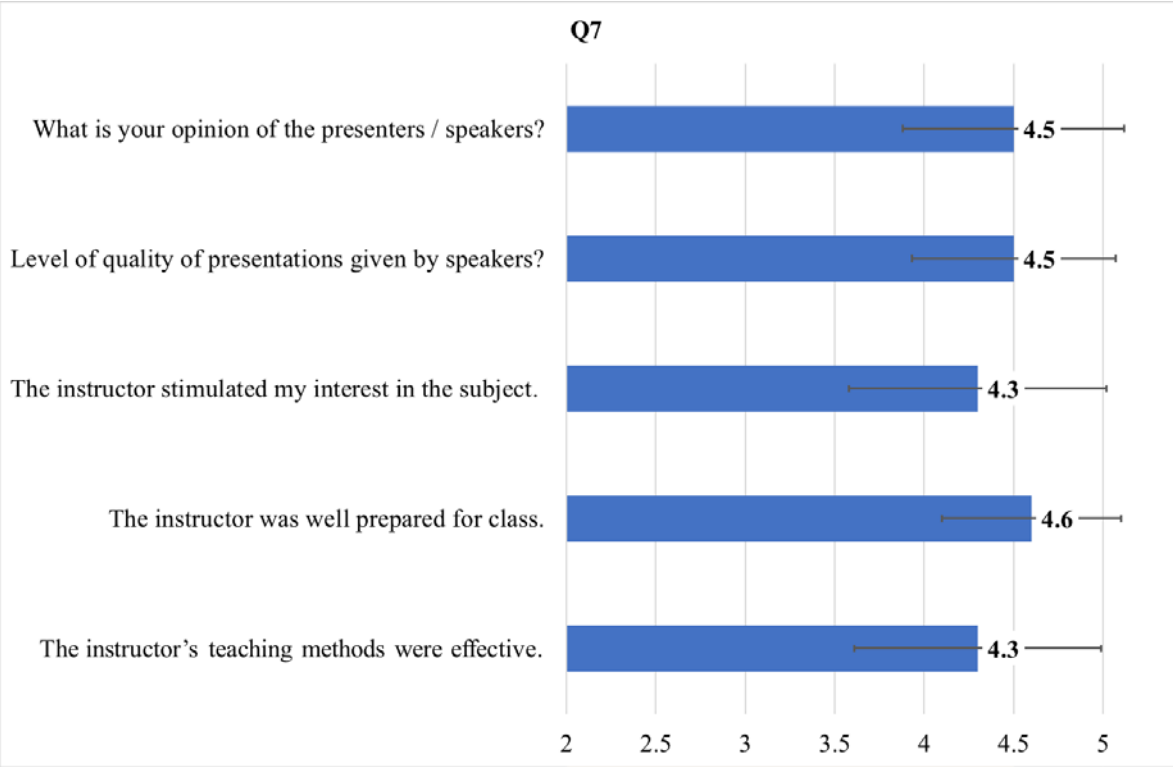

Figure 3.6.2 – Attendees' opinion of the presenters/teachers/instructors of the training seminar at the University of Niš.

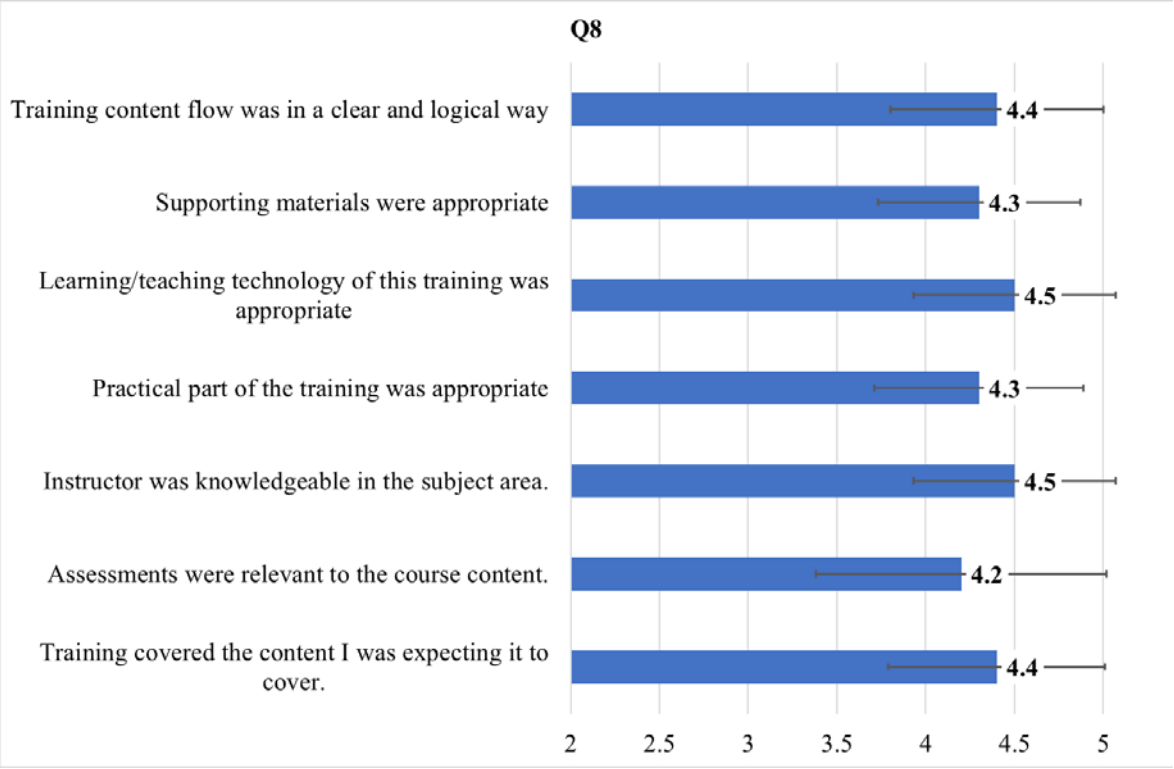

Figure 3.6.3 – Attendees' opinion of the training part of the seminar at the University of Niš.

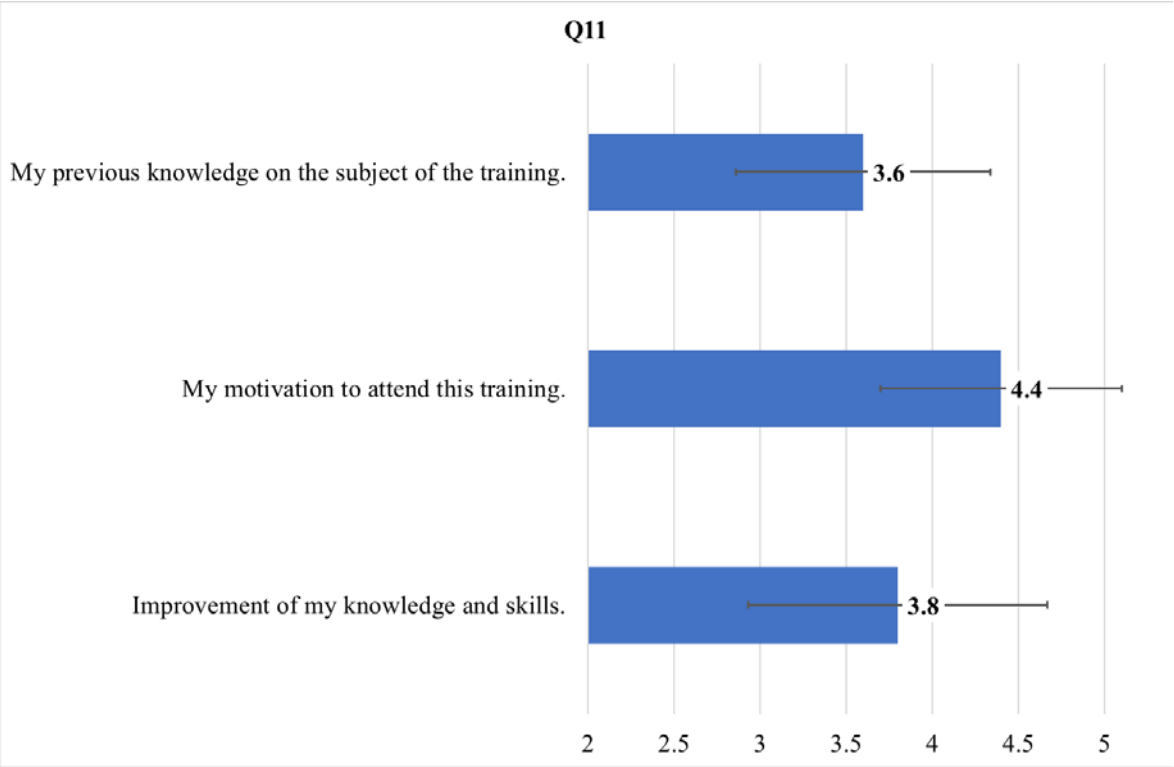

Figure 3.6.4 – The attendees' impression of the subject chosen for the training seminar at the University of Niš.

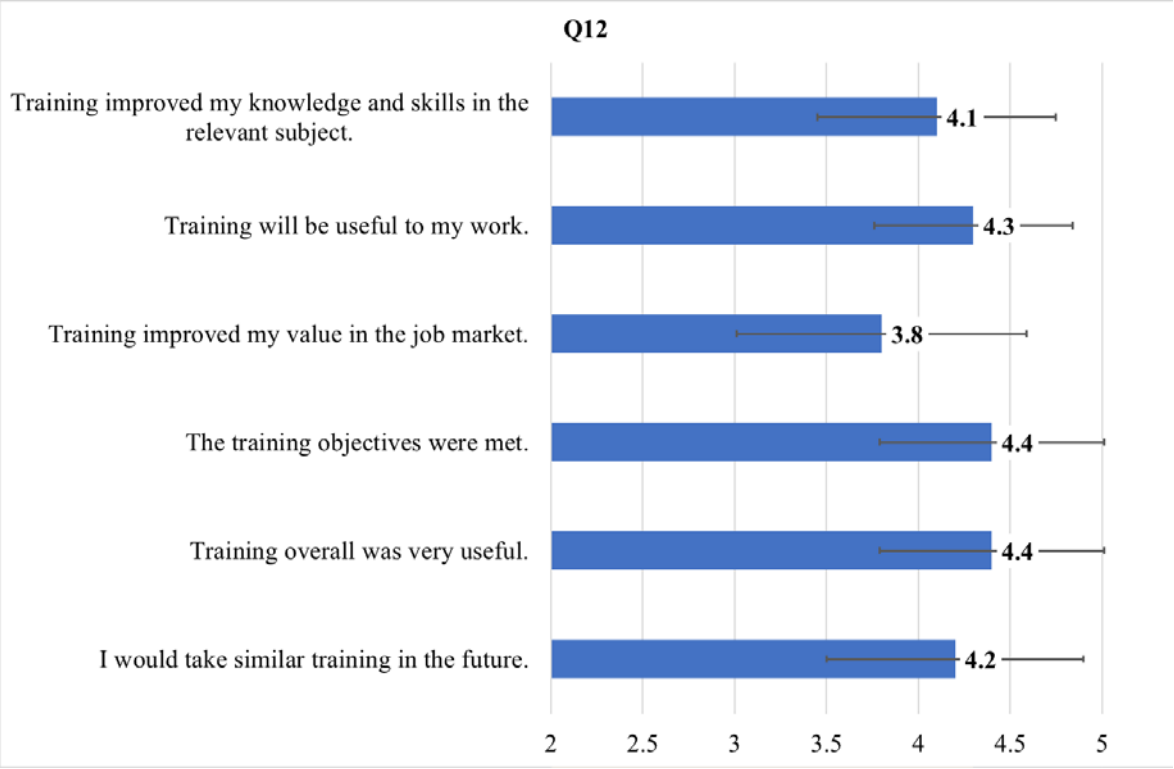

Figure 3.6.5 – The attendees' opinion of the success of the training seminar at the University of Niš.

From the presented numerical and statistical results, the overall impression of the event was very positive. The organisation of such an event during the Covid-19 was a great challenge, but organizers

successfully overcame all issues related to organisation of the combined live/online event, see additional comments below.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*Excellently organized workshop. The themes are adapted to the BENEFIT project.*"
- "*It was somewhate made difficult by Covid-19, but the hosts did everything possible to overcome this problem.*"
- "*The organization of the event was excellent. The duration of the sessions as well as the pauses between them were appropriate so that the participants could attend all the lectures with high attention.*"

3.7. Joint analysis of teacher training workshops and seminars

In this section joint analysis of the six trainings and workshops organized for the teachers within the framework of the Project BENEFIT. The analysis is performed by means of comparing survey results of different events.

The first group of survey questions was related to the evaluation of the event. Figure 3.7.1 provides surveys' results. The graph shows the mean value of the marks for the group of questions Q5, for each event. Marks for each question of the Q5 question group are provided only graphically (values can be seen from the previous sections).

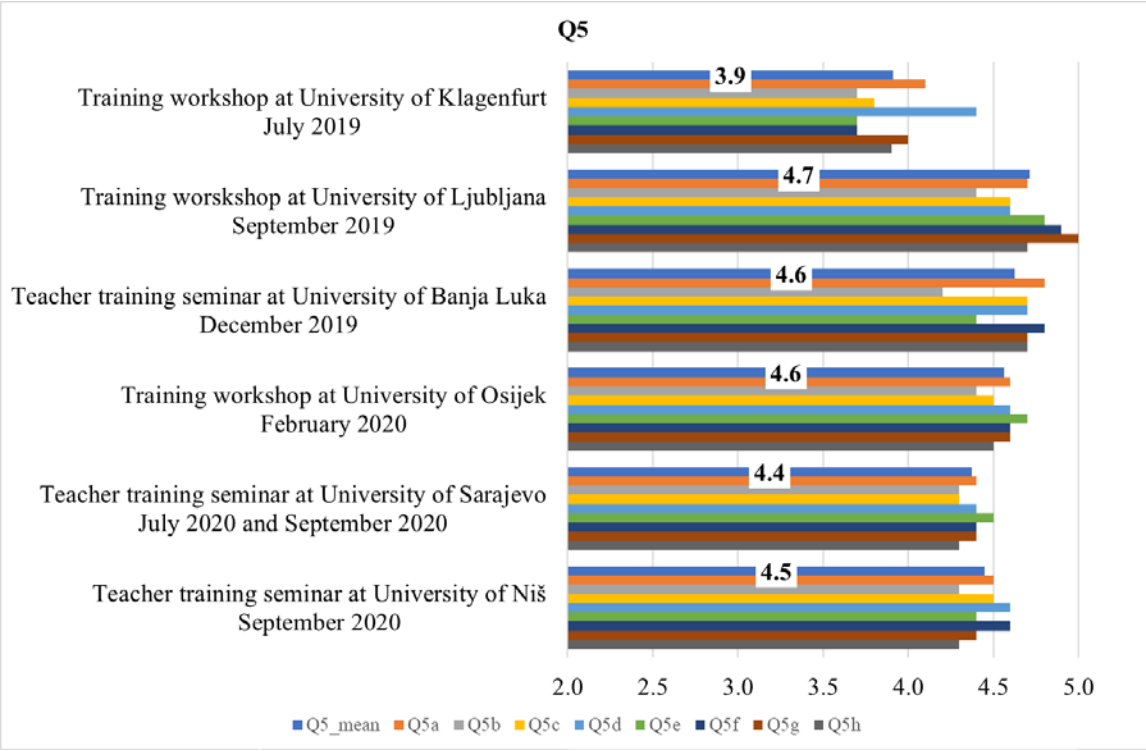

Figure 3.7.1 – The overall impression of the events.

The second group of survey questions was relevant to the evaluation of the involved presenters/speakers/teachers of the events. Figure 3.7.2 provides the surveys' results. The graph shows the mean value of the marks for the group of questions Q7, for each event. Marks for each

question of the Q7 question group are provided only graphically (values can be seen from the previous sections).

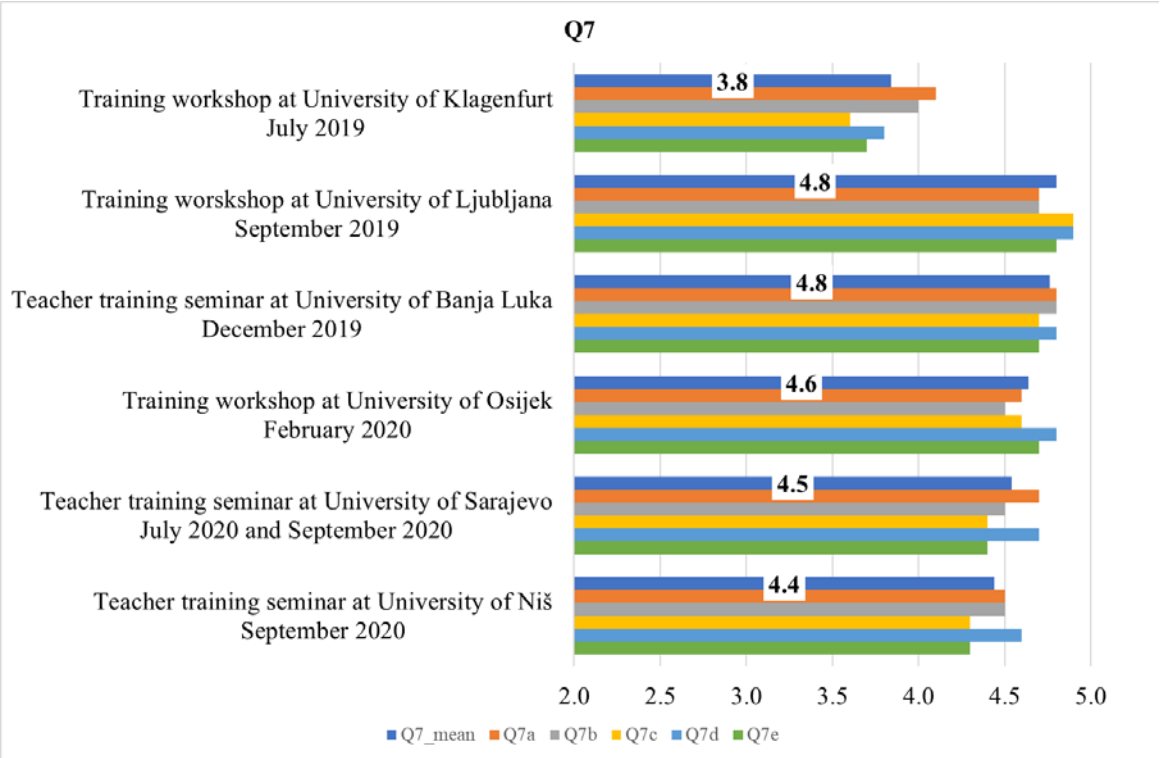

Figure 3.7.2 – The impression of events' presenters/speakers/teachers.

The third group of survey questions was relevant to the evaluation of the training part of the events. Figure 3.7.3 provides the surveys' results. The graph shows the mean value of the marks for the group of questions Q8, for each event. Marks for each question of the Q8 question group are provided only graphically (values can be seen from the previous sections).

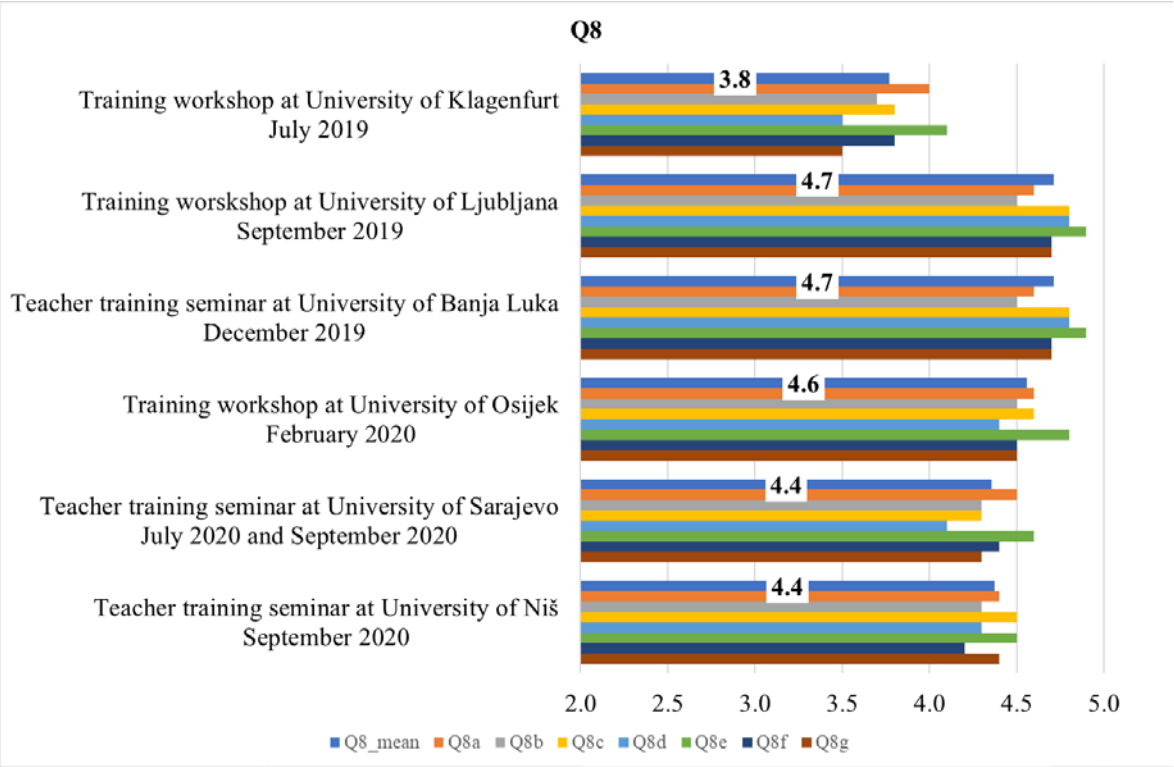

Figure 3.7.3 – The impression of the training part of each event.

In Figure 3.7.4 scores for the “My previous knowledge of the subject of the training” question for each event are given. It can be seen that the most values are below 3.5 and it can be concluded that the training topics were selected appropriately with the main idea to improve the attendees' knowledge on the selected topics.

In Figure 3.7.5 scores for the “Improvement of my knowledge and skills” question for each event are given. It can be seen that the events with lower “my previous knowledge” scores achieve slightly better results.

In Figure 3.7.6 scores for the “My motivation to attend this training” question for each event are given. It can be seen that the attendees' motivation was large, most likely due to interesting topics and agendas of the events.

In Figure 3.7.7 scores for the “I would take similar training in the future” question for each event are given. It can be seen that most events raised attendees' interest in chosen topics and motivate them for forthcoming trainings.

In Figure 3.7.8 scores for the attendees’ impression of the impact of the training on their future career are given. Interestingly, those scores are not strongly correlated with the overall impression of the successfulness of the training, shown in Figure 3.7.9.

From Figure 3.7.9 it can be seen that the overall impressions of all events were very good, even for two events that were organised in a non-traditional manner due to the COVID-19 pandemic.

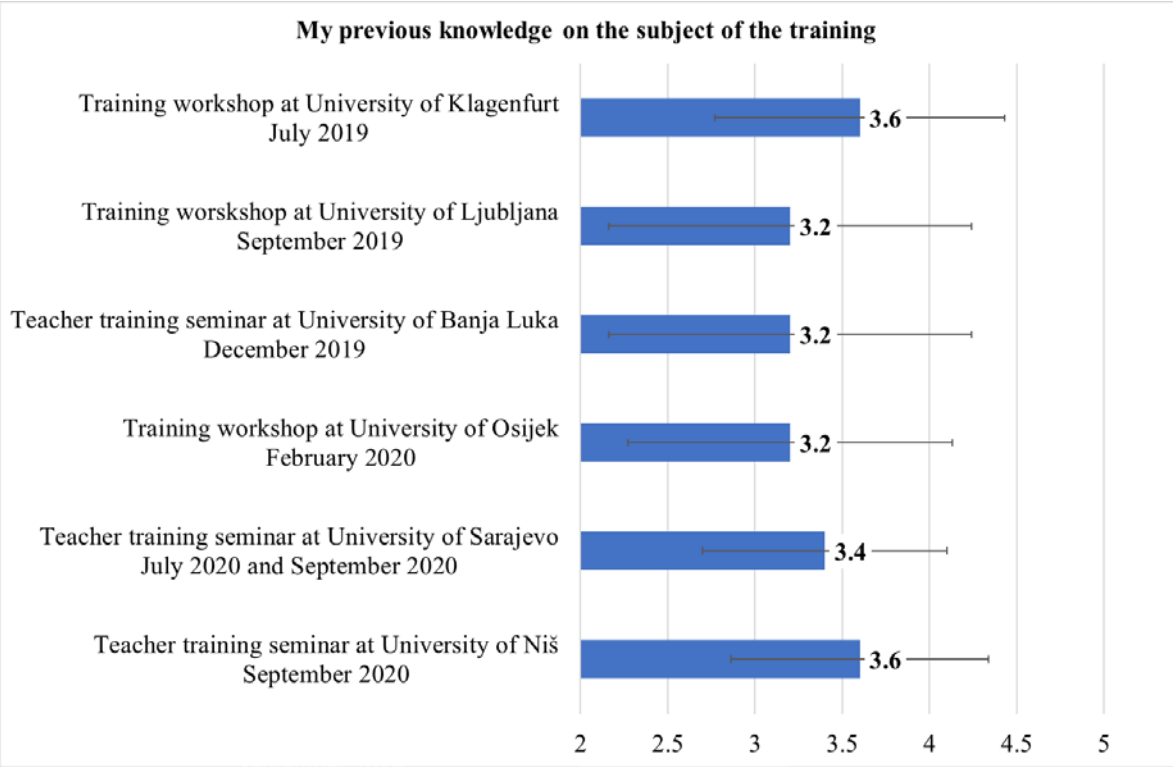

Figure 3.7.4 – The impression of the training subject.

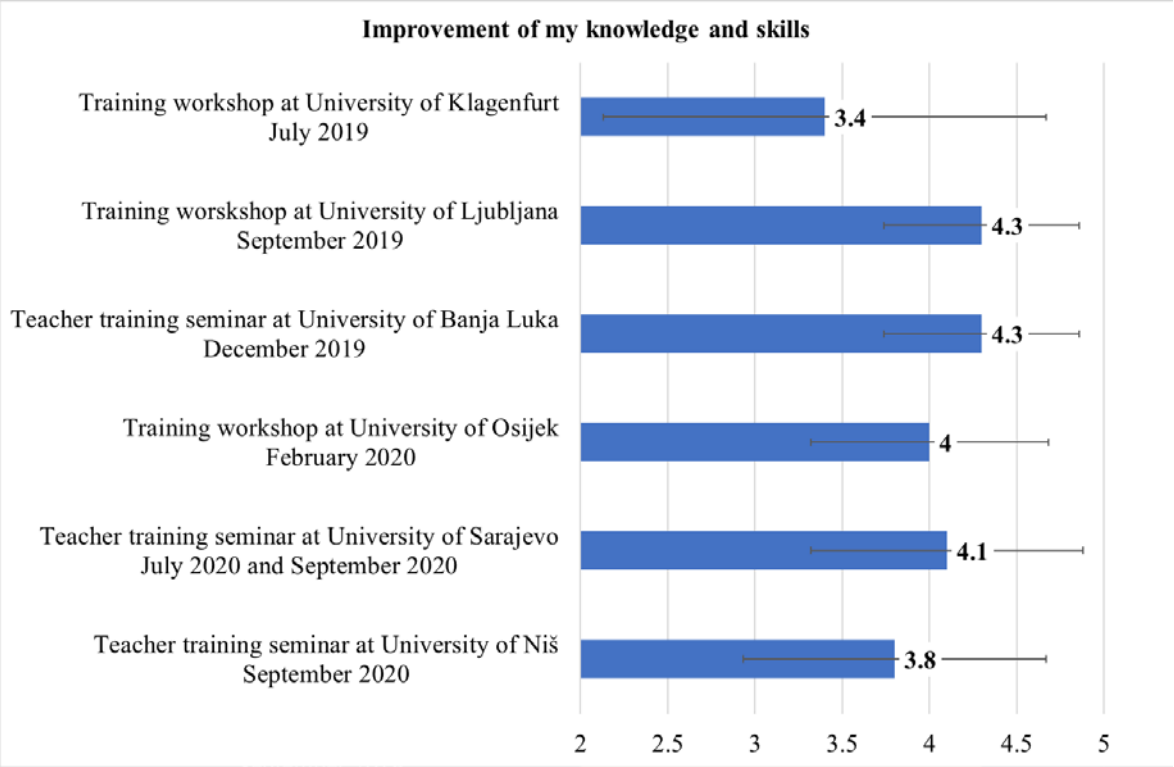

Figure 3.7.5 – The impression of the improvement of knowledge and skills.

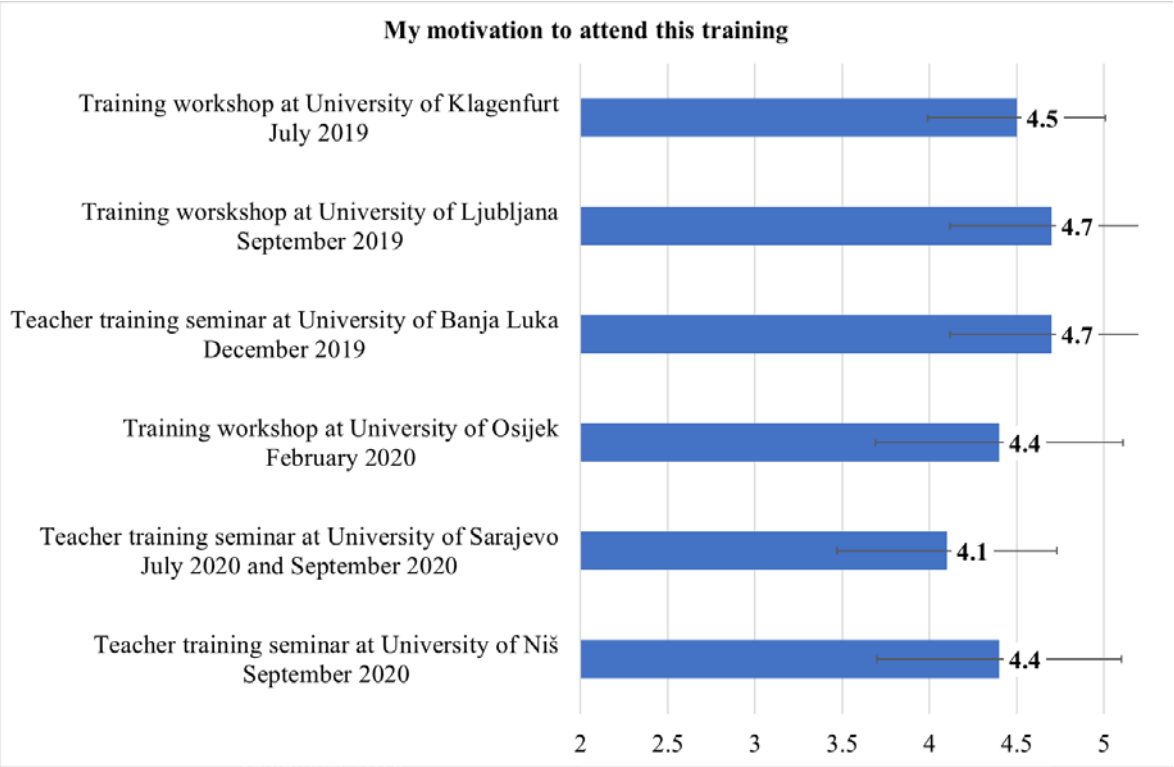

Figure 3.7.6 – The attendees' motivation for the training.

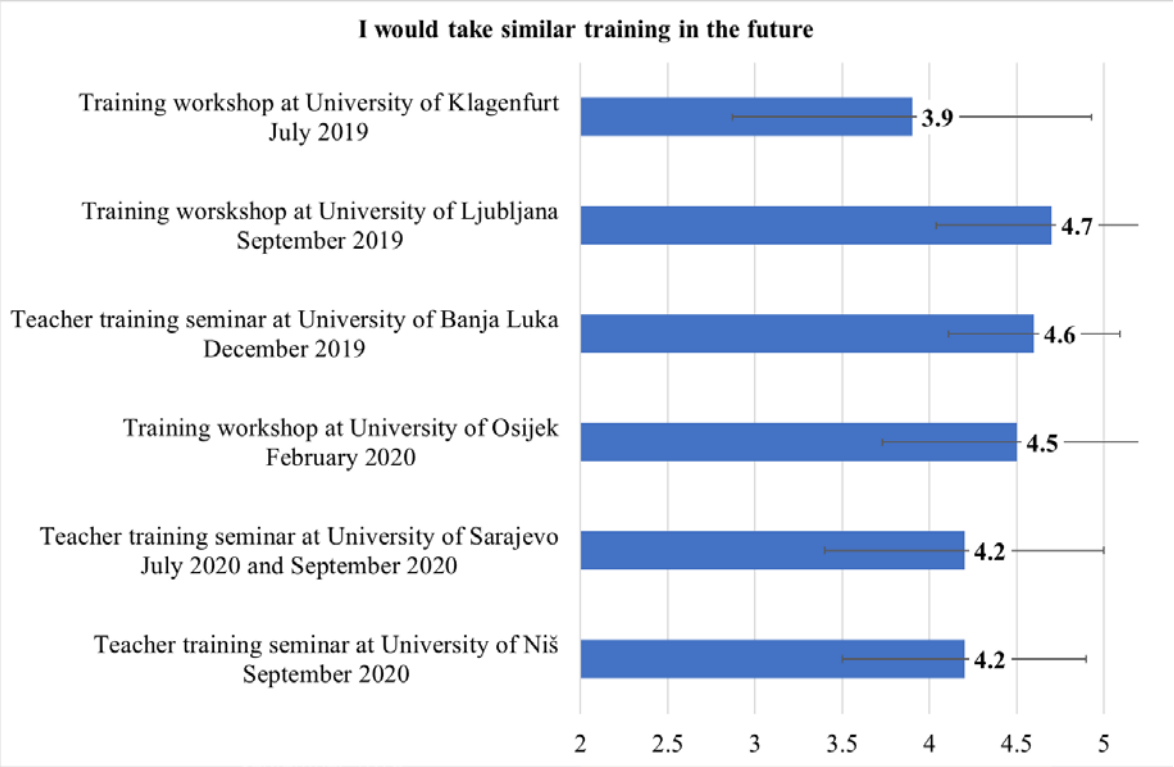

Figure 3.7.7 – The attendees' motivation for the future training.

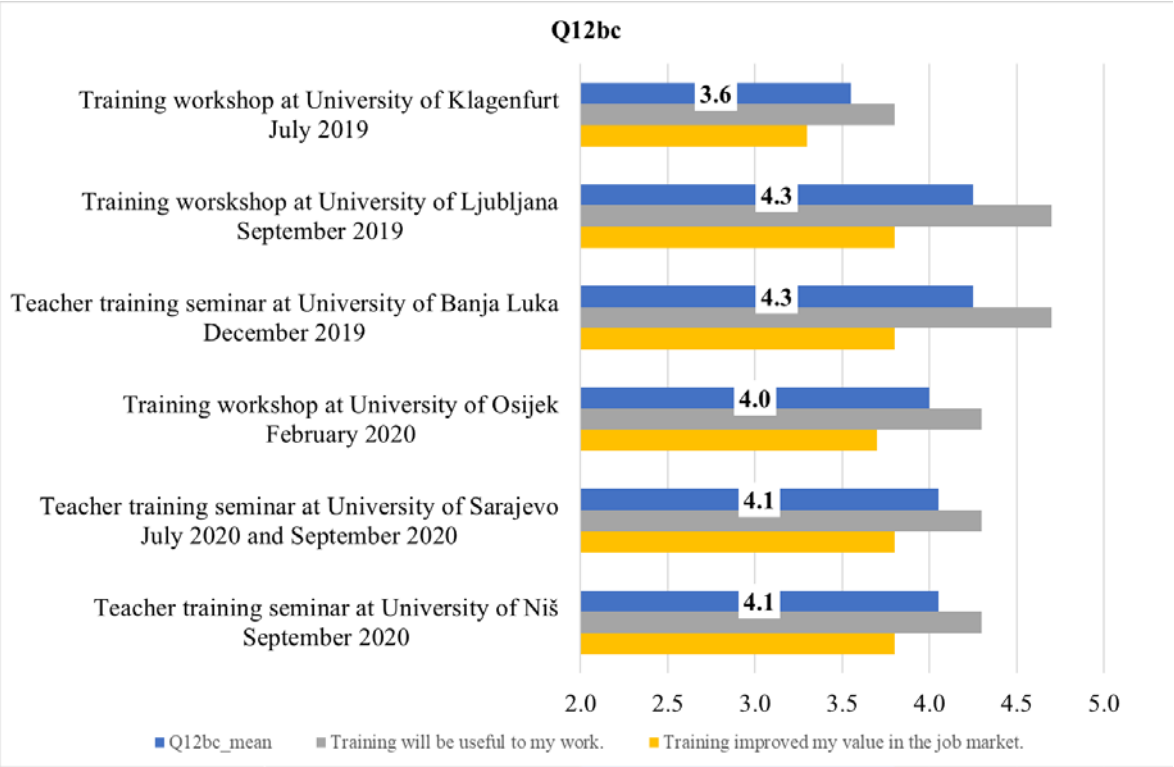

Figure 3.7.8 – The attendees' impression of the impact of the training on their future careers.

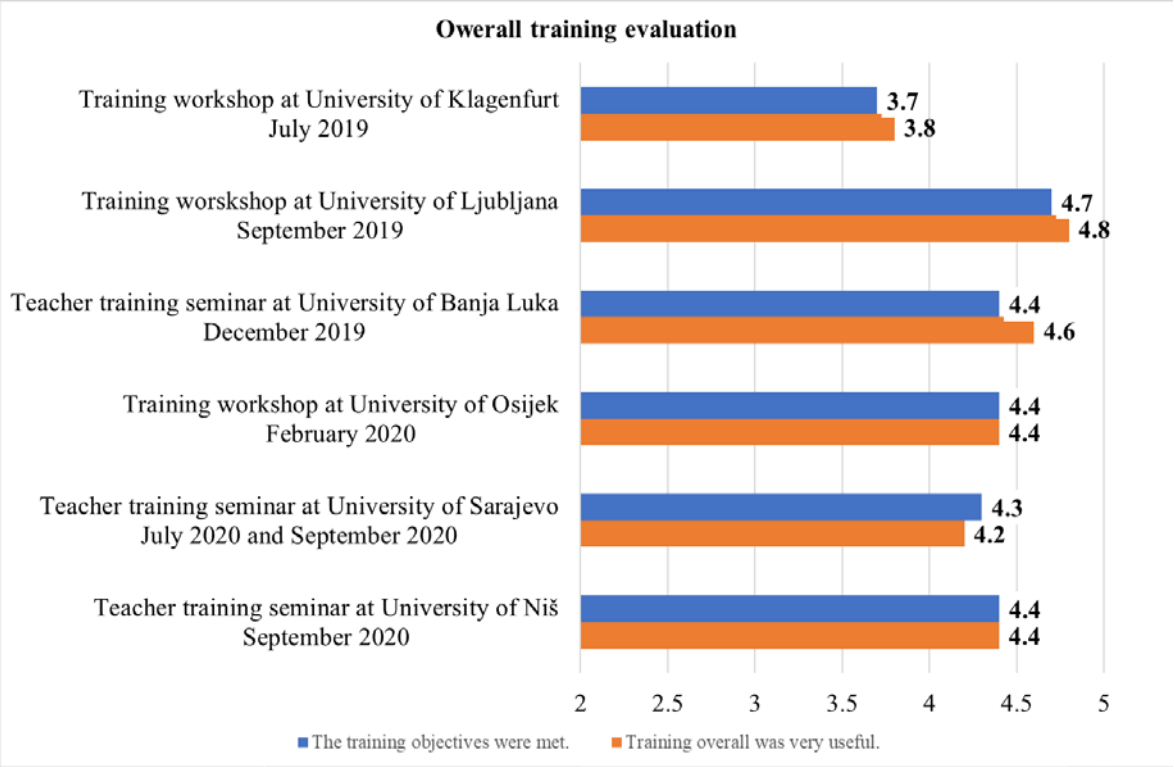

Figure 3.7.9 – The attendees' overall impression of the event.

4. Review of surveys of student training events

In this section, a short overview of the surveys is presented for the nine trainings, workshops and seminars realised within the BENEFIT project framework and attended by students. After these events, students were asked to complete a short anonymous survey and provide their impressions of the event. However, participation in the surveys was voluntary. Results from partially completed surveys are not included in this evaluation. The results here reported were collected by using the online tool 1ka (https://www.1ka.si/). The minimum number of fully completed surveys was 9 (for a single training event), and, based on that, there was enough information for the review of the survey. In this overview results for three summer/winter schools are included, because each of these events had a classical training part, although their primary goal was the internships realization. It should be noted that most of the events were open to non-students also. However, in the analysis of the results, only surveys' inputs from students were taken into account.

The Covid 19 pandemic had a strong impact on the organisation of the student training events. In march 2020 most of the Western Balkans universities switched to online work. The access to laboratories and classrooms was limited and controlled by government anti-pandemic measures. The teachers had to adjust their regular courses to online teaching. On the other hand, the students were mostly focused on some practical issues (for example, in Serbia they had to move out of the student dormitories) and they were not motivated to attend any of the extra-curriculum activities during the first months of the Covid 19 pandemic crisis.

For that reason, some of the planned student training events had to be canceled or postponed, and starting from March 2020, all events had to be organised online. However, the teachers and professionals from industry partners did their best to provide useful and meaningful training events for the students.

The survey form was the same for all events and consisted of the same set of questions as for the teacher trainings, details are given in section 3, and the full list of questions is given in Appendix 2.

4.1. Ericsson Nikola Tesla Summer Camp 2019 – July and August 2019, Zagreb

Ericsson Nikola Tesla Summer Camp 2019, organized by the Ericsson Nikola Tesla (ENT), was held in Zagreb during five weeks of the academic summer break (July 15th – July 26th and August 19th – September 6^{th,} 2019). The main goal of the Summer Camp workshop was for students to work on projects in teams, solving real industrial problems in an industrial environment. With the help of 26 mentors, they were trained and worked on 18 projects in areas such as lnternet of Things, machine learning, and radio networks. 13 participants of ENT Summer Camp 2021 were included via BENEFIT project, from six partner universities (UB, UNS, UNI, UBL, UNTZ and UNSA).

The total number of valid survey records was 13. There were 3 male and 10 female attendees who completed the survey. The age span of attendees who completed the survey was from 21 to 27, mean 23.7, standard deviation 1.6.

In Figures 4.1.1 to 4.1.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.1.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.1.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.

- In Figure 4.1.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.1.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.1.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.1.1 to 4.1.5. Those values are calculated based on the marks of all attendees who completed the survey.

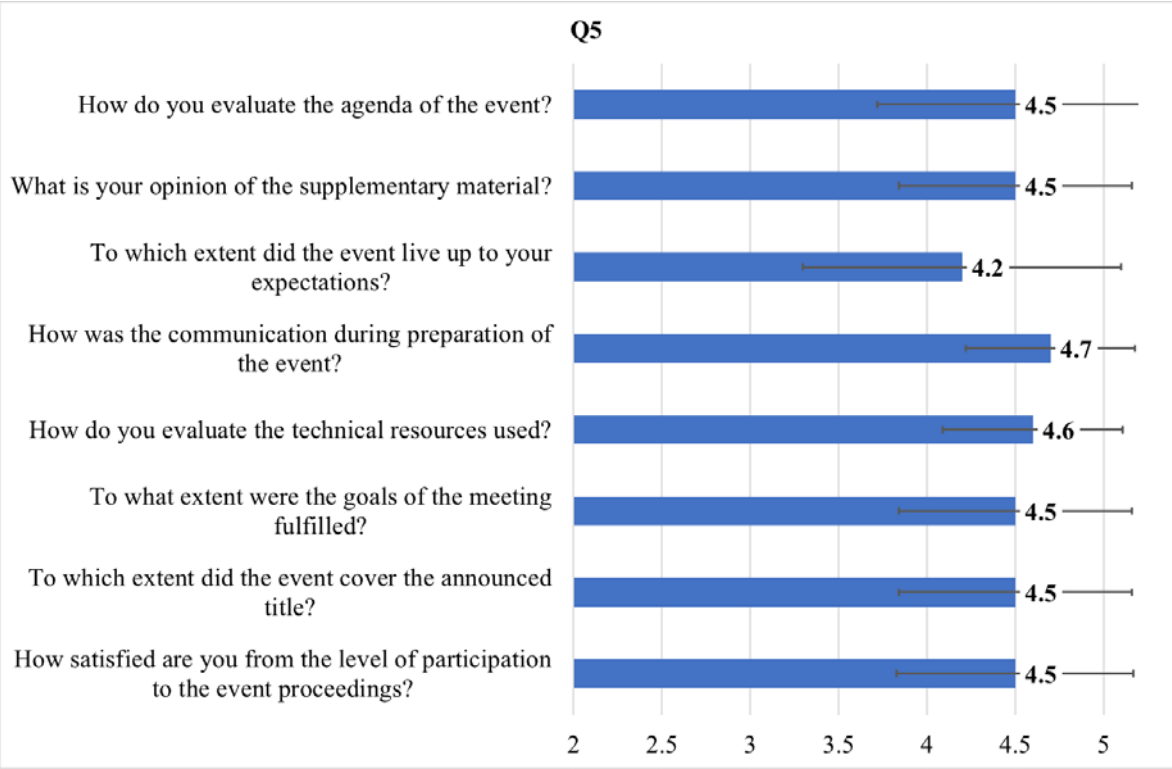

Figure 4.1.1 – General attendees' impression of the Ericsson Nikola Tesla Summer Camp training.

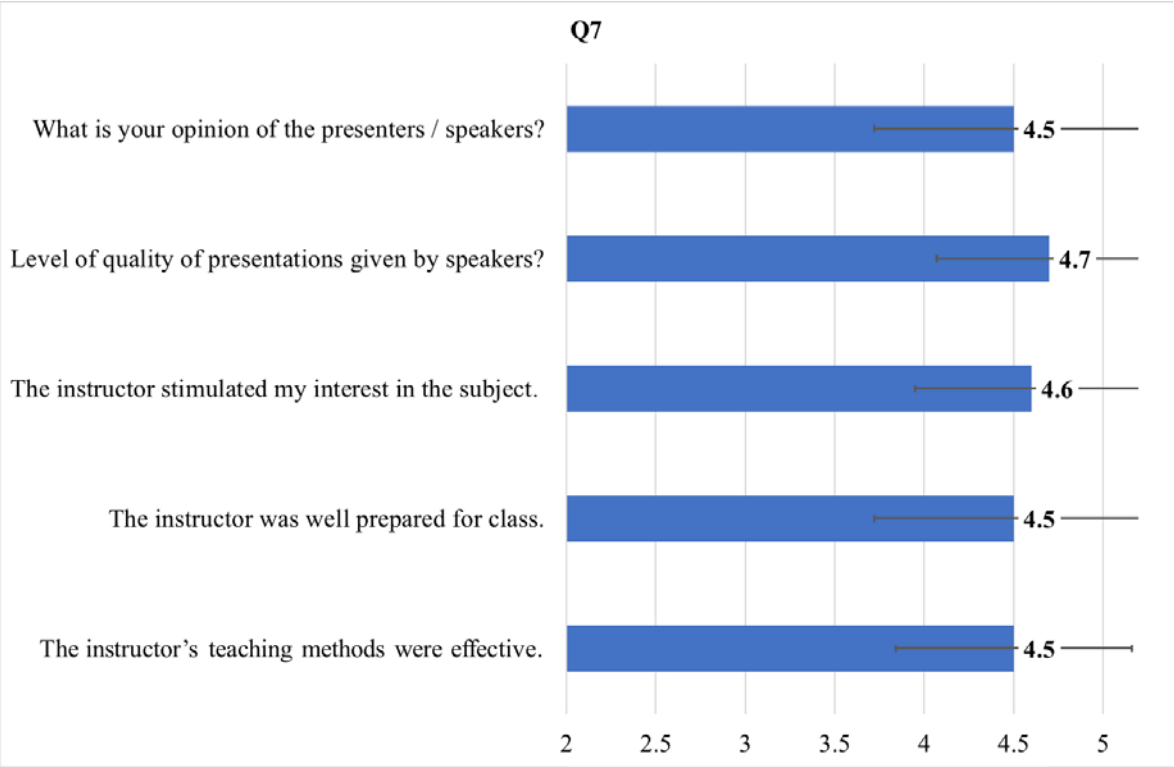

Figure 4.1.2 – Attendees' opinion of the presenters/teachers/instructors of the Ericsson Nikola Tesla Summer Camp training.

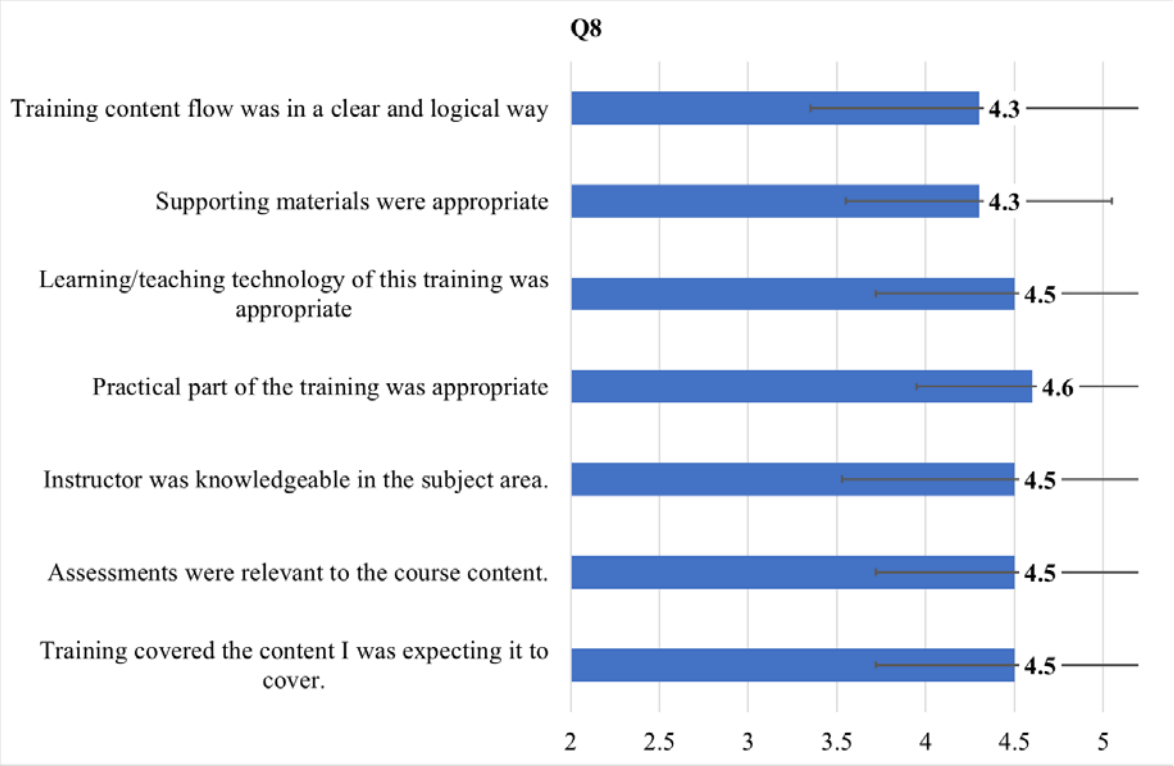

Figure 4.1.3 – Attendees' opinion of the training part of the Ericsson Nikola Tesla Summer Camp training.

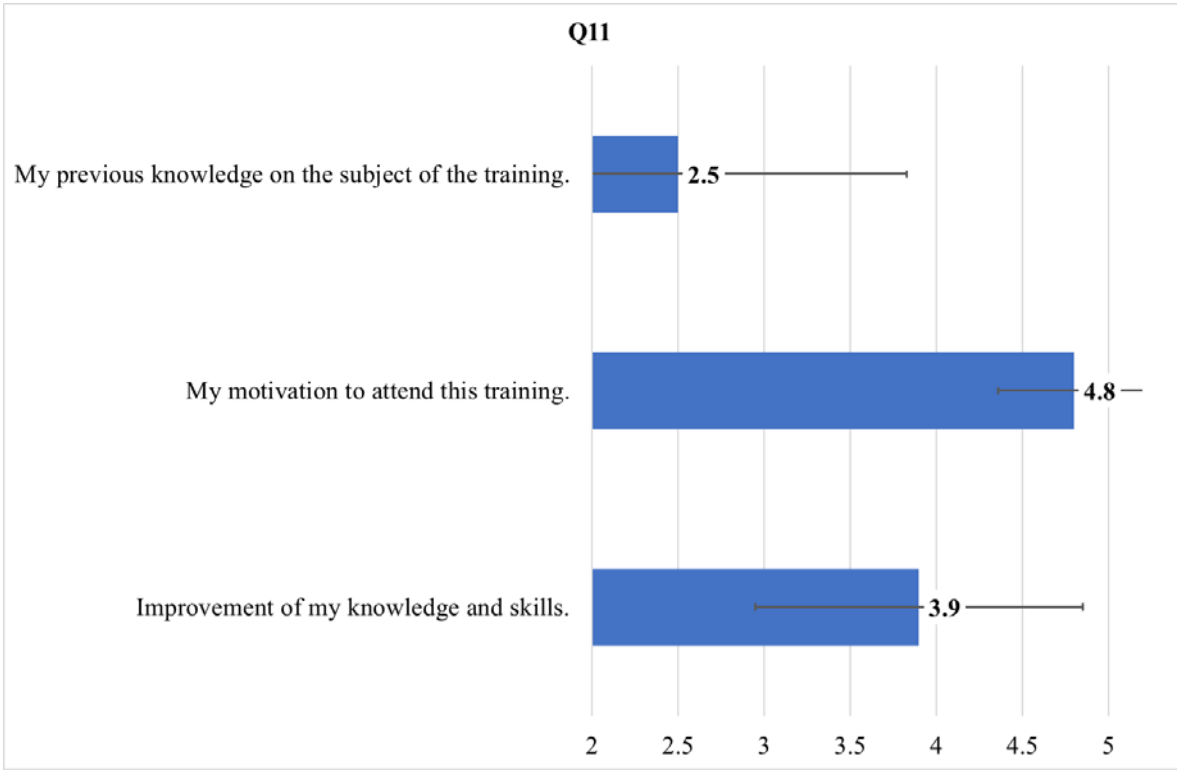

Figure 4.1.4 – The attendees' impression of the subject chosen for the Ericsson Nikola Tesla Summer Camp training.

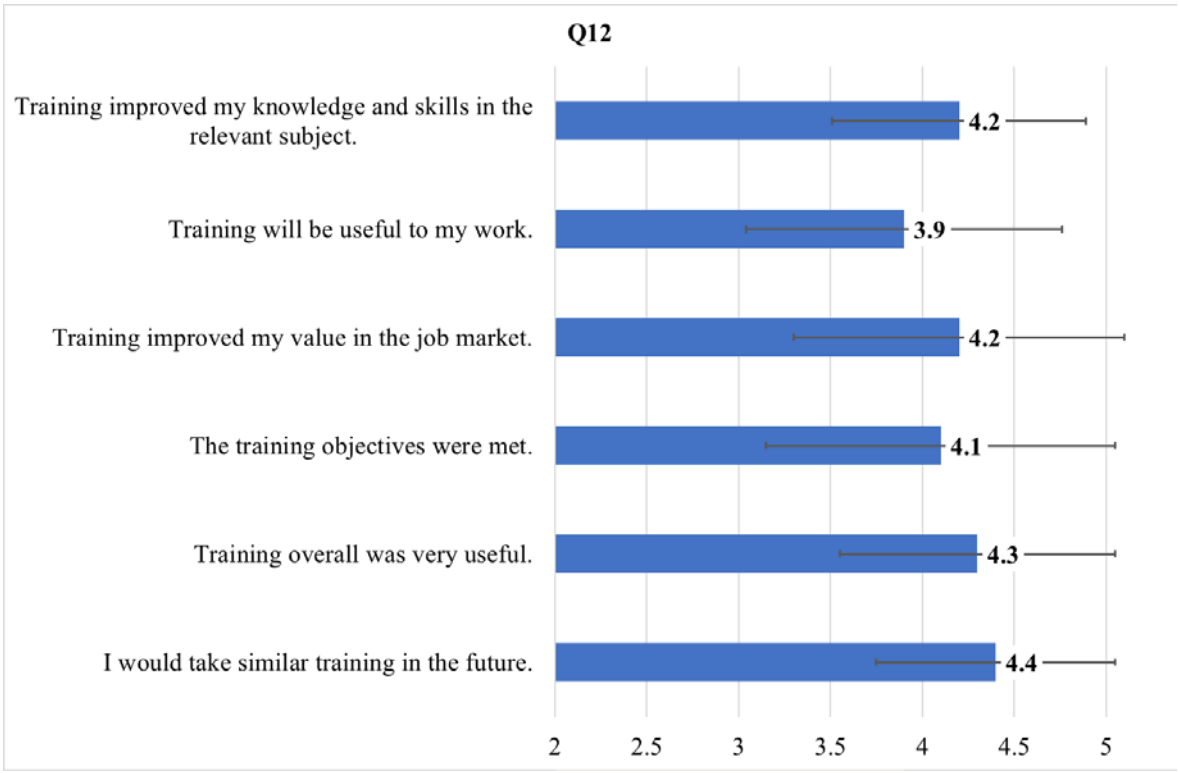

Figure 4.1.5 – The attendees' opinion of the success of the Ericsson Nikola Tesla Summer Camp training.

From the presented numerical and statistical results, the overall impression of the event is positive. The mark for the previous knowledge of the attendees regarding the selected topics is quite low (with a large standard deviation), and it can be concluded that the topic selection was excellent.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*The whole event was interesting, meaningful and very useful. I was very happy with the assigned project, I learned a lot and I am very greatful for this opportunity.*"
- "*I would like to say that SummerCamp is a great idea and opportunity. and very positive opinion regarding the organization. I have one idea, but I am not sure if it is feasible: maybe to organize courses about software tools / or to improve knowledge in programming languages*."

4.2. Cisco Summer School 2019 – September 2019, Belgrade

Cisco Summer School 2019, organized by the Cisco Srbija and Cisco Networking Academy, School of Electrical Engineering, University of Belgrade, was held in Belgrade during two weeks (September 9th – September 20th, 2019). The main topic of the Summer School was "Internet of Things" and it consisted of Cisco Networking Academy course "IoT Fundamentals: Connecting Things" and technical sessions on "Cisco IoT solutions", "Security in IoT", "Cisco solution for LoRaWAN" and "Cisco collaboration tools". The total number of participants at the Cisco Summer School 2019 was 14 students from the five universities that participate in the project BENEFIT (UBL, UNTZ, UNI, UNS, UB).

The total number of valid survey records was 14. There were 8 male and 6 female attendees who completed the survey. The age span of attendees who completed the survey was from 21 to 32, mean 23.3, standard deviation 2.7.

In Figures 4.2.1 to 4.2.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.2.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.2.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.2.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.2.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.2.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.2.1 to 4.2.5. Those values are calculated based on the marks of all attendees who completed the survey.

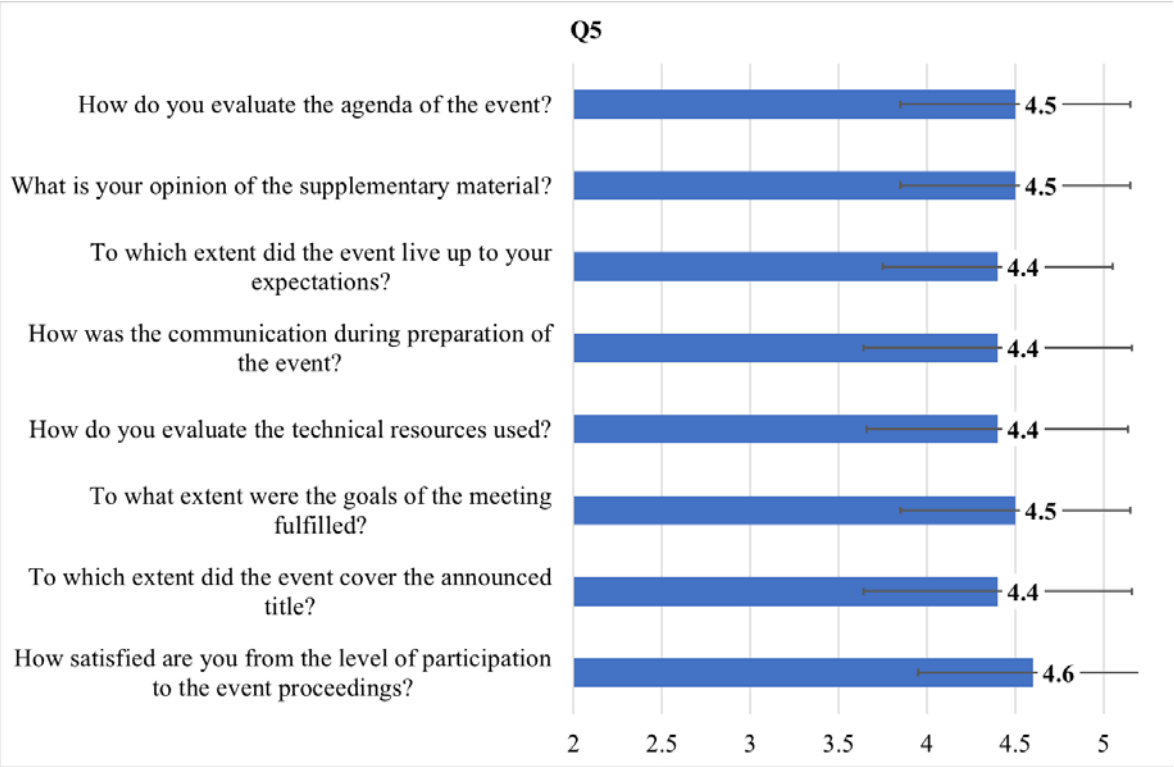

Figure 4.2.1 – General attendees' impression of the Cisco Summer School training.

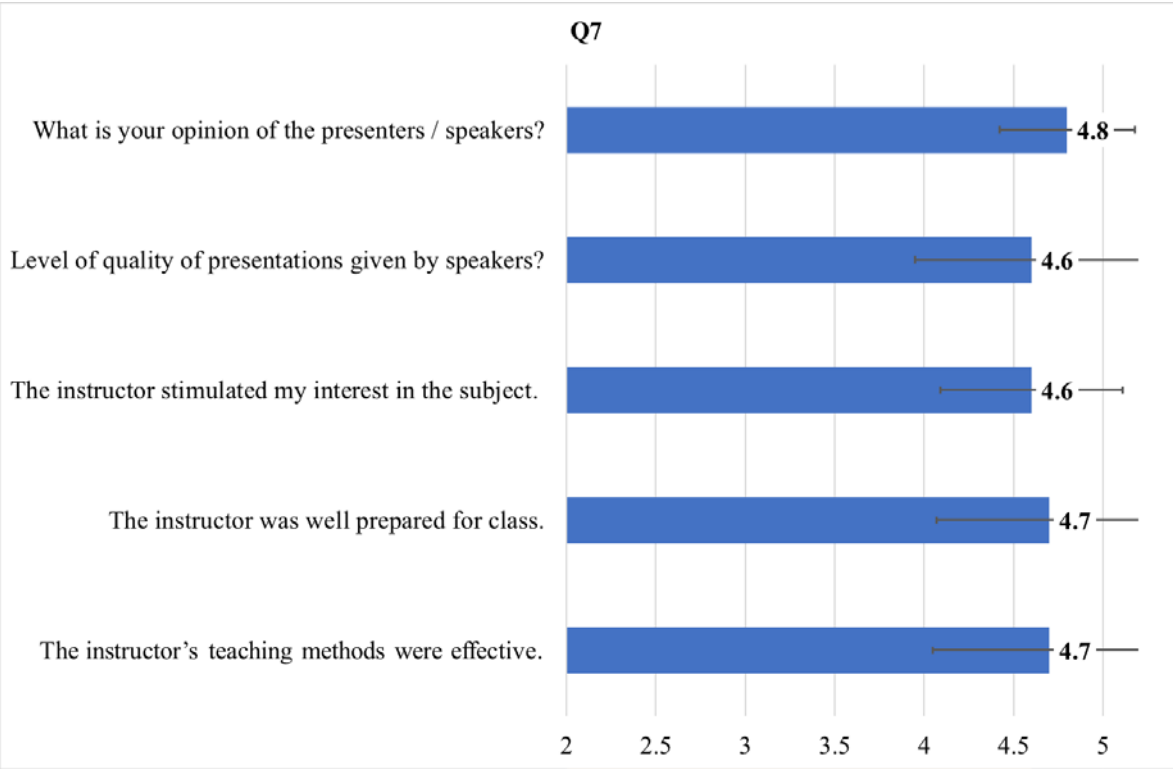

Figure 4.2.2 – Attendees' opinion of the presenters/teachers/instructors of the Cisco Summer School training.

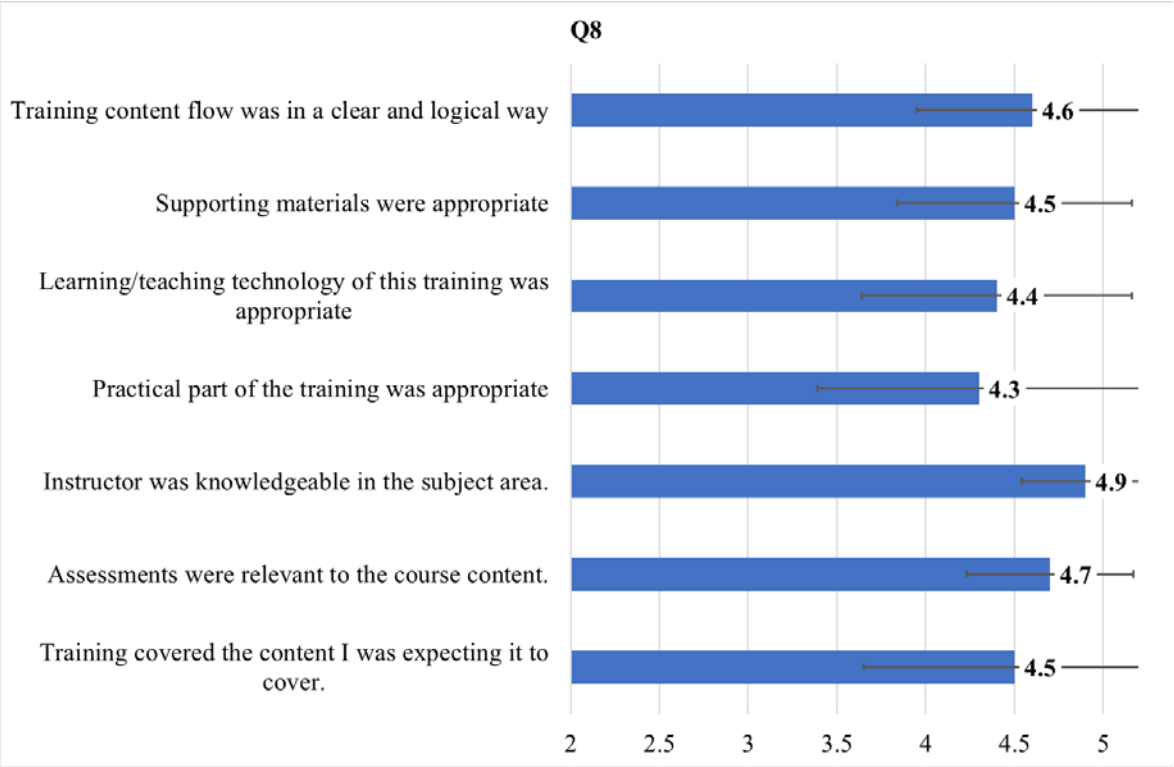

Figure 4.2.3 – Attendees' opinion of the training part of the Cisco Summer School training.

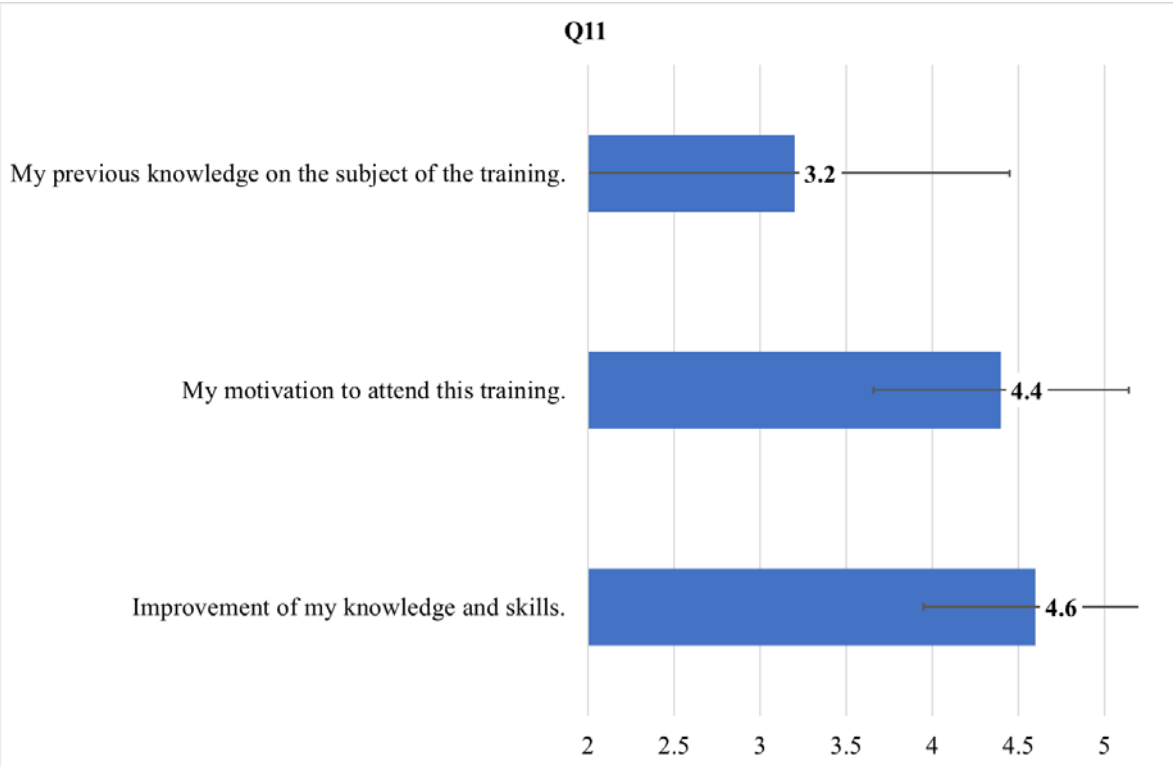

Figure 4.2.4 – The attendees' impression of the subject chosen for the Cisco Summer School training.

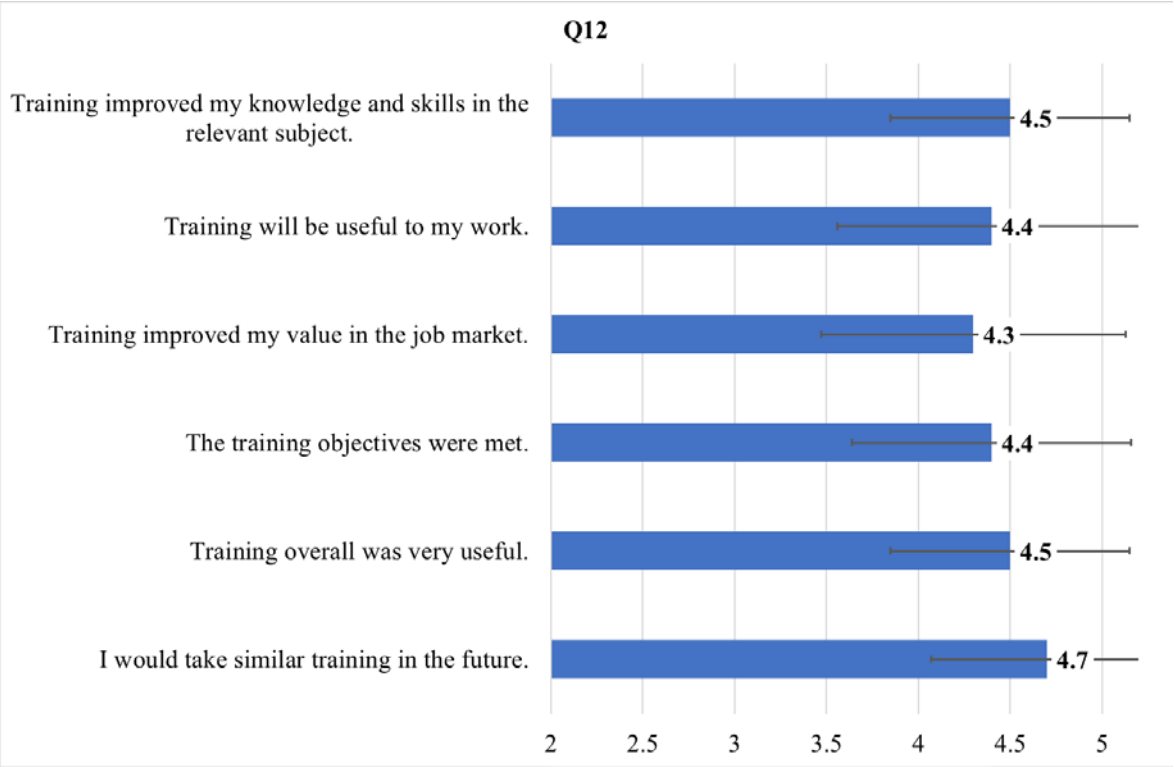

Figure 4.2.5 – The attendees' opinion of the success of the Cisco Summer School training.

From the presented numerical and statistical results, the overall impression of the event is positive. It can be further concluded from the number and content of free-form comments, see below. The overall mark for the teachers/presenters was quite large, having in mind a relatively high mark for the attendees' previous knowledge of the subject.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answer:

- "*Chapter 5 and 6 are less important then first four chapters. The content of these chapters could be reduced.*"

Question: Suggest new technical topics that training should cover.

Selected answers:

- "*Instead of content from chapters 5 and 6, the course could be more focused on programming skills.*"
- "*Machine learning*"
- "*Artificial intelligence*"

4.3. AlfaNum seminar "Speech technology progress based on advanced signal processing and AI-ML paradigm - one lab practice" – December 2019, Banja Luka.

AlfaNum seminar "Speech technology progress based on advanced signal processing and AI-ML paradigm - one lab practice", organized by the AlfaNum and University of Banja Luka, was held in

Banja Luka on December 20th, 2019. The total number of participants at the AlfaNum seminar was 20 students from UBL.

The total number of valid survey records was 13. There were 10 male and 3 female attendees who completed the survey. The age span of attendees who completed the survey was from 20 to 48, mean 23.5, standard deviation 7.5.

In Figures 4.3.1 to 4.3.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.3.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.3.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.3.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.3.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.3.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.3.1 to 4.3.5. Those values are calculated based on the marks of all attendees who completed the survey.

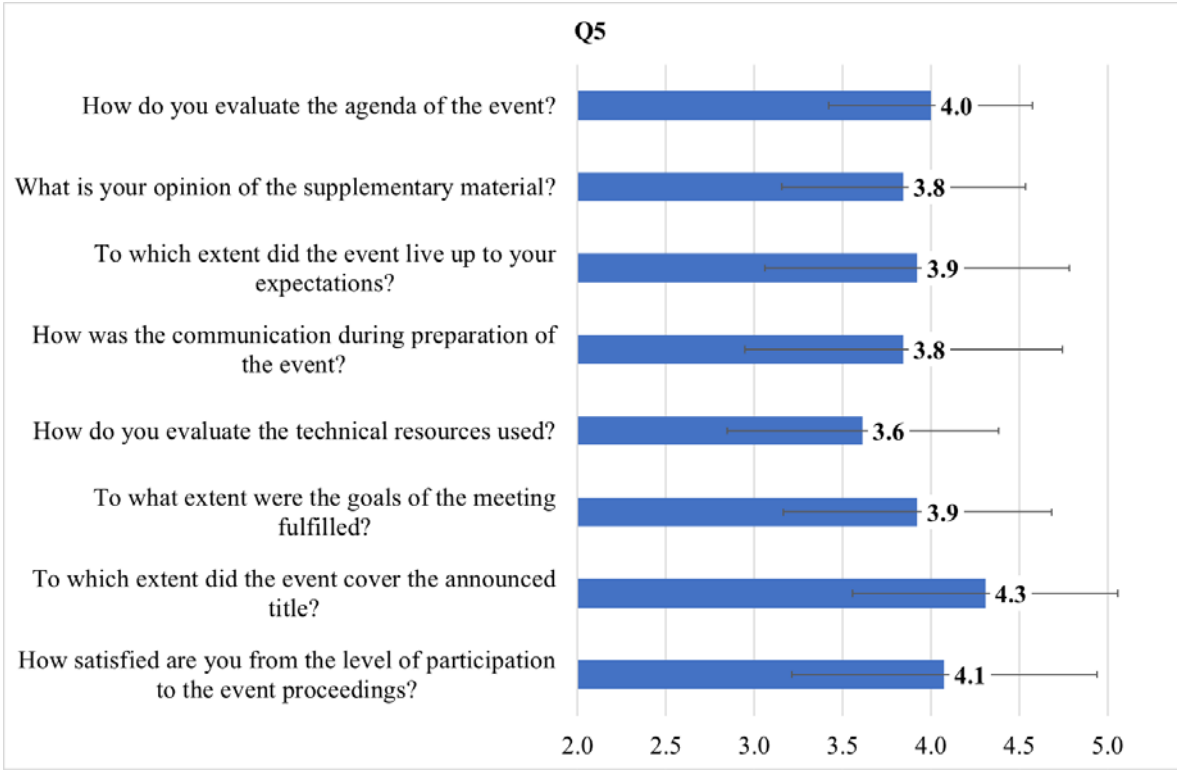

Figure 4.3.1 – General attendees' impression of the AlfaNum training.

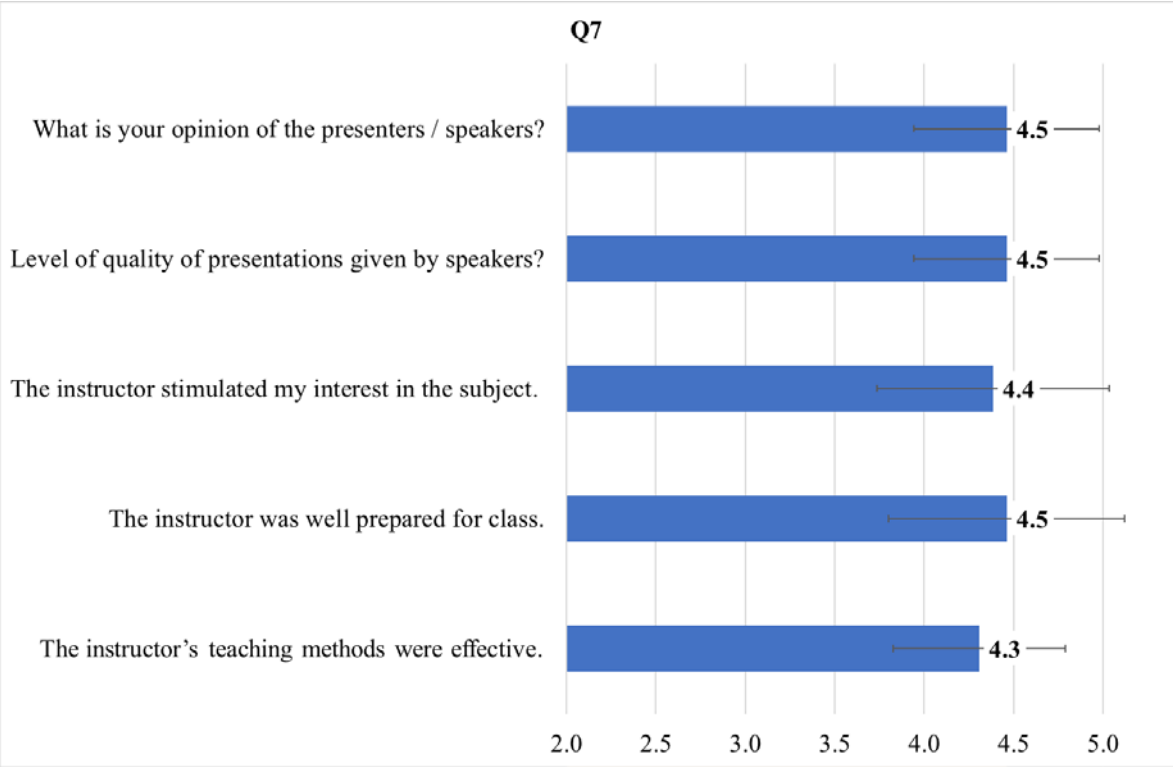

Figure 4.3.2 – Attendees' opinion of the presenters/teachers/instructors of the AlfaNum training.

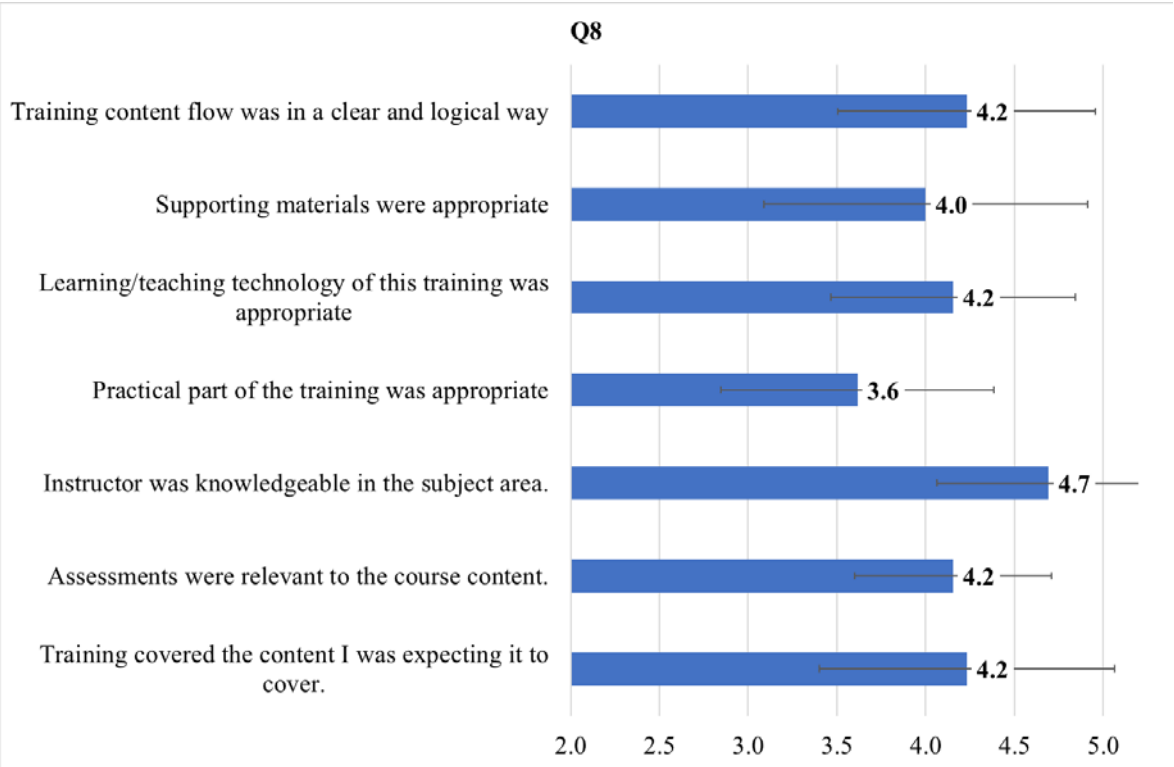

Figure 4.3.3 – Attendees' opinion of the training part of the AlfaNum training.

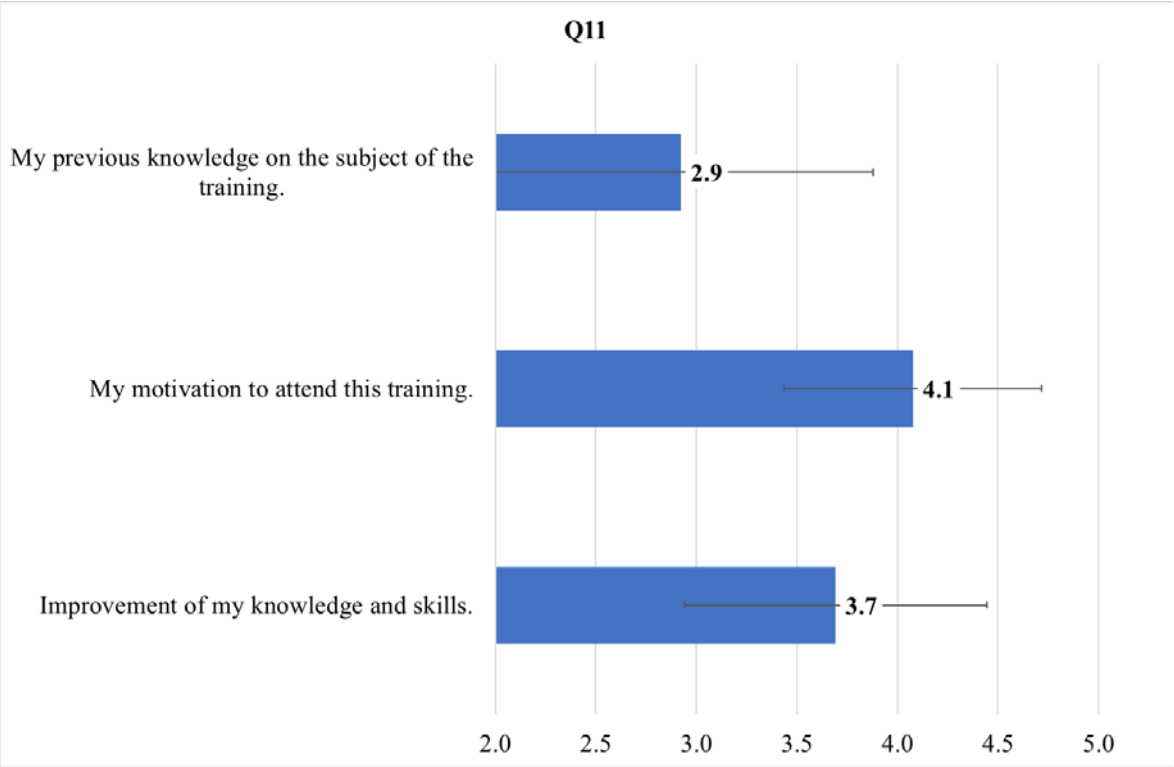

Figure 4.3.4 – The attendees' impression of the subject chosen for the AlfaNum training.

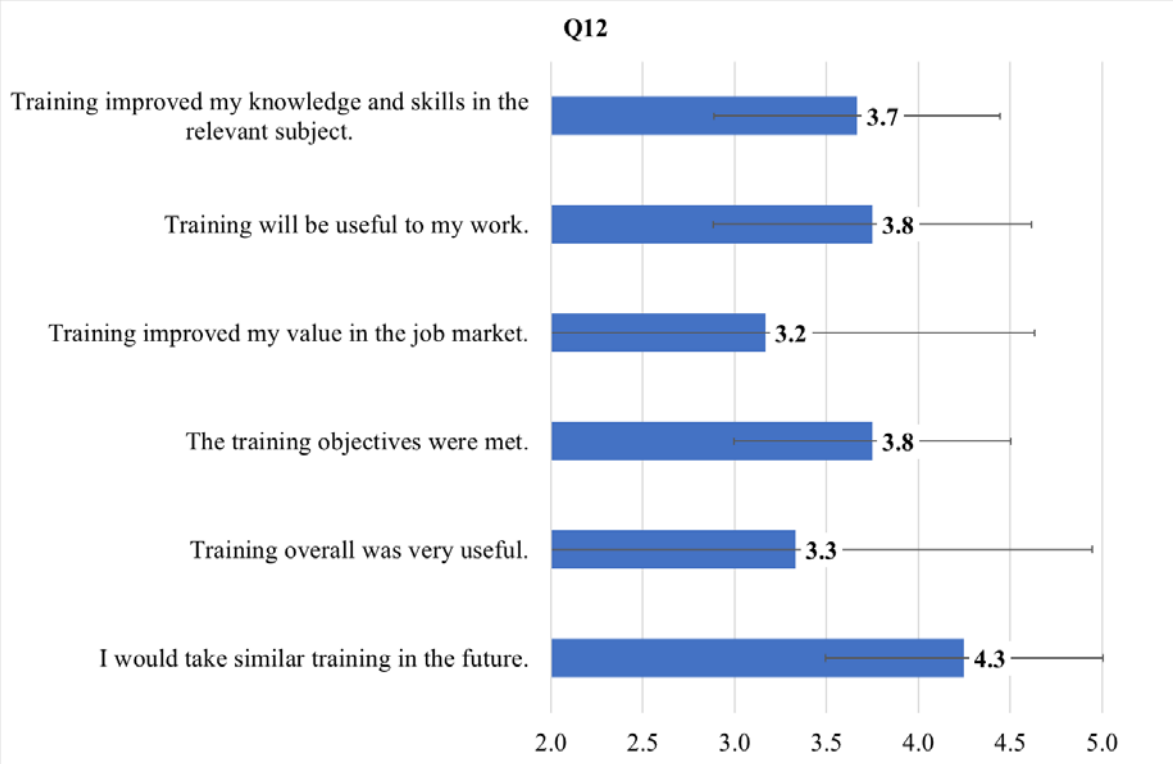

Figure 4.3.5 – The attendees' opinion of the success of the AlfaNum training.

From the presented numerical and statistical results, the overall impression of the event is positive. The results important for the evaluation of the practical part of the event, i.e. Q5.5, Q8.4, Q11.3, and Q12.5 are a bit lower (with a large standard deviation) compared to the overall values. On the other hand, the overall opinion of the presenters/teachers/instructors is very good. There were no "free-

form" inputs, and the total number of completed surveys is 13, and for that reason, it can only be assumed that the students expected more practical examples.

4.4. Seminar on IoT Security 2020 – January 2020, Belgrade

Seminar on IoT Security 2020, organized by the Cisco Networking Academy, School of Electrical Engineering, University of Belgrade, was held in Belgrade on January22nd, 2020. The main topic of the Seminar was Cisco Networking Academy course "IoT Fundamentals: IoT Security". The total number of participants at the Seminar on IoT Security 2020 was 53 students from UB.

The total number of valid survey records was 51. There were 28 male and 23 female attendees who completed the survey. The age span of attendees who completed the survey was from 22 to 27, mean 24.2, standard deviation 1.4.

In Figures 4.4.1 to 4.4.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.4.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.4.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.4.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.4.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.4.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.4.1 to 4.4.5. Those values are calculated based on the marks of all attendees who completed the survey.

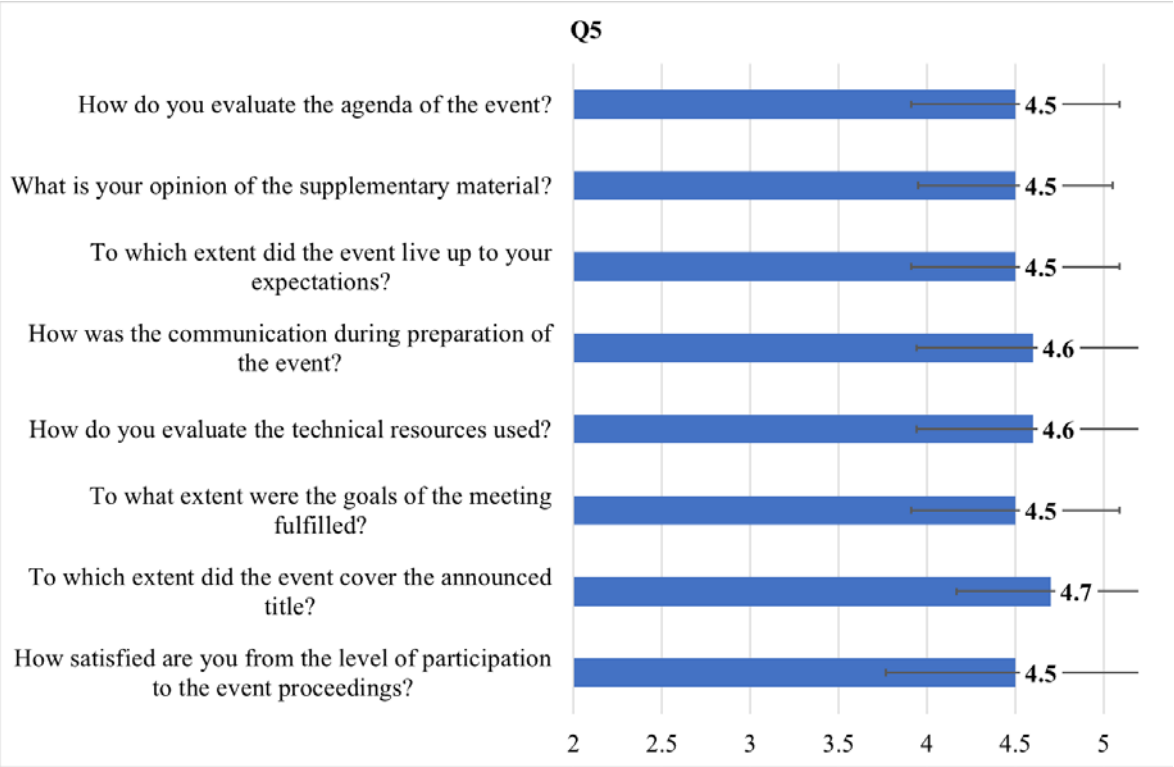

Figure 4.4.1 – General attendees' impression of the IoT Security Seminar 2020.

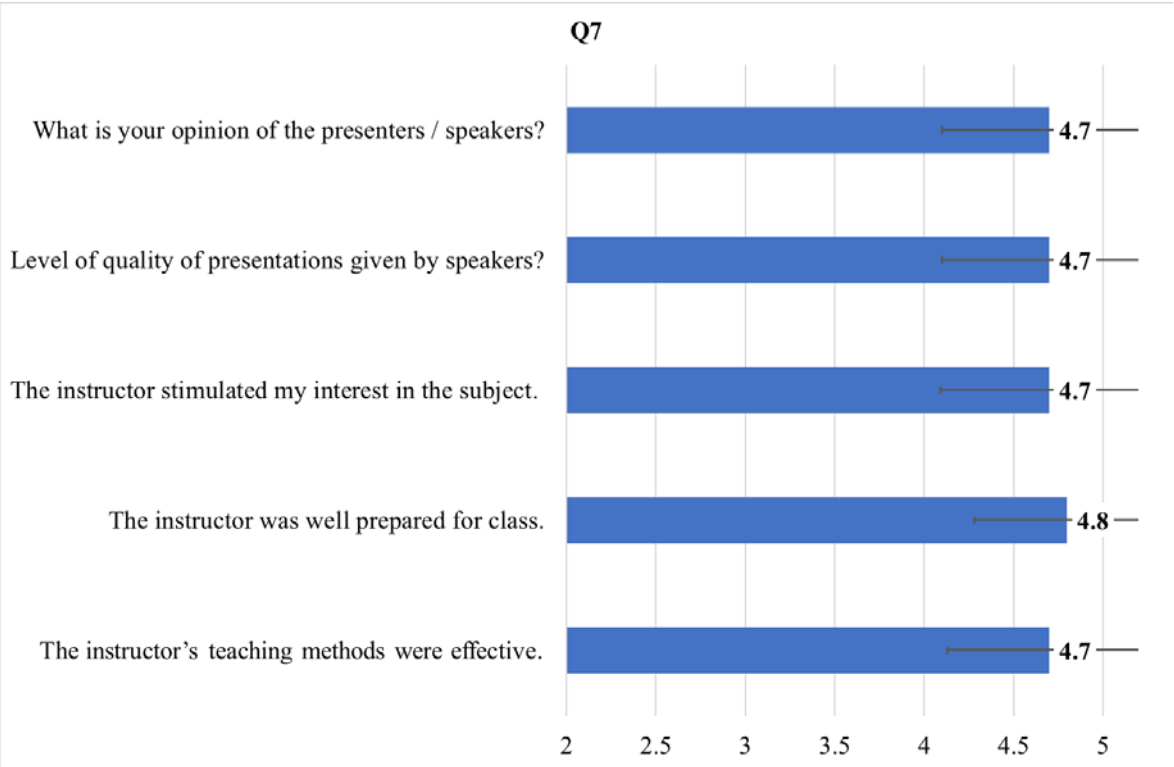

Figure 4.4.2 – Attendees' opinion of the presenters/teachers/instructors of the IoT Security Seminar 2020.

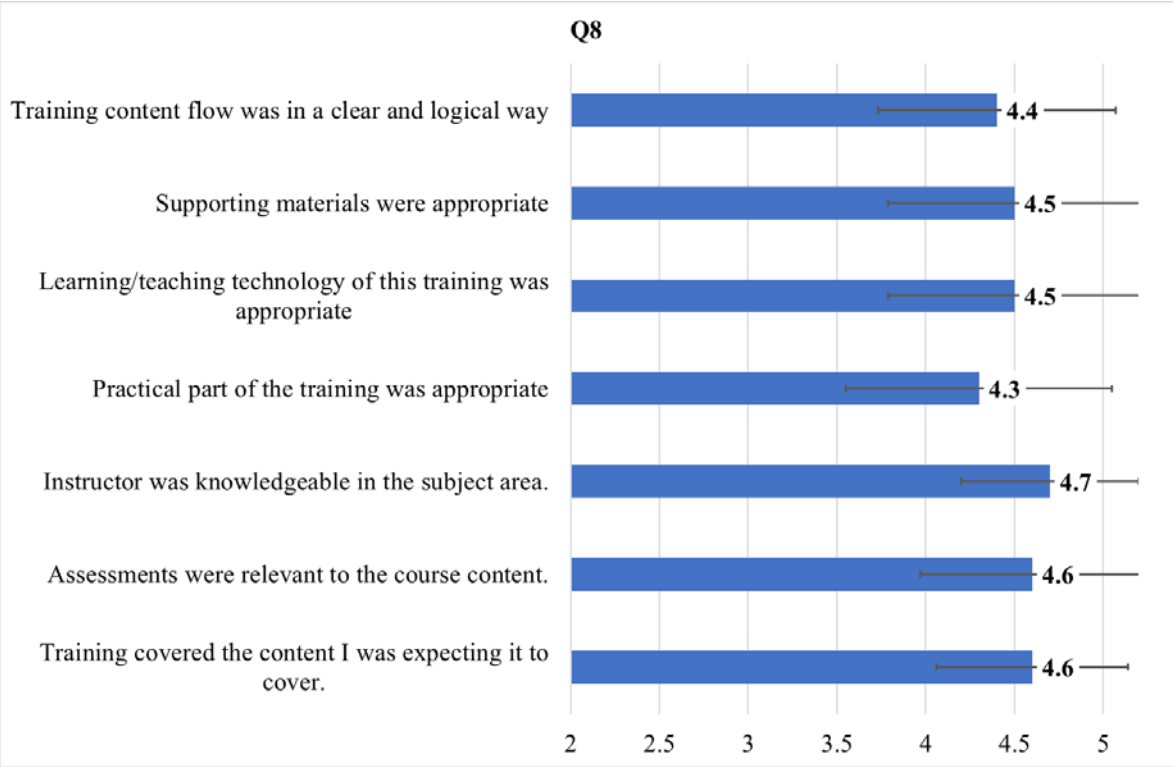

Figure 4.4.3 – Attendees' opinion of the training part of the IoT Security Seminar 2020.

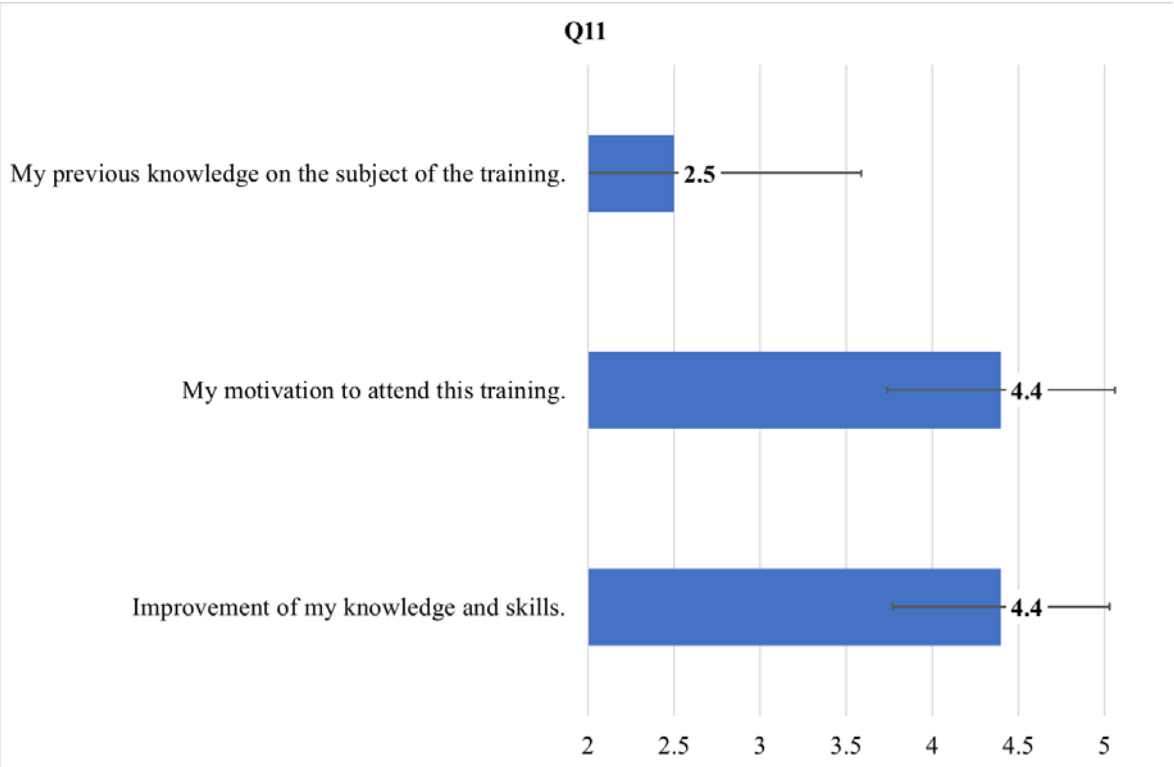

Figure 4.4.4 – The attendees' impression of the subject chosen for the IoT Security Seminar 2020.

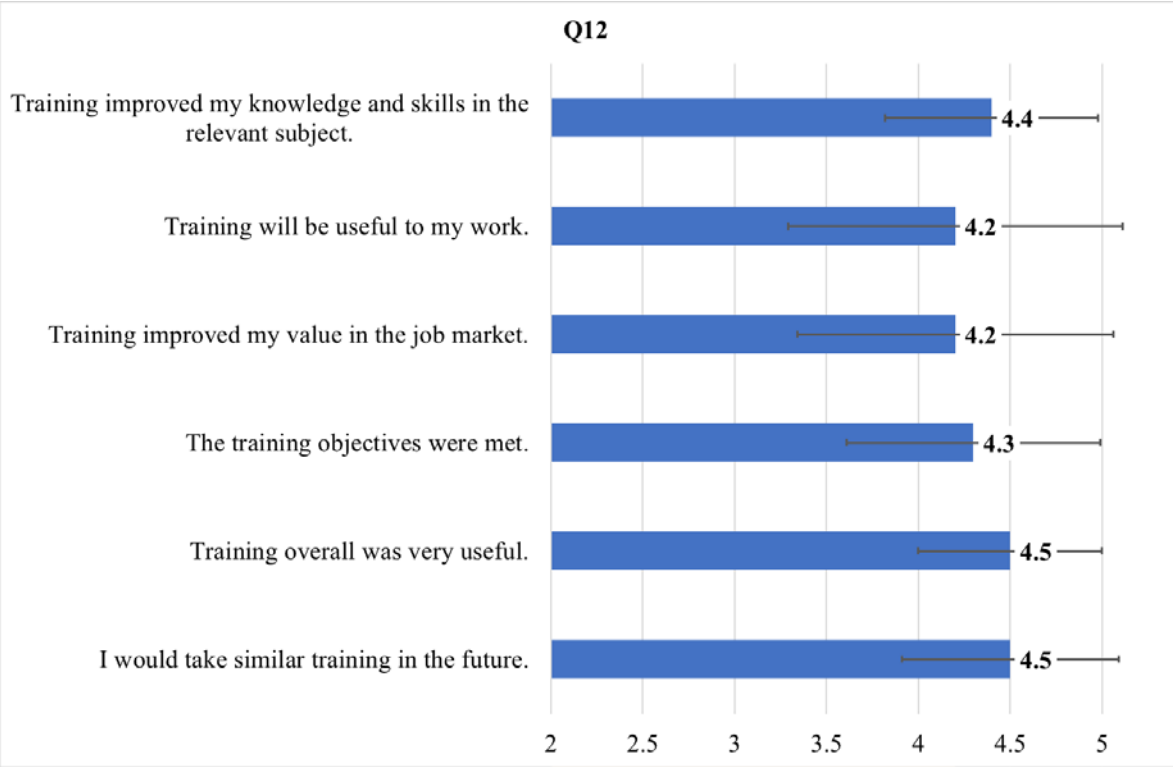

Figure 4.4.5 – The attendees' opinion of the success of the IoT Security Seminar 2020.

From the presented numerical and statistical results, the overall impression of the event is positive, especially having in mind quite a large number of attendees with different levels of previous knowledge of the subject (small mean, large standard deviation). It can be concluded from the number and content of free-form comments, that attendees recognised the importance of the subject.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answers:

- "*the organization of this course is excellent, each of its segments is useful and interesting, and the professors are very inspiring. It was a pleasure to participate in this course.*"
- "*more labs and practical experiments*"
- "*everything is fine, but practical tasks can be added.*"

4.5. NiCAT online training on How to achieve a successful career and what is the first step – the key elements of success – December 2020, Niš

NiCAT online training on Key elements of success, how to get to the first position, CV, basic competences, interview, organized by the NiCAT Cluster, was held online in Niš on December 15th, 2020. The main topic of the online training was How to achieve a successful career and what is the first step - the key elements of success. The total number of registered participants at the NiCAT online training was 35 students from the six WB universities that participate in the project BENEFIT (UBL, UNTZ, UNSA, UNI, UNS, UB).

The total number of valid survey records was 11. There were 5 male and 6 female attendees who completed the survey. The age span of attendees who completed the survey was from 22 to 25, mean 23.6, standard deviation 1.1. Due to some technical issues, the survey request for attendees was sent with a certain delay and for that reason, the total number of valid completed surveys is less than expected.

In Figures 4.5.1 to 4.5.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.5.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.5.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.5.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.5.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.5.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.5.1 to 4.5.5. Those values are calculated based on the marks of all attendees who completed the survey.

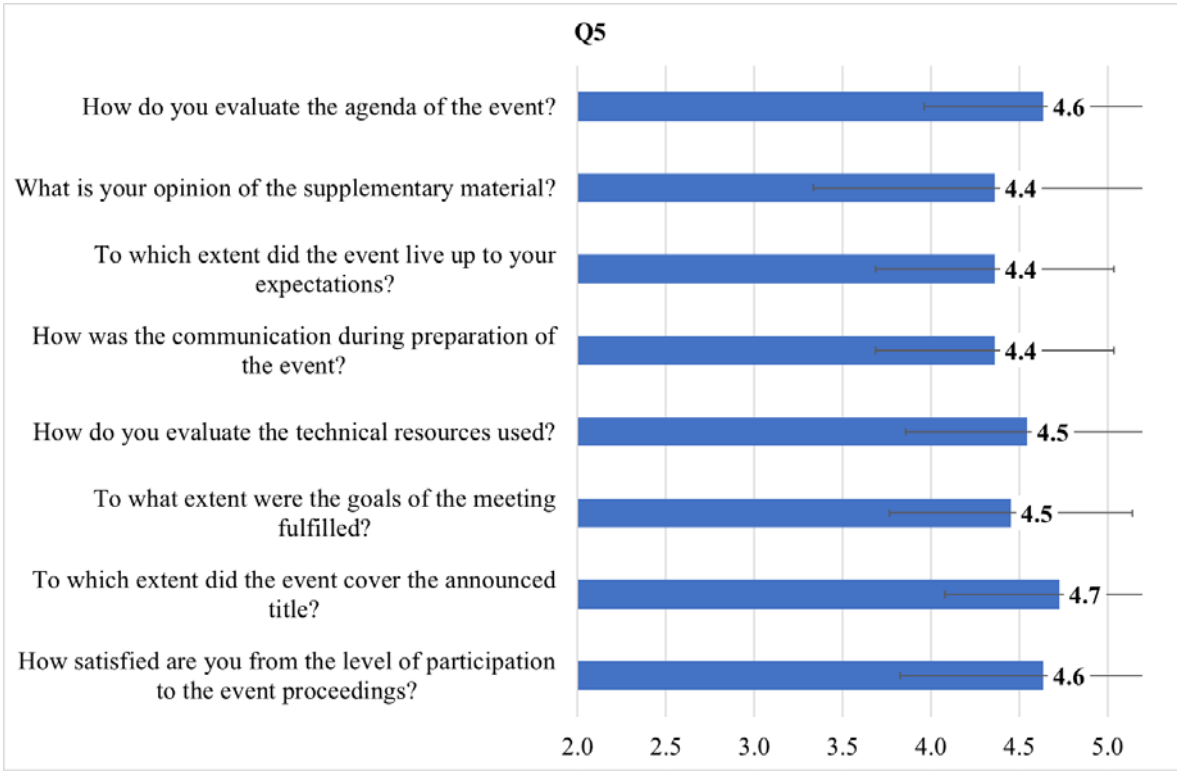

Figure 4.5.1 – General attendees' impression of the online lecture on a successful career.

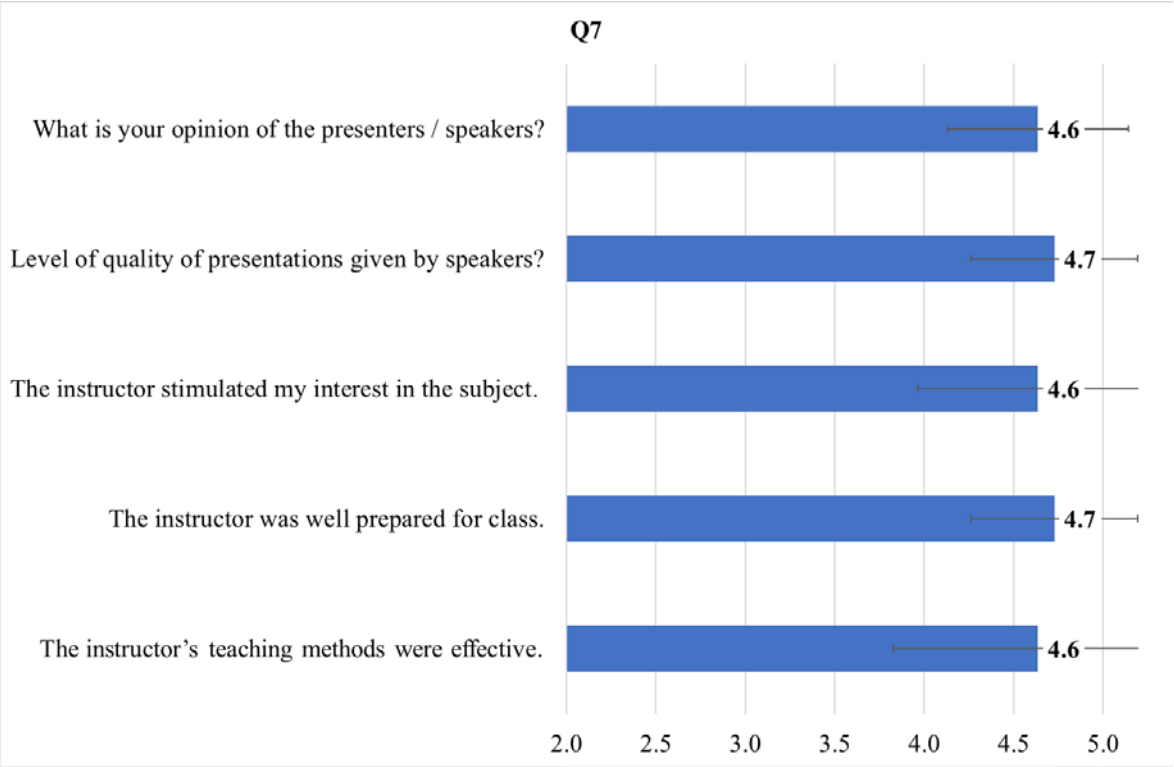

Figure 4.5.2 – Attendees' opinion of the presenters/teachers/instructors of the online lecture on a successful career.

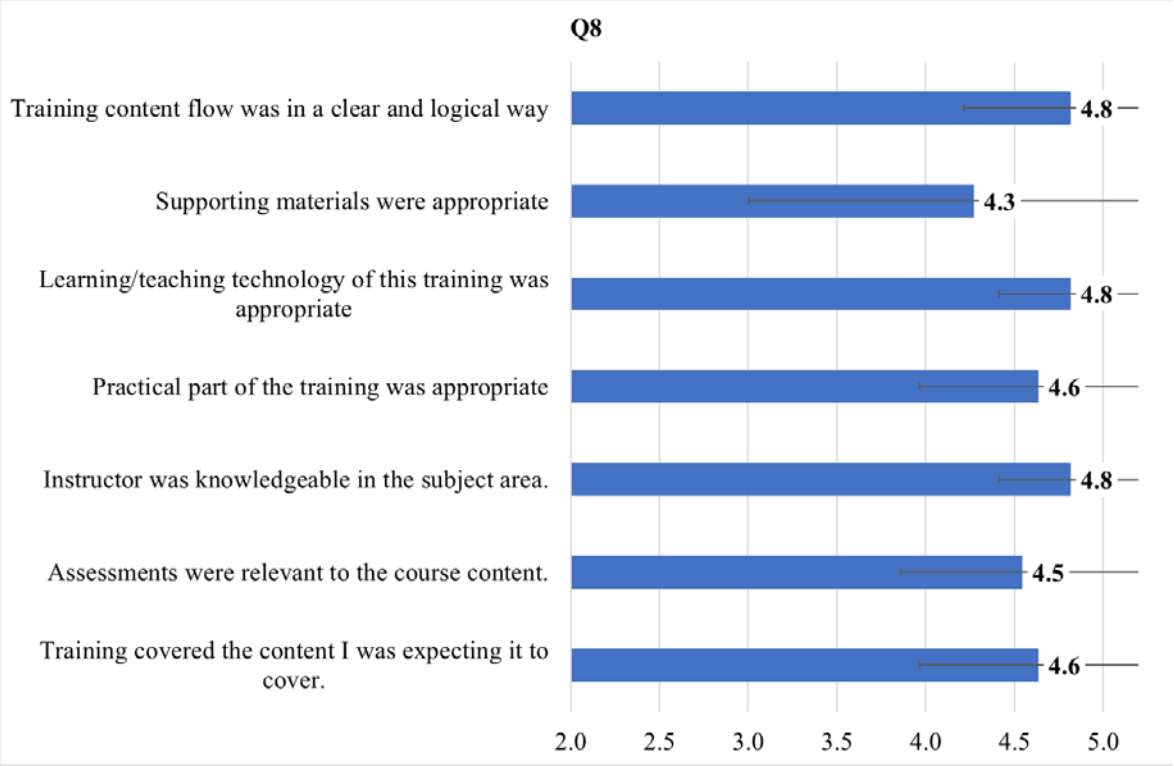

Figure 4.5.3 – Attendees' opinion of the training part of the online lecture on a successful career.

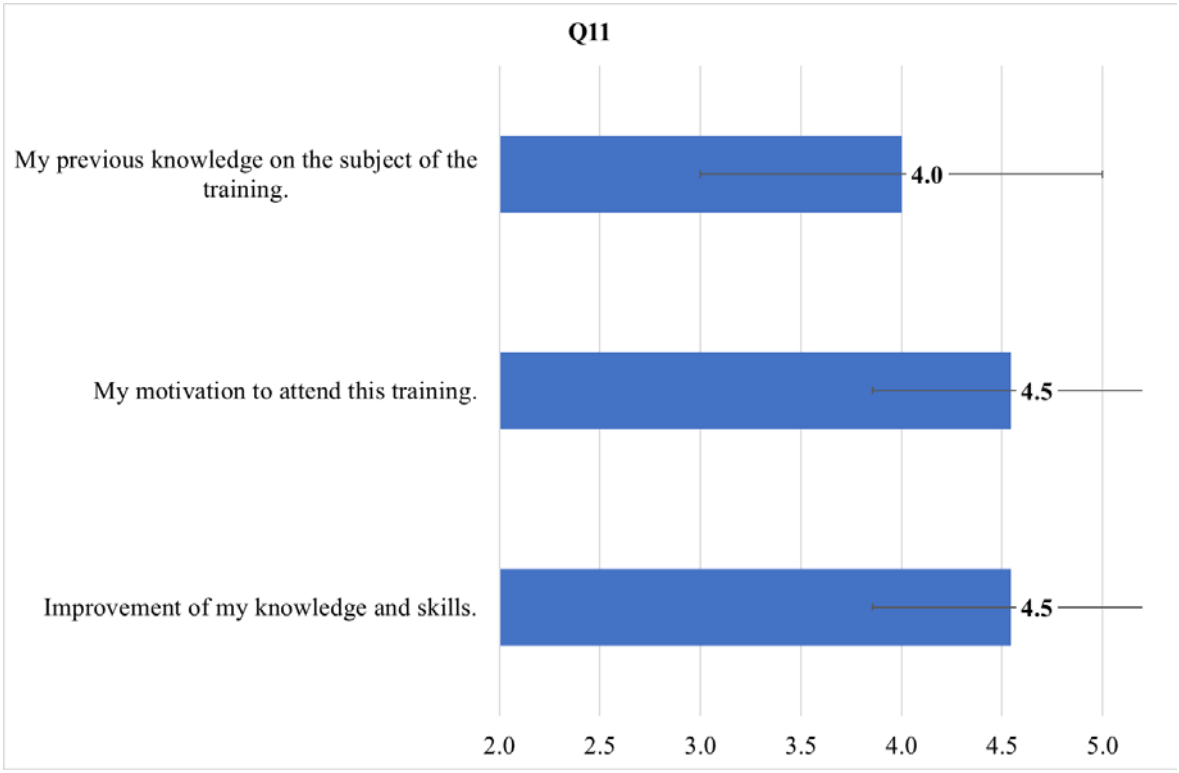

Figure 4.5.4 – The attendees' impression of the subject chosen for the online lecture on a successful career.

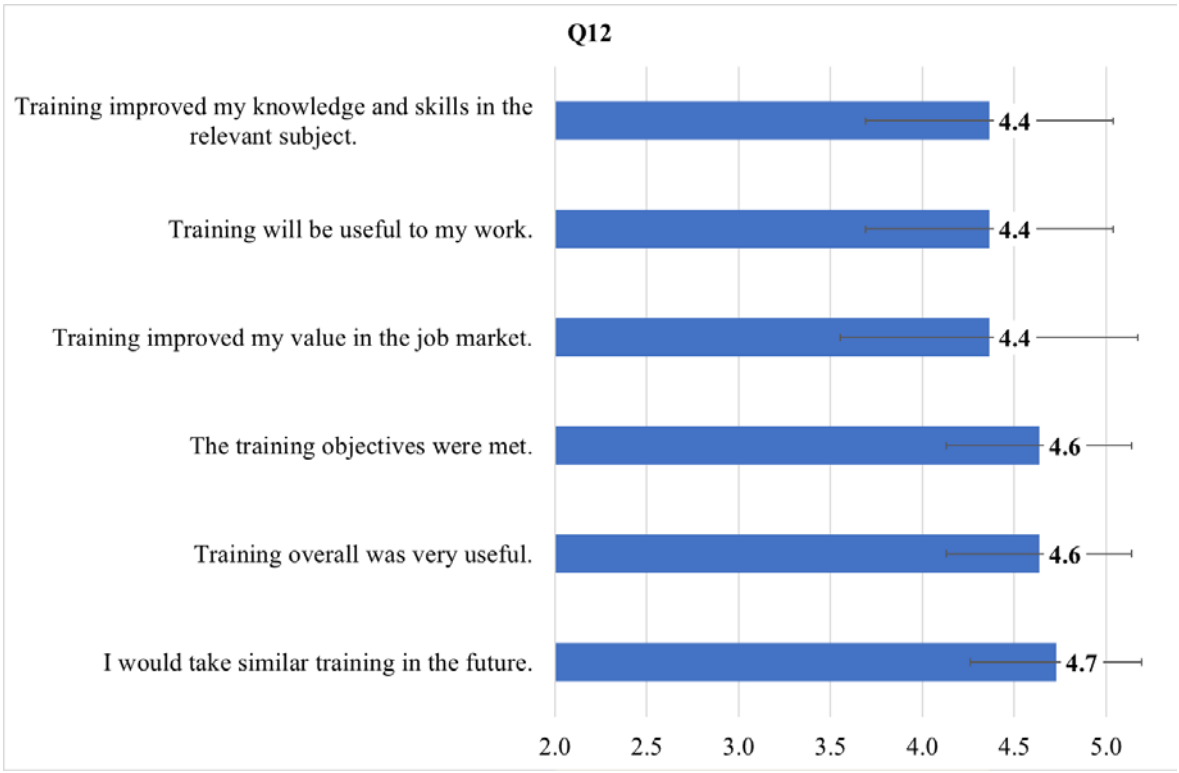

Figure 4.5.5 – The attendees' opinion of the success of the online lecture on a successful career.

From the presented numerical and statistical results, the overall impression of the event is positive.

4.6. NiCAT online training on Business in the field of application of artificial intelligence and development of a team of cyber security analysts – December 2020, Niš

NiCAT online training on Business in the field of application of artificial intelligence and development of a team of cyber security analysts, organized by the NiCAT Cluster, was held online in Niš on December 21st, 2020. The topics of the online training were „Business in the field of artificial intelligence application on the example of NIRI Intelligent Computing“ and „Development of a team of cyber security analysts at RCMT“. The total number of registered participants at the NiCAT online training was 15 students from the six universities that participate in the project BENEFIT (UBL, UNTZ, UNSA, UNI, UNS, UB).

The total number of valid survey records was 9. There were 2 male and 7 female attendees who completed the survey. The age span of attendees who completed the survey was from 22 to 25, mean 24.1, standard deviation 1.1. Due to some technical issues, the survey request for attendees was sent with a certain delay and for that reason, the total number of valid completed surveys is less than expected.

In Figures 4.6.1 to 4.6.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.6.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.6.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.6.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.6.4 provides results of the attendees’ opinion of the importance of the subject that was chosen for the event.
- Figure 4.6.5 provides results of the attendees’ impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.6.1 to 4.6.5. Those values are calculated based on the marks of all attendees who completed the survey.

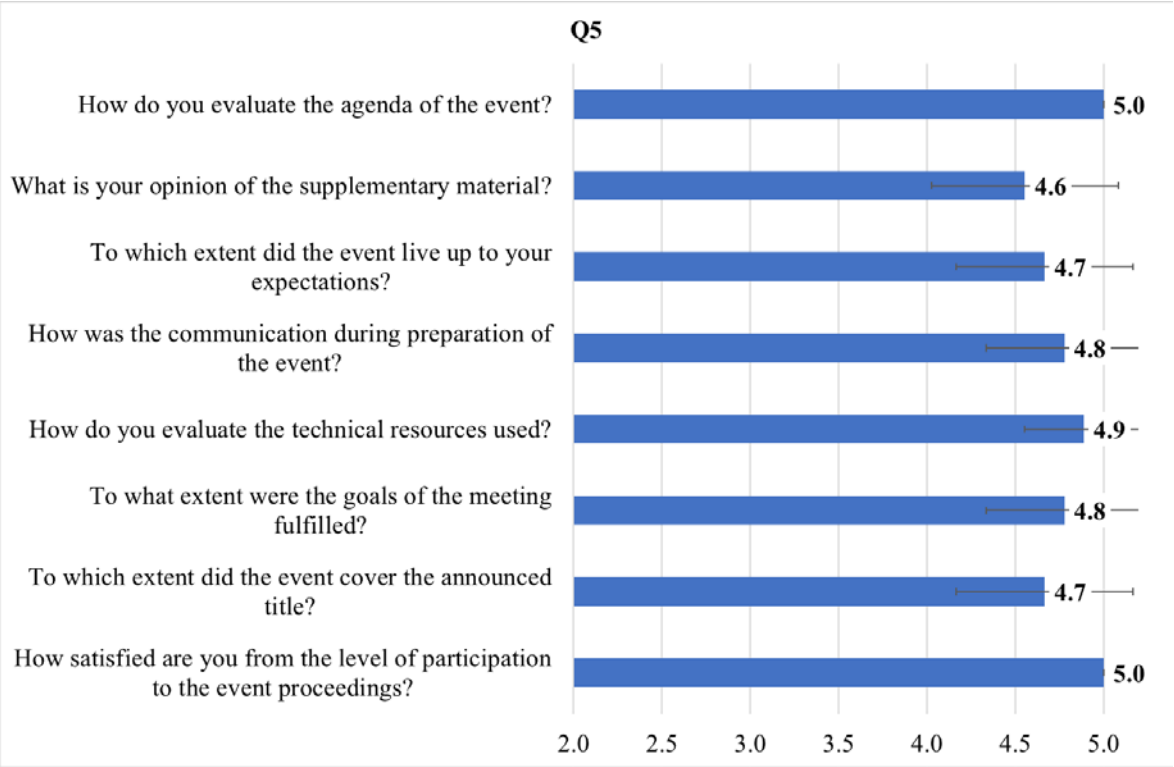

Figure 4.6.1 – General attendees' impression of the online lecture on AI.

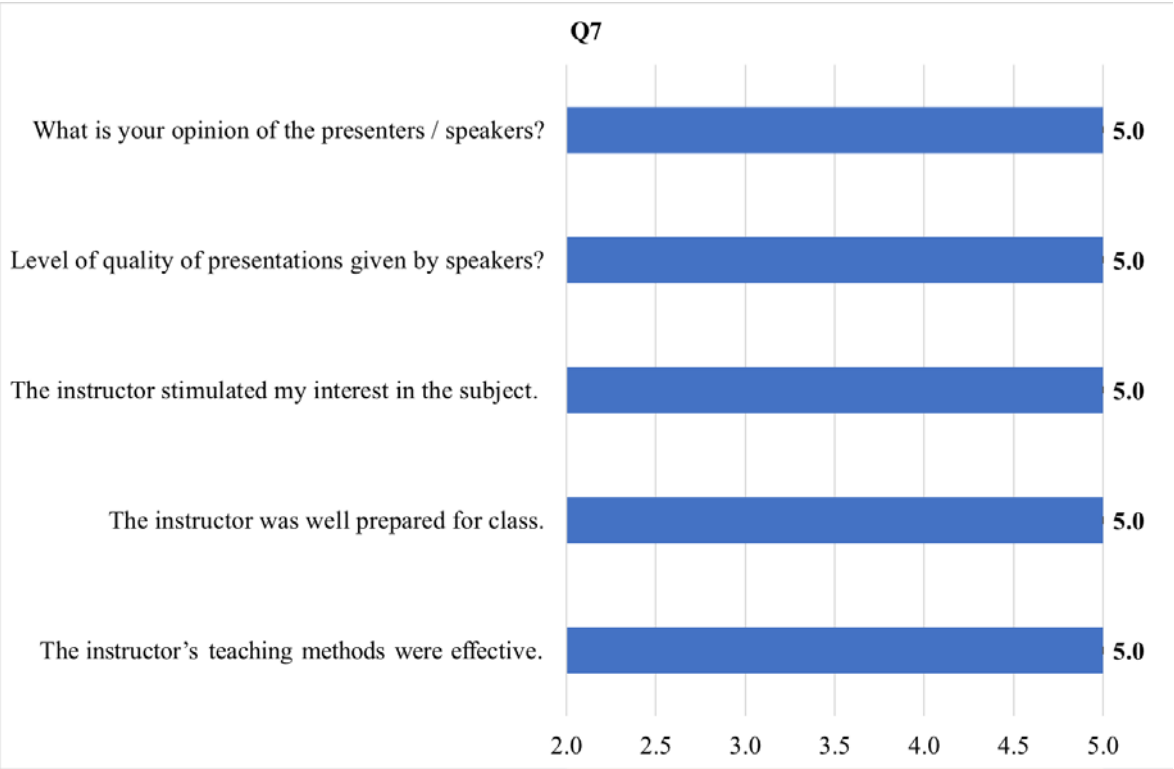

Figure 4.6.2 – Attendees' opinion of the presenters/teachers/instructors of the online lecture on AI.

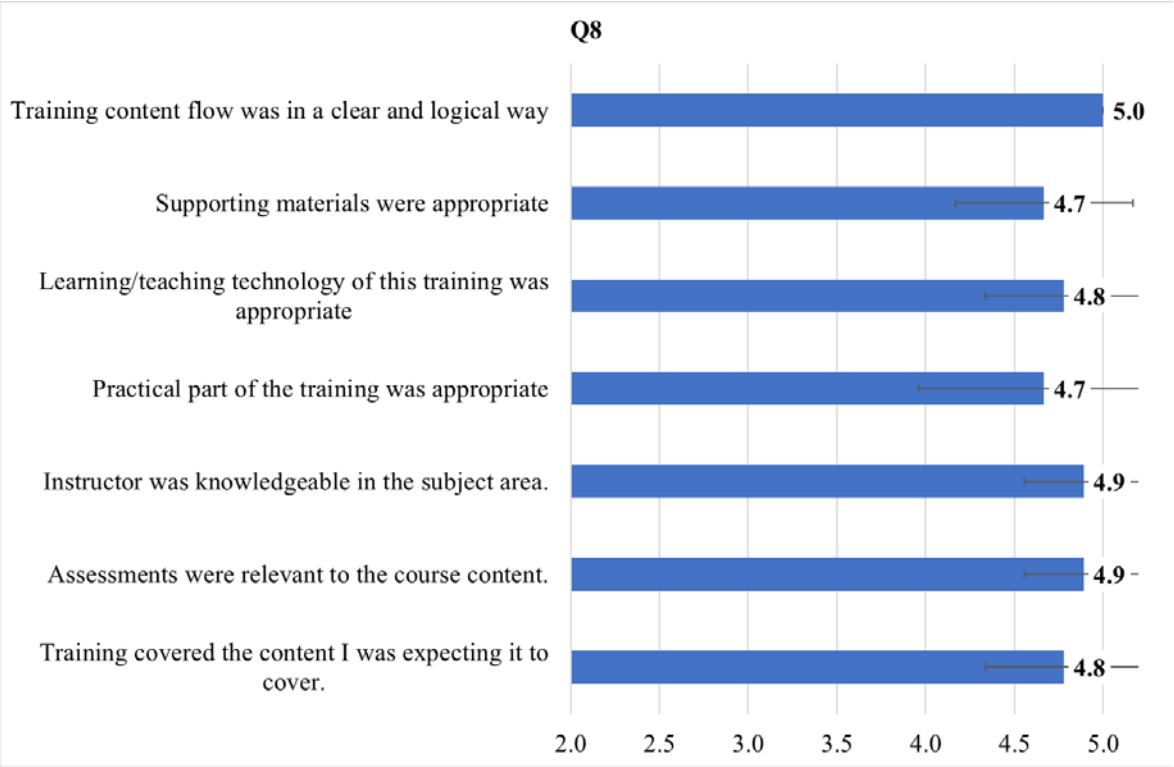

Figure 4.6.3 – Attendees' opinion of the training part of the online lecture on AI.

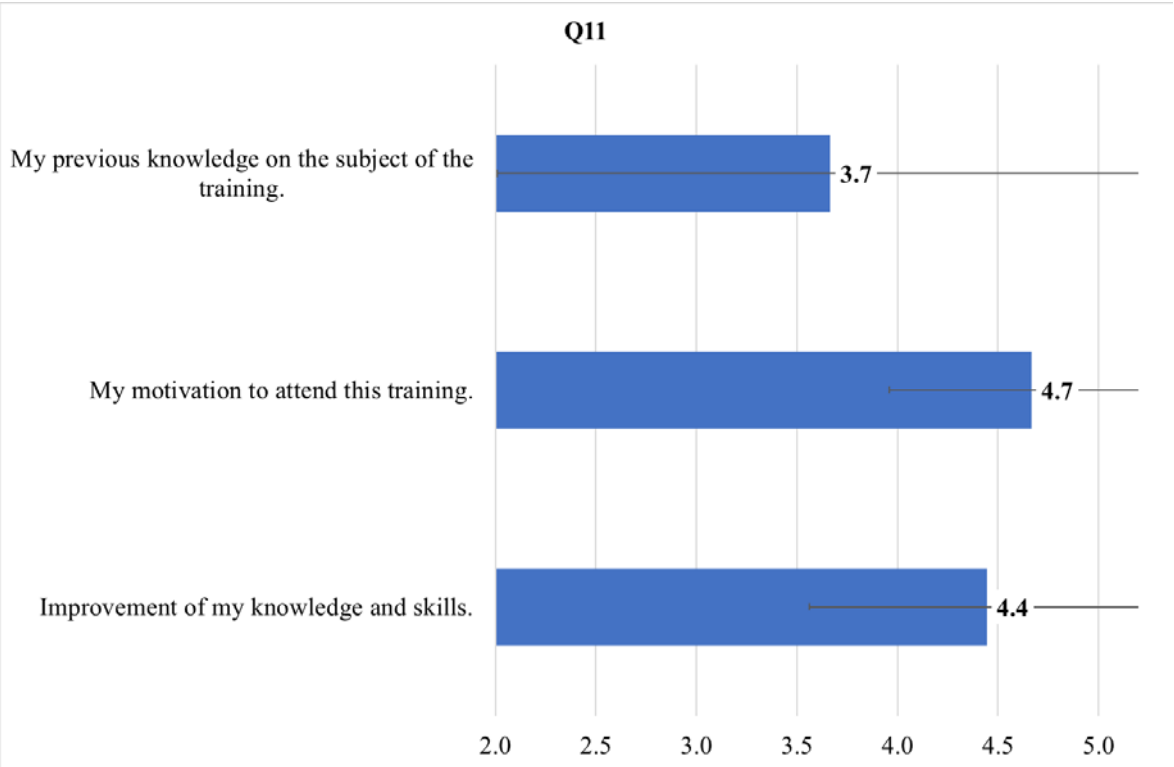

Figure 4.6.4 – The attendees' impression of the subject chosen for the online lecture on AI.

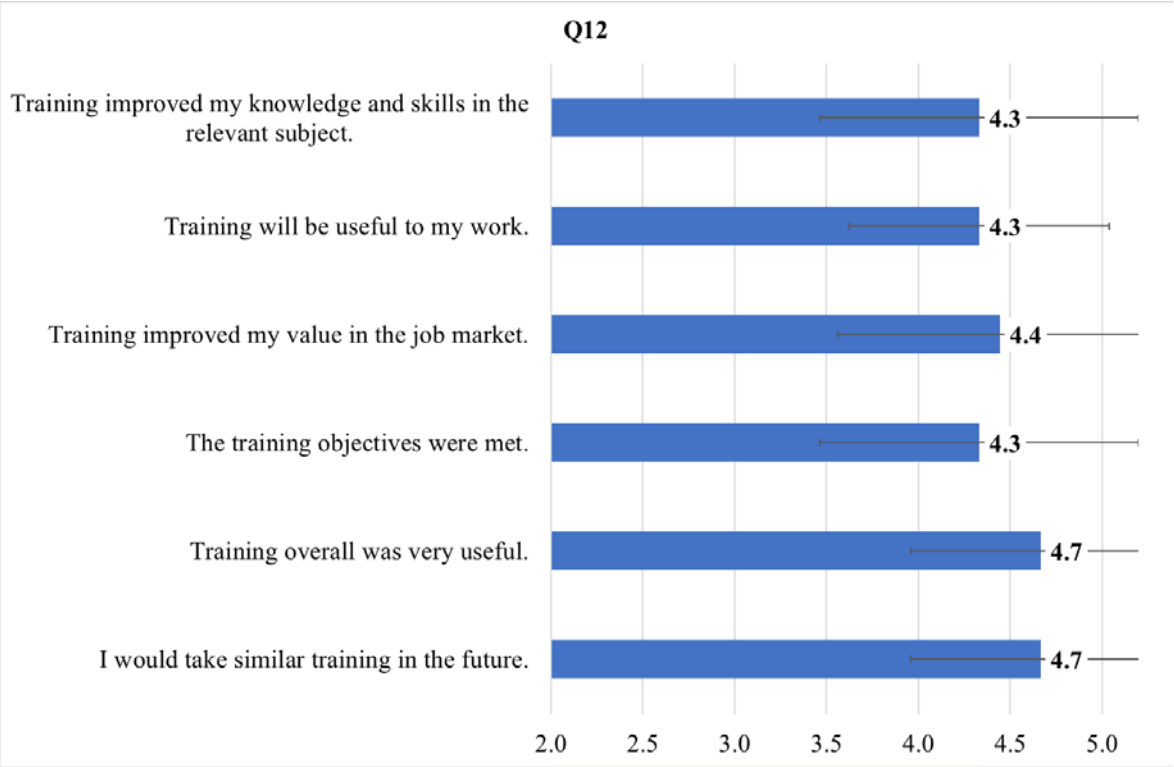

Figure 4.6.5 – The attendees' opinion of the success of the online lecture on AI.

From the presented numerical and statistical results, the overall impression of the event is extremely positive, expecially regarding the quality and reception of the speaker(s).

4.7. Online seminar on IoT Security 2021 – January 2021, Belgrade

Online seminar on IoT Security 2021, organized by the Cisco Networking Academy, School of Electrical Engineering, University of Belgrade, was held online in Belgrade on January 13th, 2021. The main topic of the Seminar was Cisco Networking Academy course "IoT Fundamentals: IoT Security". The total number of registered participants at the Online seminar on IoT Security 2021 was 48 students from the UB.

The total number of valid survey records was 47. There were 21 male and 26 female attendees who completed the survey. The age span of attendees who completed the survey was from 21 to 31, mean 22.9, standard deviation 1.6.

In Figures 4.7.1 to 4.7.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.7.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.7.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.7.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.7.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.7.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.7.1 to 4.7.5. Those values are calculated based on the marks of all attendees who completed the survey.

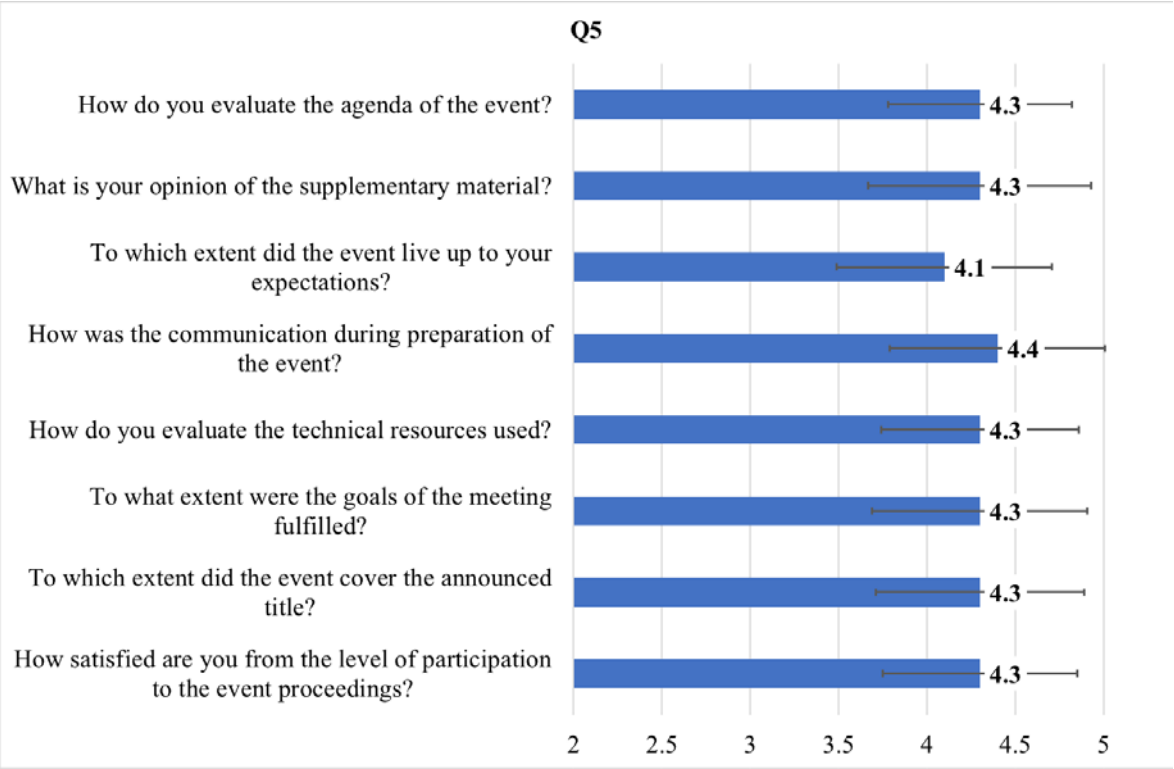

Figure 4.7.1 – General attendees' impression of the IoT Security Seminar 2021.

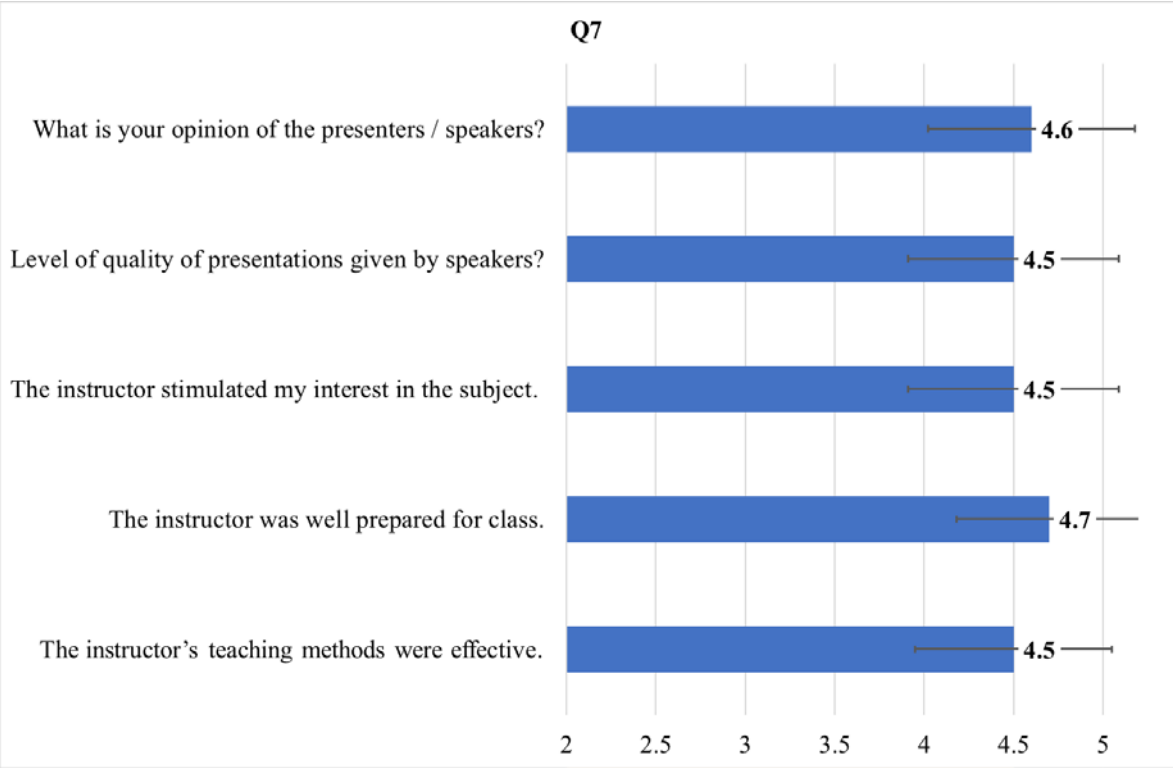

Figure 4.7.2 – Attendees' opinion of the presenters/teachers/instructors of the IoT Security Seminar 2021.

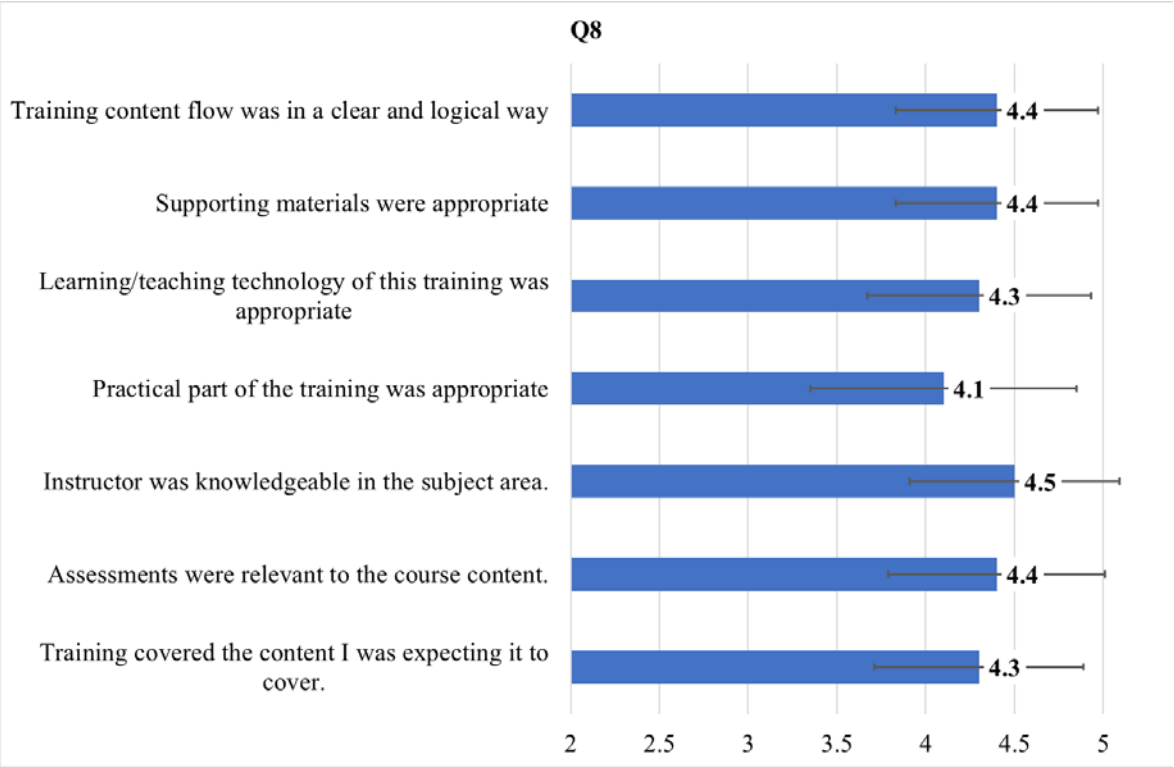

Figure 4.7.3 – Attendees' opinion of the training part of the IoT Security Seminar 2021.

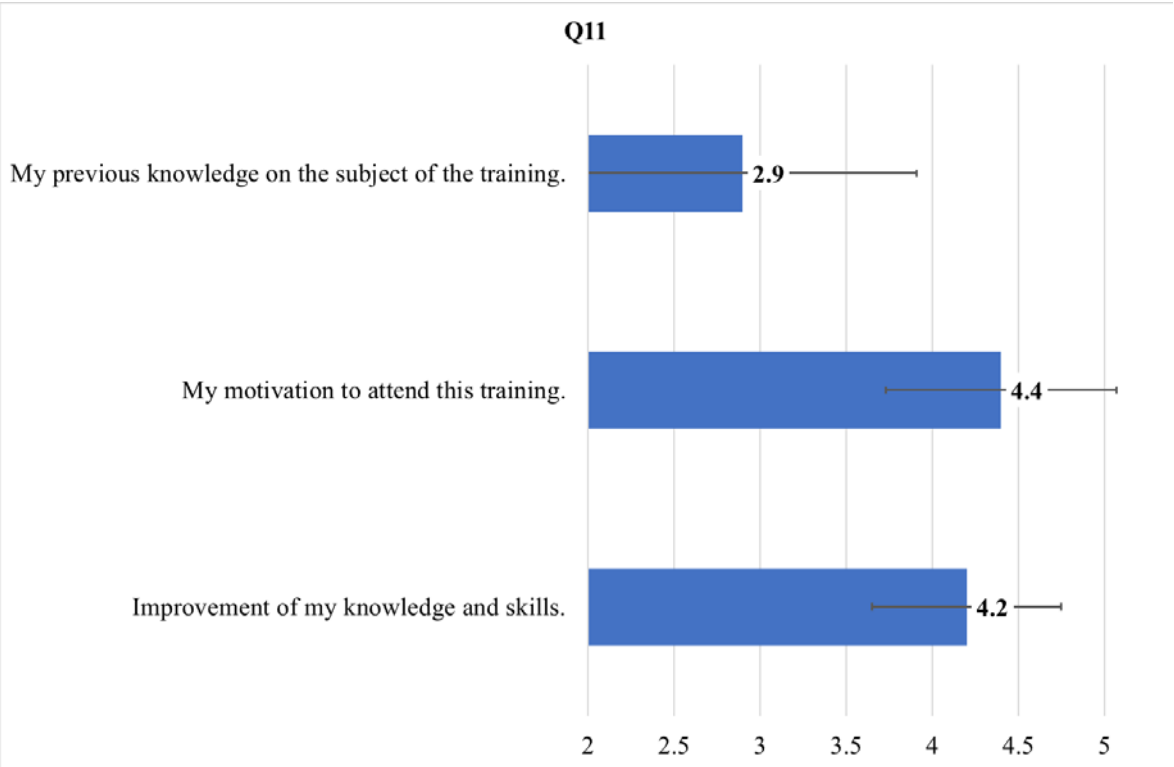

Figure 4.7.4 – The attendees' impression of the subject chosen for the IoT Security Seminar 2021.

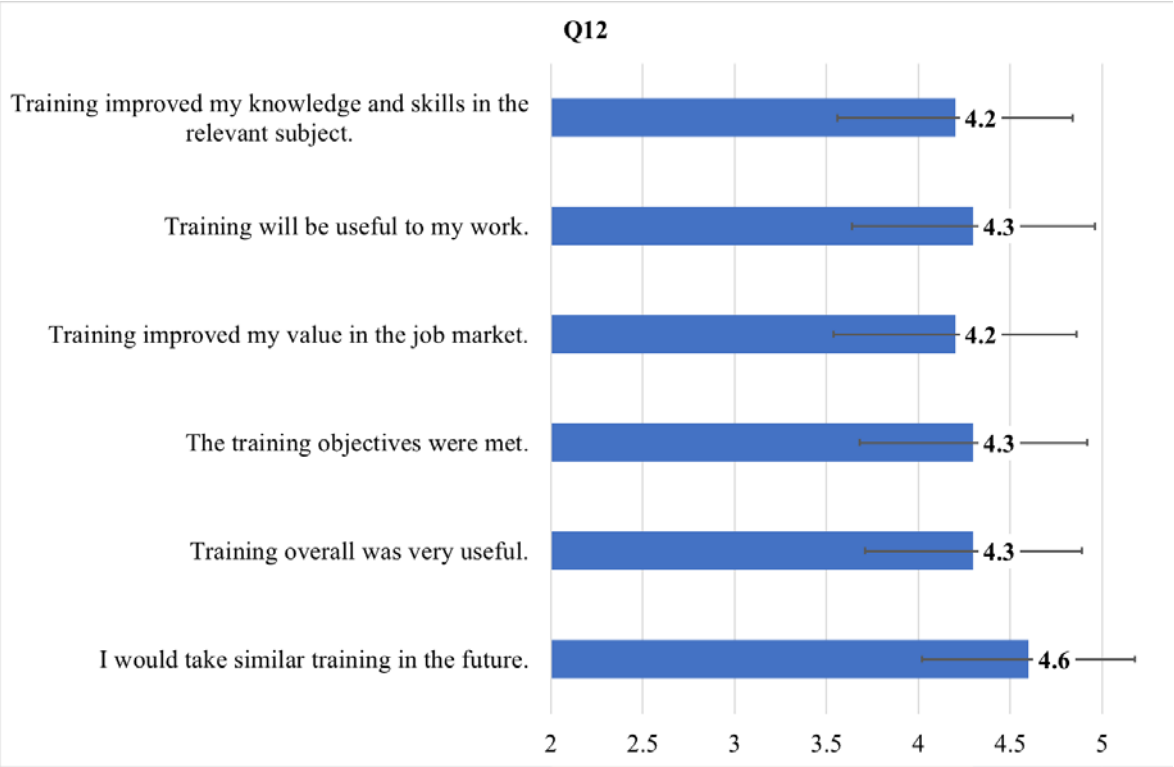

Figure 4.7.5 – The attendees' opinion of the success of the IoT Security Seminar 2021.

From the presented numerical and statistical results, the overall impression of the event is positive, especially having in mind quite a large number of attendees with different previous knowledge of the subject (small mean, large standard deviation).

4.8. Cisco Online Winter School 2021 – February 2021, Belgrade

Cisco Online Winter School 2021, organized by the Cisco Srbija and Cisco Networking Academy, School of Electrical Engineering, University of Belgrade, was held online in Belgrade during two weeks (February 3rd – February 14th, 2021). The main topic of the Summer School was "Data and Analytics" and it consisted of Cisco Networking Academy course "IoT Fundamentals: Big data and Analytics" and technical sessions on "Data processing in Webex", "Key Trends in Cybersecurity" and "Cisco DNA Center Assurance, using AI and ML for better network performance and stability". The total number of registered participants at the Cisco Online Winter School 2021 was 86 students from the six WB universities that participate in the project BENEFIT (UBL, UNTZ, UNSA, UNI, UNS, UB).

The total number of valid survey records was 53. There were 23 male and 30 female attendees who completed the survey. The age span of attendees who completed the survey was from 21 to 30, mean 23.2, standard deviation 2.0.

In Figures 4.8.1 to 4.8.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.8.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.8.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.

- In Figure 4.8.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.8.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.8.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.8.1 to 4.8.5. Those values are calculated based on the marks of all attendees who completed the survey.

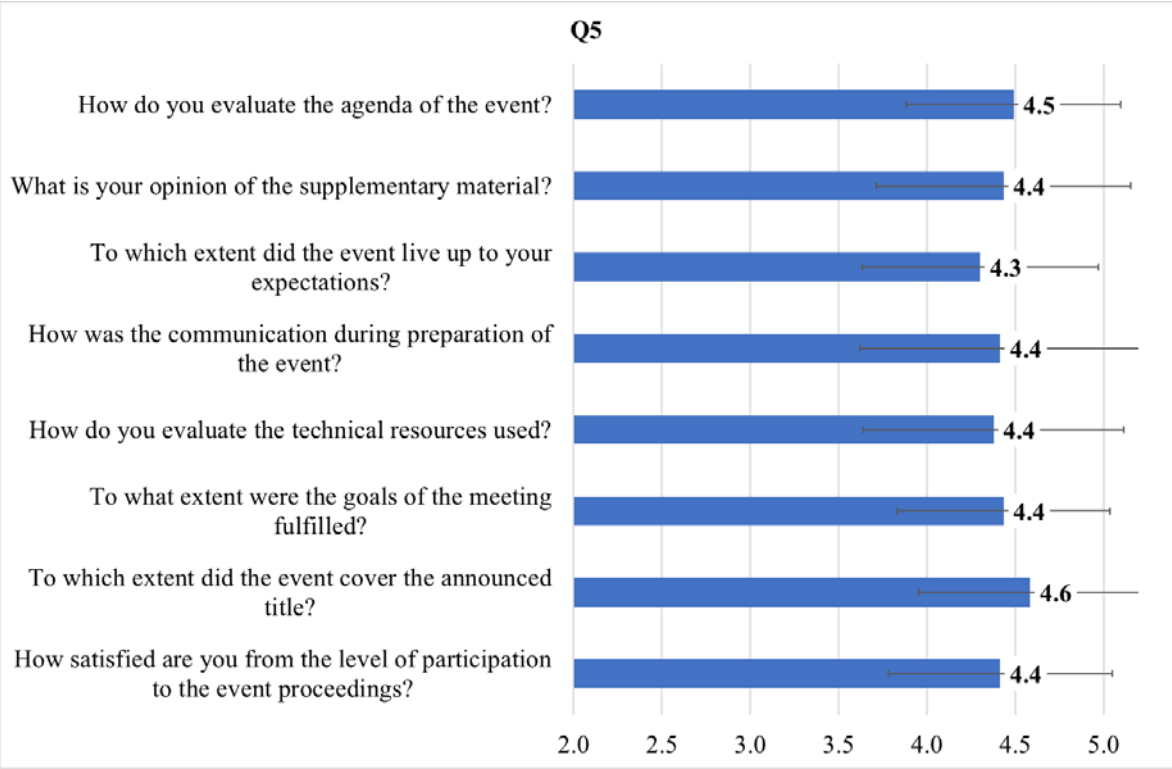

Figure 4.8.1 – General attendees' impression of the Cisco Winter School training.

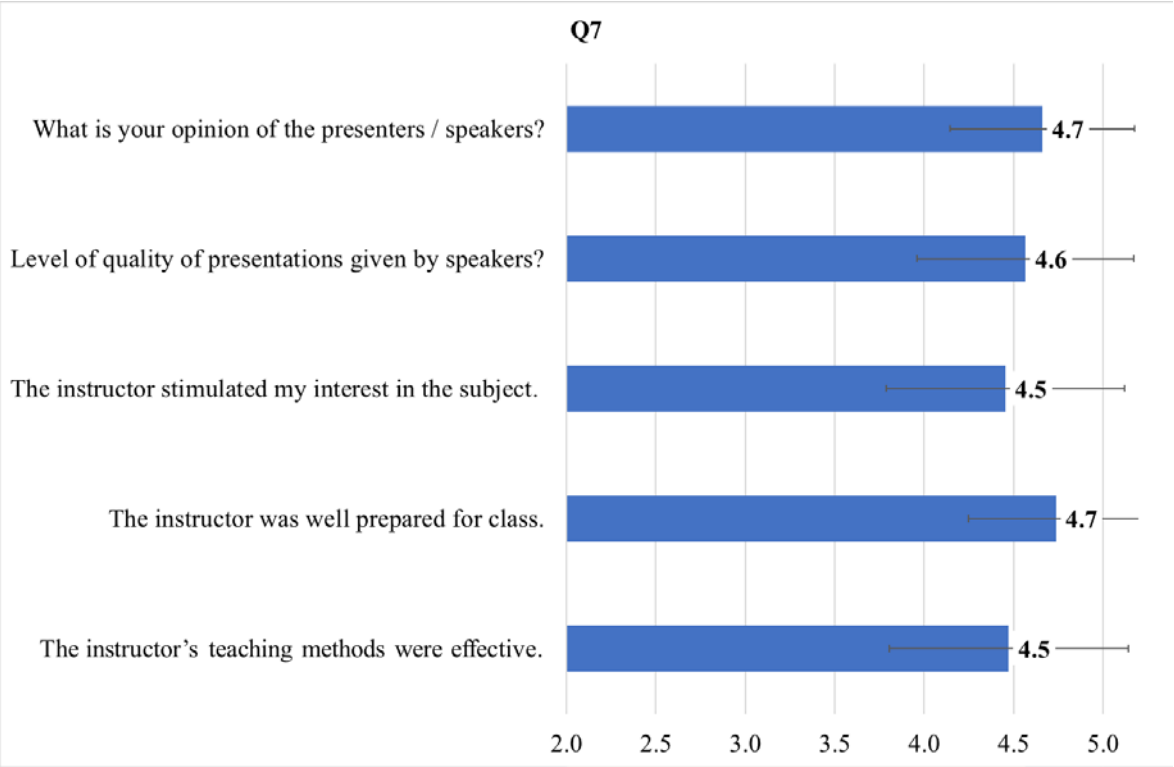

Figure 4.8.2 – Attendees' opinion of the presenters/teachers/instructors of the Cisco Winter School training.

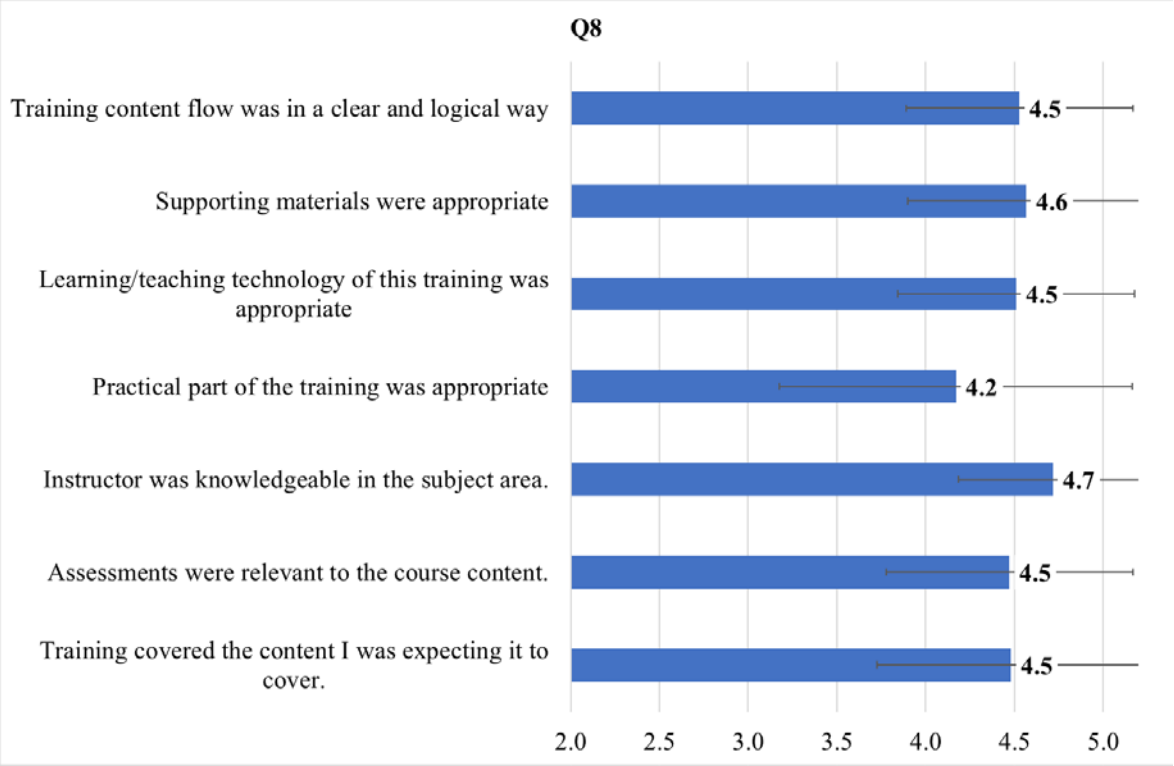

Figure 4.8.3 – Attendees' opinion of the training part of the Cisco Winter School training.

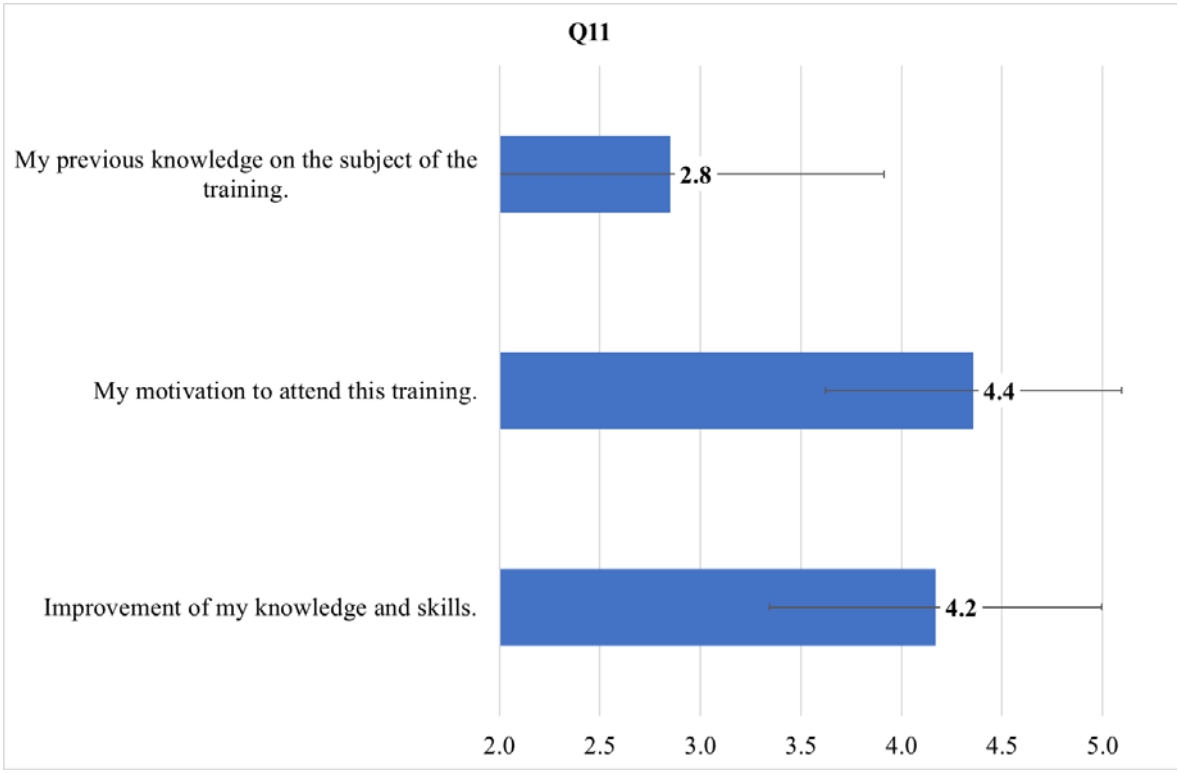

Figure 4.8.4 – The attendees' impression of the subject chosen for the Cisco Winter School training.

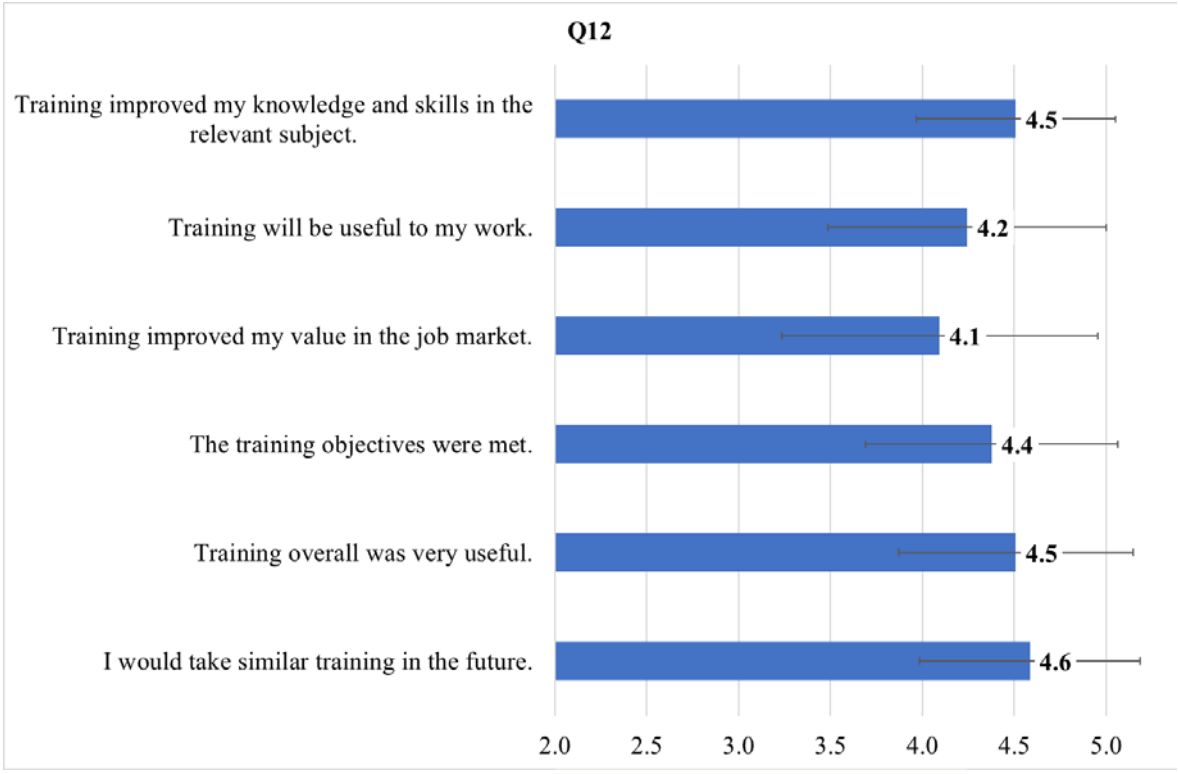

Figure 4.8.5 – The attendees' opinion of the success of the Cisco Winter School training.

From the presented numerical and statistical results, the overall impression of the event is positive, especially having in mind a large number of attendees. The previous knowledge on the subject was not large (small mean, large standard deviation). It can be further concluded from the number and content of free-form comments, that the topic of the training was appropriately selected.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answer:

- "*I am very satisfied with the event, both training from university professors and Cisco workers were great. It would be even better if we had live sessions and practices.*"

Question: Suggest new technical topics that training should cover.

Selected answer:

- "*Maybe some course about programming within connecting things.*"

4.9. Online seminar on Entrepreneurship based on added knowledge – February 2021, Novi Sad

Online seminar on Entrepreneurship based on added knowledge, organized by the Faculty of Technical Sciences, University of Novi Sad, was held online in Novi Sad on February 11th, 2021. The main topic of the Seminar was Entrepreneurship based on added knowledge. The total number of registered participants at the Entrepreneurship based on added knowledge was 45 students from the six universities that participate in the project BENEFIT (UBL, UNTZ, UNSA, UNI, UNS, UB).

The total number of valid survey records was 19. There were 13 male and 6 female attendees who completed the survey. The age span of attendees who completed the survey was from 20 to 28, mean 23.2, standard deviation 2.4.

In Figures 4.9.1 to 4.9.5 survey results relevant for the workshop evaluation are presented:

- In Figure 4.9.1 the results of the survey questions relevant to the overall impression of the event are given.
- In Figure 4.9.2 the results of the survey questions relevant to the evaluation of the presenters/speakers/teachers are provided.
- In Figure 4.9.3 the results of the survey questions relevant to the evaluation of the training part of the event are provided.
- Figure 4.9.4 provides results of the attendees' opinion of the importance of the subject that was chosen for the event.
- Figure 4.9.5 provides results of the attendees' impression of the event's success.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 4.9.1 to 4.9.5. Those values are calculated based on the marks of all attendees who completed the survey.

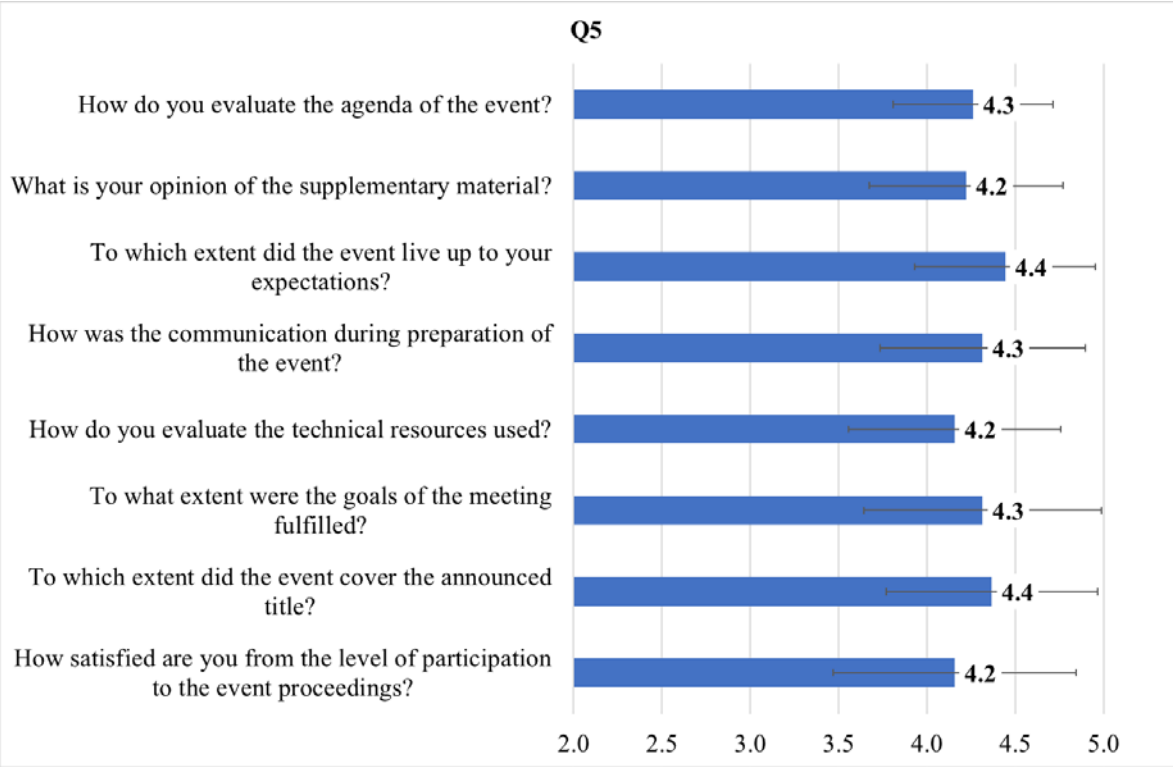

Figure 4.9.1 – General attendees' impression of the online seminar on entrepreneurship.

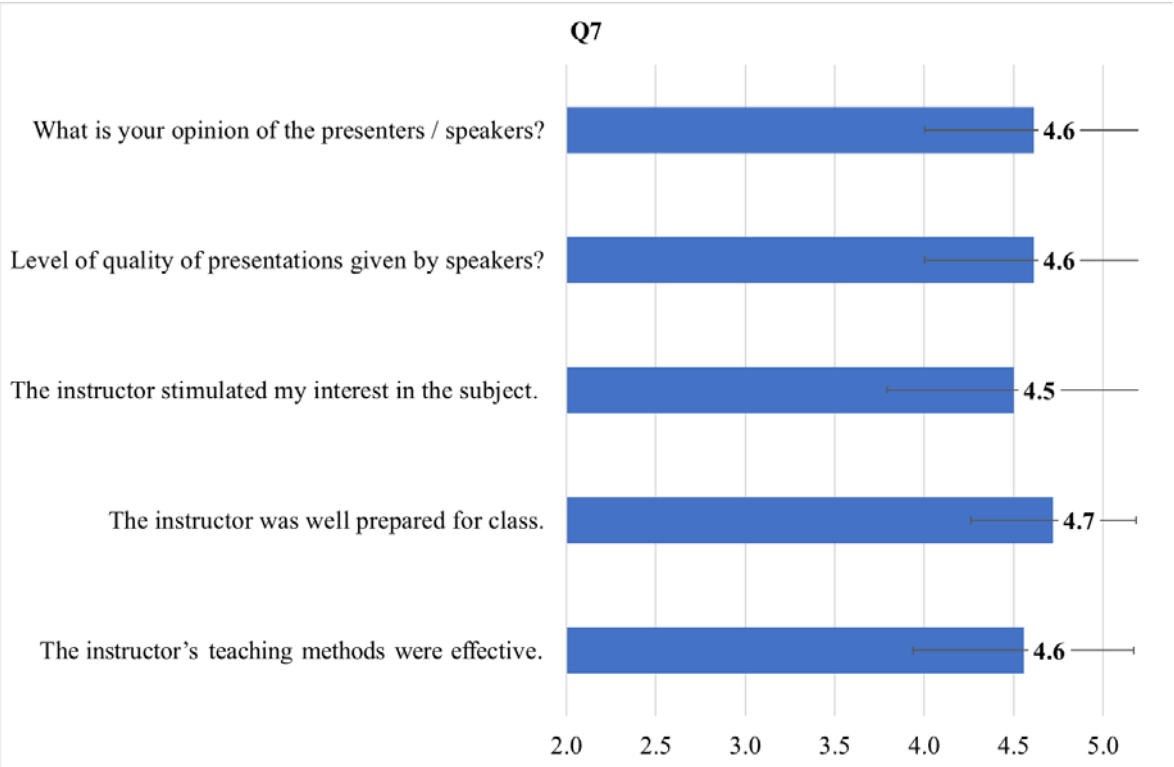

Figure 4.9.2 – Attendees' opinion of the presenters/teachers/instructors of the online seminar on entrepreneurship.

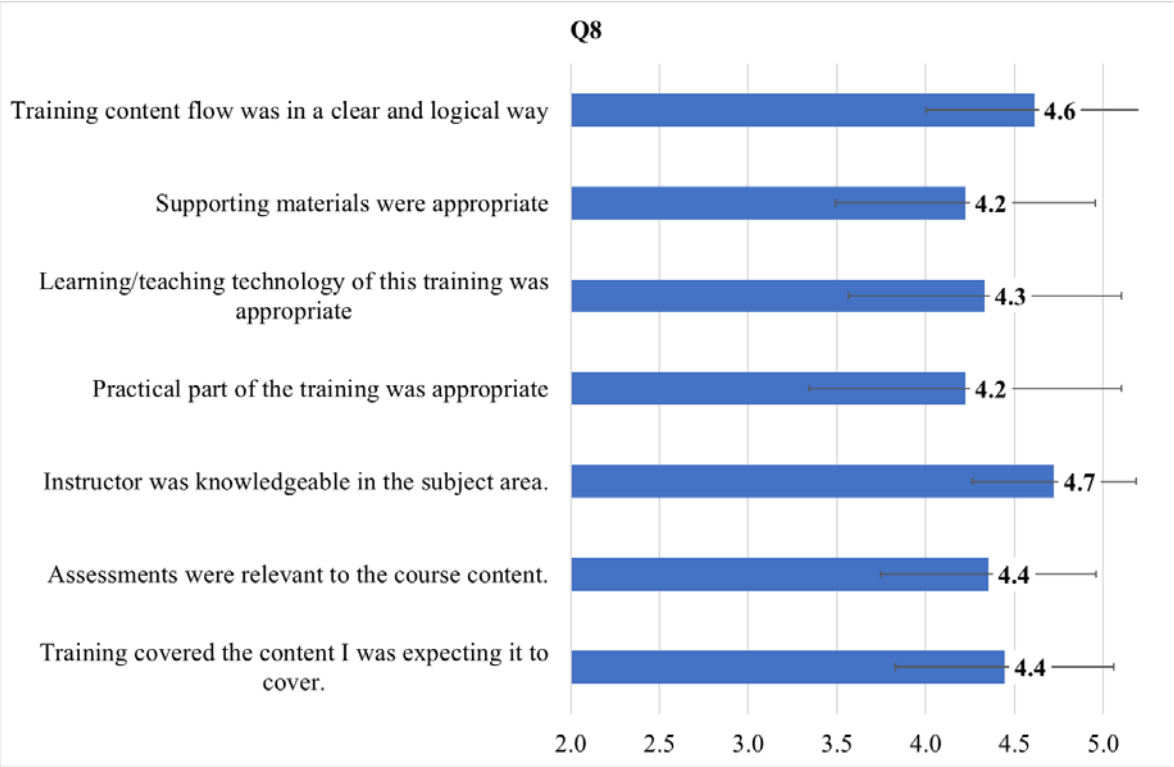

Figure 4.9.3 – Attendees' opinion of the training part of the online seminar on entrepreneurship.

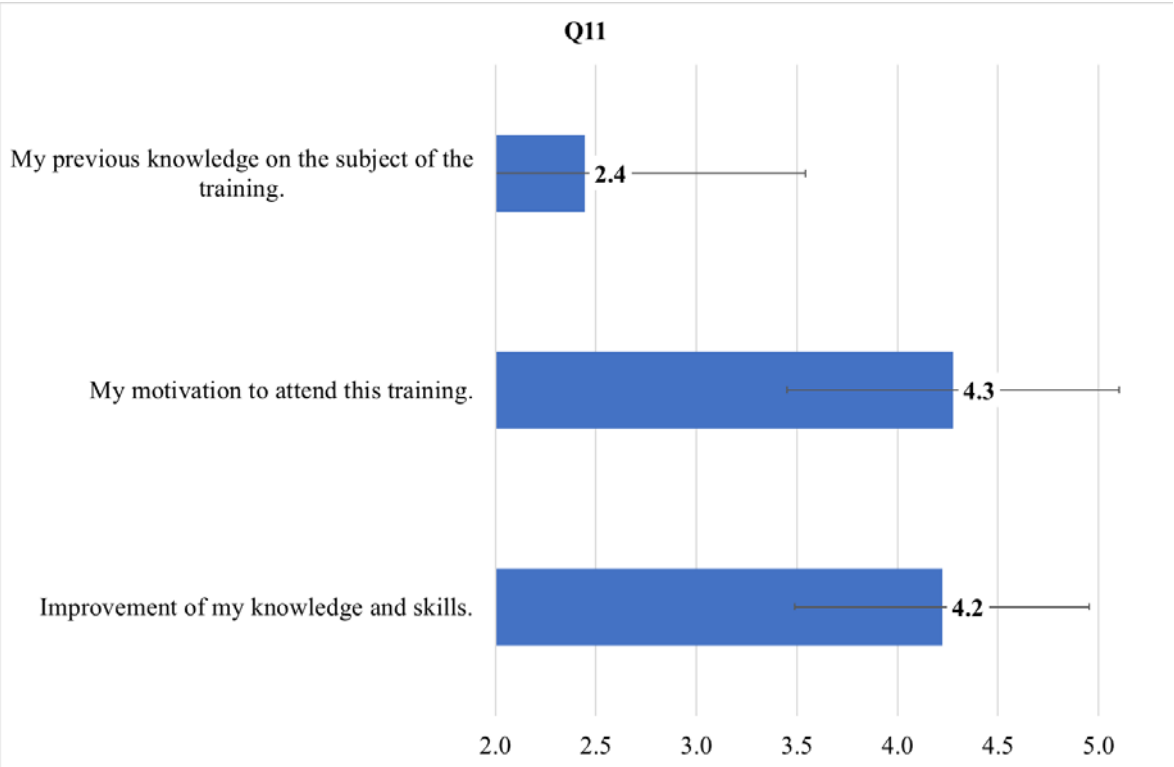

Figure 4.9.4 – The attendees' impression of the subject chosen for the online seminar on entrepreneurship.

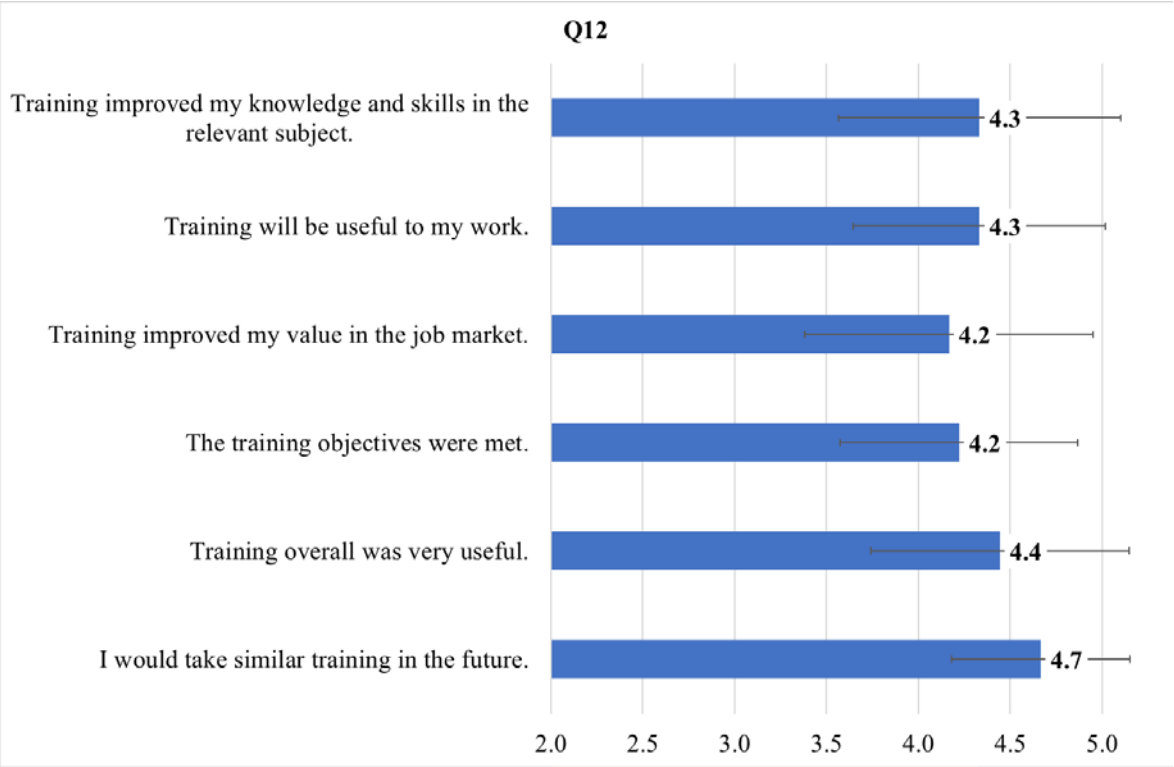

Figure 4.9.5 – The attendees' opinion of the success of the online seminar on entrepreneurship.

From the presented numerical and statistical results, the overall impression of the event is positive. The seminar raised attendees' interest in the topic, see free-form comment below.

Question: Here you can provide your general remarks or suggestions about the event. For example, which aspects of the training could be improved?

Selected answer:

- "*Everything is fine, maybe it could be more seminars*"

4.10. Joint analysis of student training events

In this section joint analysis of the nine trainings, seminars, and workshops organized for the students within the framework of the Project BENEFIT. The analysis is performed by comparing survey results of different events.

The first group of survey questions was related to the evaluation of the event. Figure 4.10.1 provides surveys' results. The graph shows the mean value of the marks for the group of questions Q5, for each event. Marks for each question of the Q5 question group are provided only graphically (values can be seen from the previous sections).

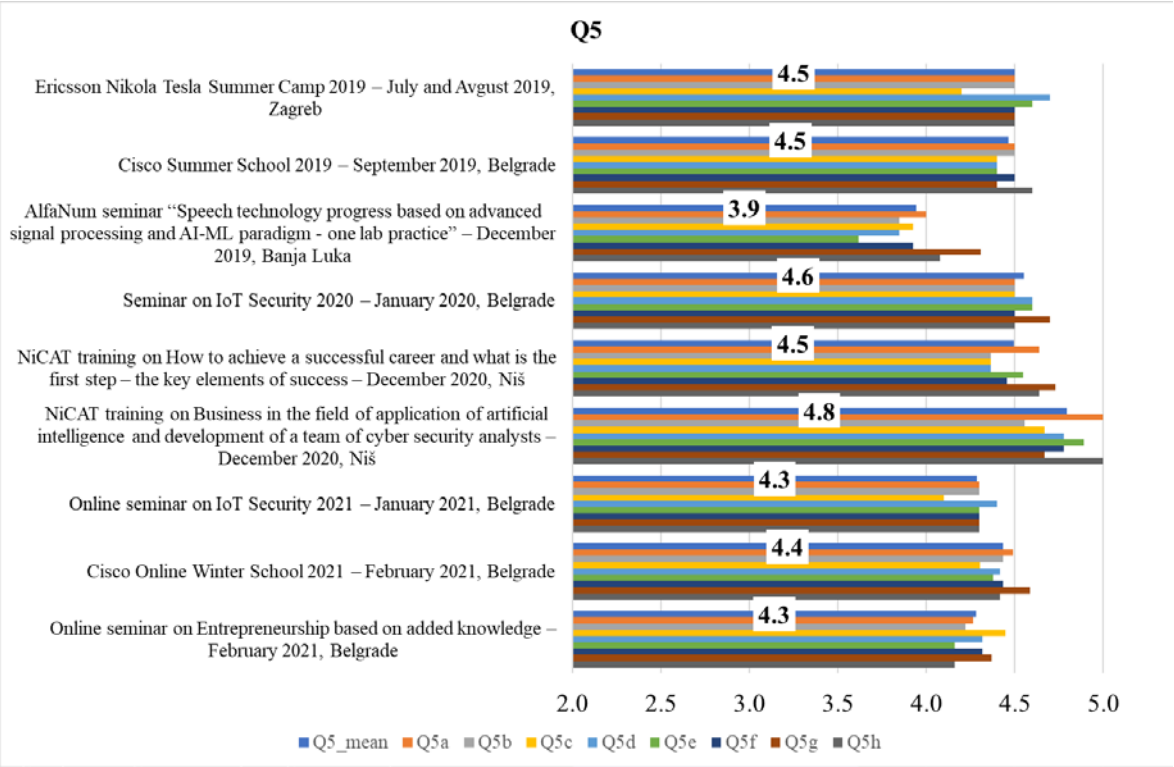

Figure 4.10.1 – The overall impression of the events.

The second group of survey questions was relevant to the evaluation of the involved presenters/speakers/teachers of the events. Figure 4.10.2 provides the surveys' results. The graph shows the mean value of the marks for the group of questions Q7, for each event. Marks for each question of the Q7 question group are provided only graphically (values can be seen from the previous sections).

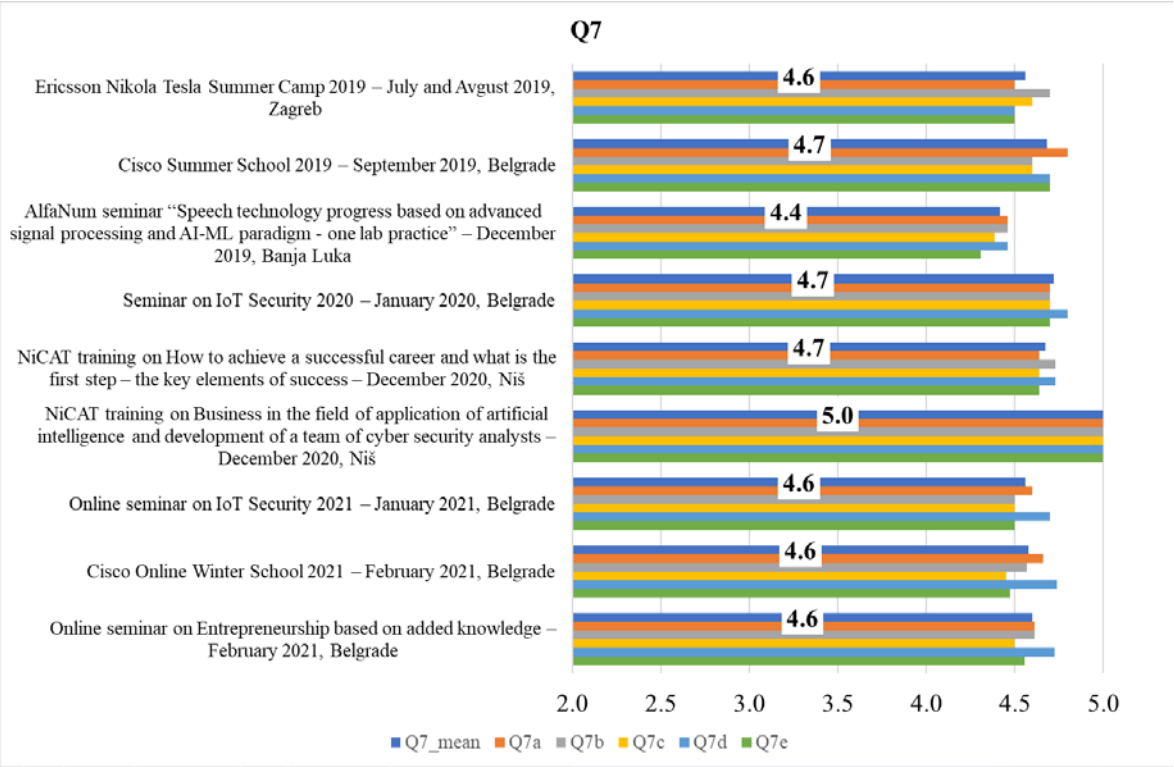

Figure 4.10.2 – The impression of events' presenters/speakers/teachers.

The third group of survey questions was relevant to the evaluation of the training part of the events. Figure 4.10.3 provides the surveys' results. The graph shows the mean value of the marks for the group of questions Q8, for each event. Marks for each question of the Q8 question group are provided only graphically (values can be seen from the previous sections).

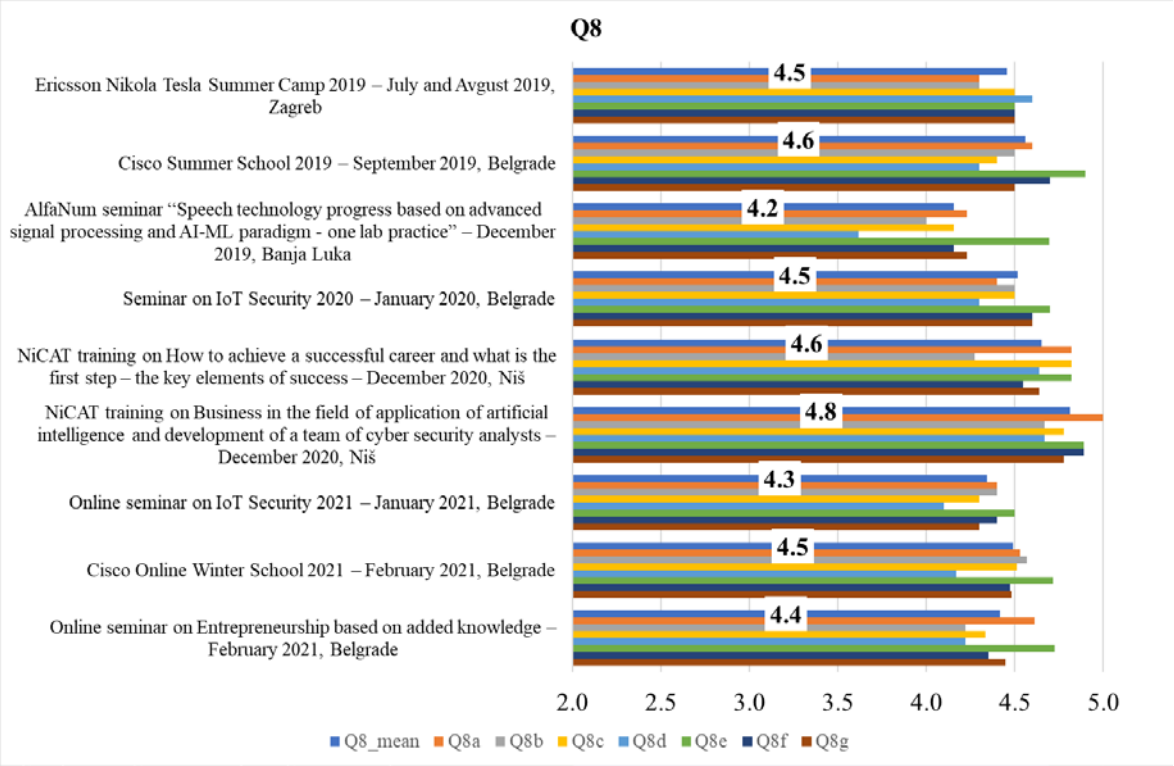

Figure 4.10.3 – The impression of the training part of each event.

In Figure 4.10.4 scores for the “My previous knowledge of the subject of the training” question for each event are given. It can be seen that the most values are below 3.5, with a large standard deviation It can be concluded that the training topics were selected appropriately i.e. in the areas that are probably not covered enough, especially in practical aspect, through a regular curriculum of the studies.

In Figure 4.10.5 scores for the “Improvement of my knowledge and skills” question for each event are given. For most events, the score is over 4.

In Figure 4.10.6 scores for the “My motivation to attend this training” question for each event are given. It can be seen that the attendees' motivation was large, most likely due to interesting topics and agendas of the events.

In Figure 4.10.7 scores for the “I would take similar training in the future” question for each event are given. It can be seen that all events raised attendees' interest in chosen topics and motivate them for forthcoming trainings.

In Figure 4.10.8 scores for the attendees’ impression of the impact of the training on their future career are given. Those scores are correlated with the overall impression of the successfulness of the training, shown in Figure 4.10.9.

From Figure 4.10.9 it can be seen that the overall impressions of all events were very good.

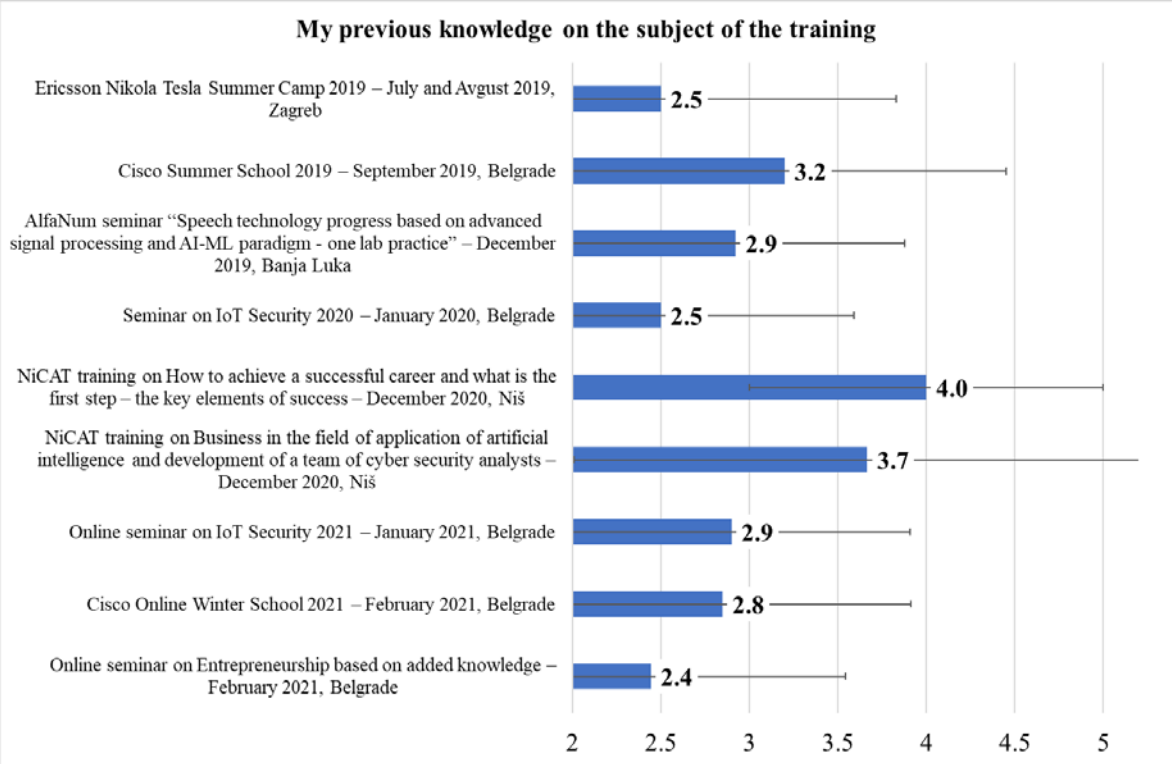

Figure 4.10.4 – The impression of the training subject.

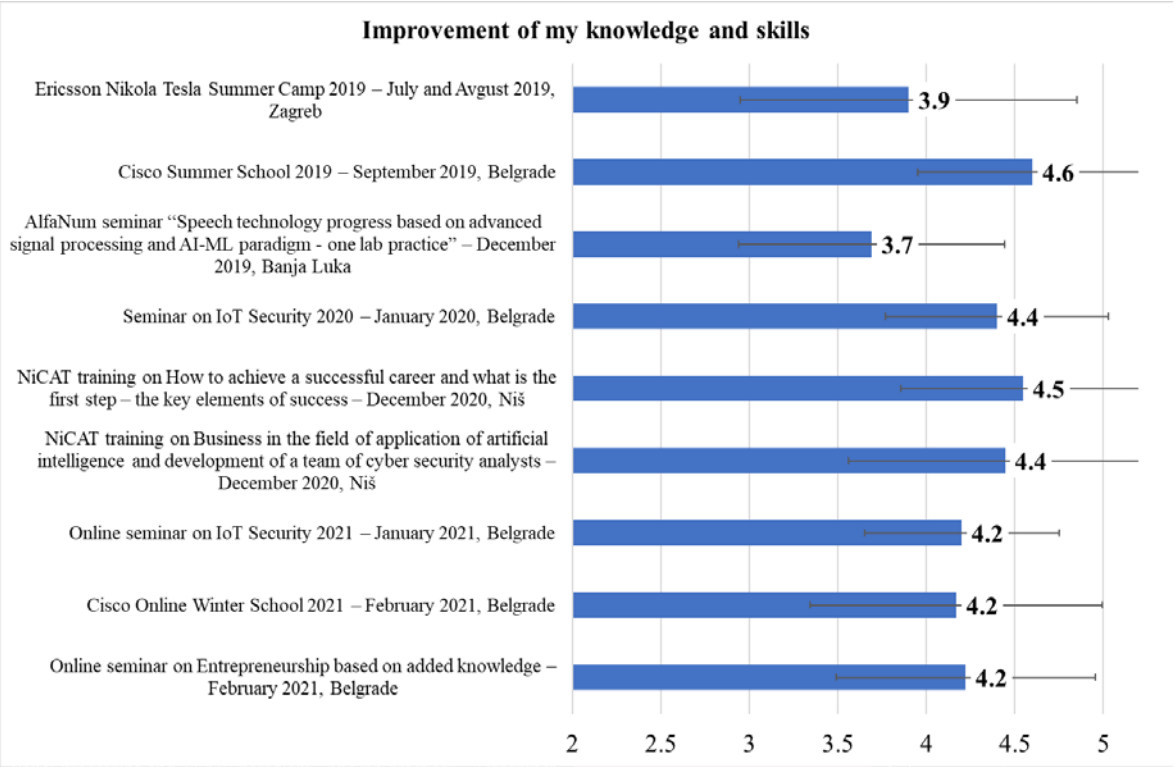

Figure 4.10.5 – The impression of the improvement of knowledge and skills.

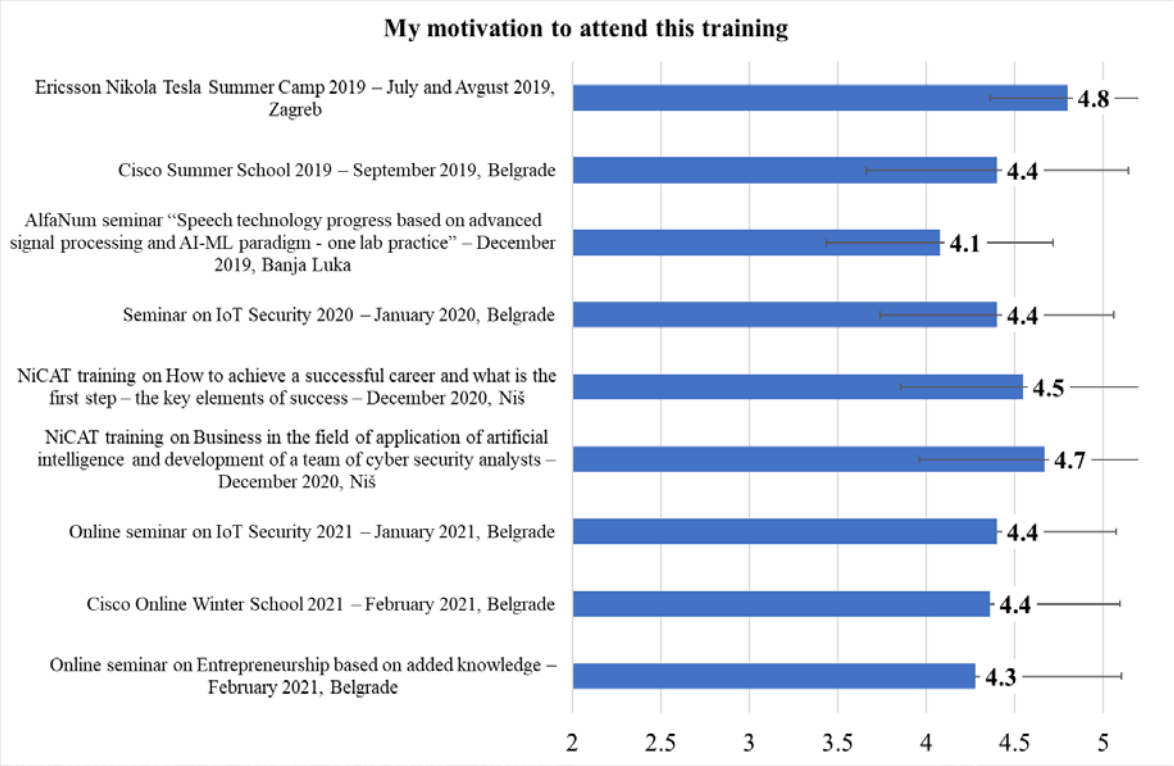

Figure 4.10.6 – The attendees' motivation for the training.

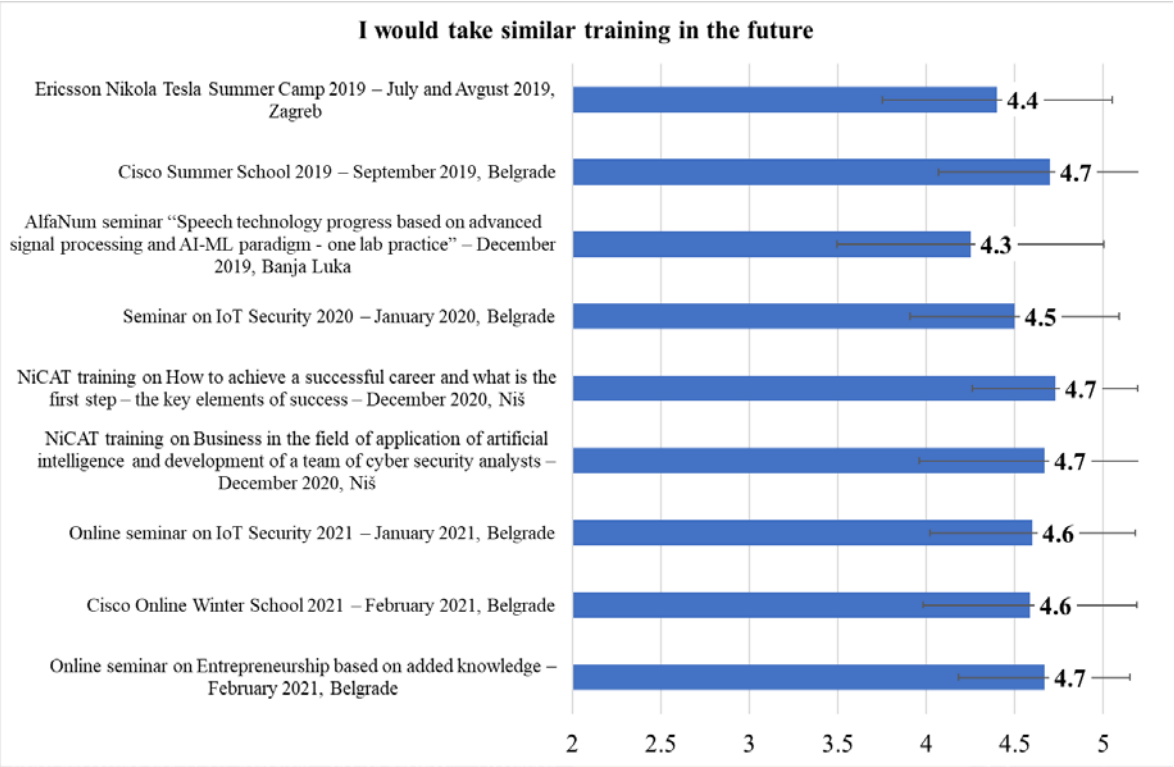

Figure 4.10.7 – The attendees' motivation for the future training.

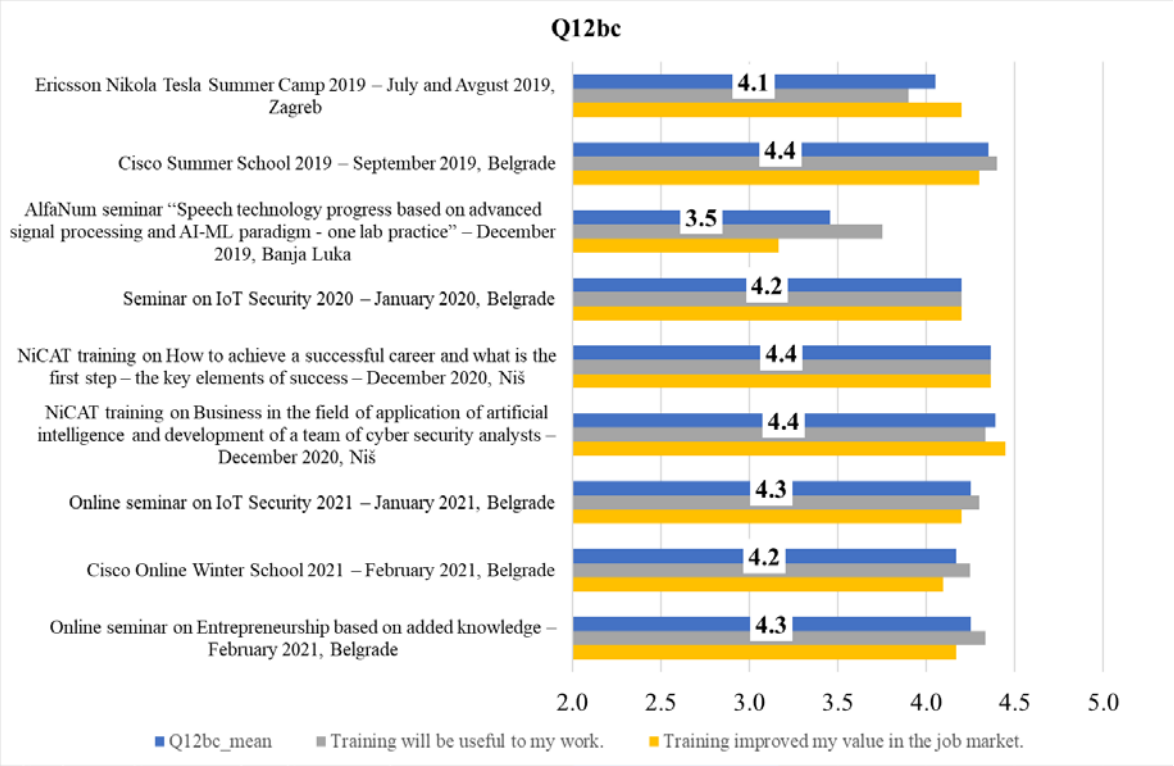

Figure 4.10.8 – The attendees' impression of the impact of the training on their future careers.

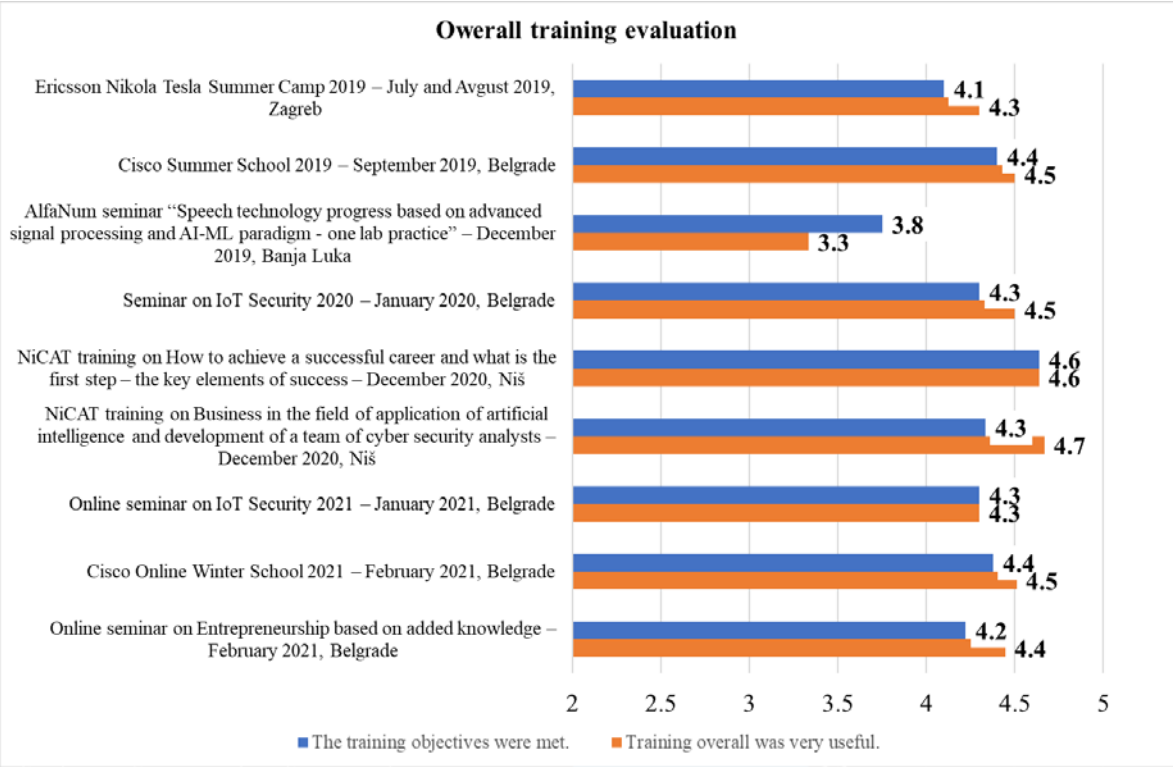

Figure 4.10.9 – The attendees' overall impression of the event.

5. Review of surveys of student internships

One of the Project objectives was to enable internships for students to experience the work in an industry environment. The framework developed for the implementation of internships and co-supervised thesis in the industry is based on the platforms providing information about open internship and co-supervised thesis that can be accessed via Industry web catalogue (https://www.project-benefit.eu/eplatform/?catalogue#4) and Industry information portal (https://www.project-benefit.eu/eplatform/?iportal).

Ericsson Nikola Tesla has used the implemented framework for attracting 13 students from BENEFIT academic partners to participate in ENT Summer Camp 2019, which provided an opportunity for students to have an internship within the Ericsson Nikola Tesla company. Additionally, in 2019, 14 students participated in Cisco Summer School 2019 held in Belgrade. The internship opportunities provided by ENT and Cisco were planned in the same scope for the year 2020, and the addition of new companies providing internship was expected. However, the Covid-19 pandemic caused the cancellation of certain activities, especially those that required traveling (such as Ericsson Summer Camp 2020 and Cisco Summer School 2020). As a consequence, Cisco Online Winter School 2021 was organized as a fully online event in February 2021. The number of registered participants at the Cisco Online Winter School 2021 was 86 students and by the time of generating these report 29 of them successfully finished all activities.

The total number of valid survey records was 73. The results are collected together for all internships realized within the framework of the Project BENEFIT. Students were asked to complete a short anonymous survey and provide their impressions of the internship. The results here reported were collected by using the online tool 1ka (https://www.1ka.si/).

The set of questions cover important topics for the evaluation of the internship:

1. Objectives of the internship were clearly defined.
2. I was motivated to take this internship.
3. Internship content was relevant to me.
4. Supporting materials/staff were appropriate.
5. Practical part of the internship was appropriate.
6. Industry mentor was knowledgeable in the subject area.
7. Internship covered the content I was expecting it to cover.
8. Internship improved my knowledge and skills in the relevant subject.
9. Internship improved my value in the job market.
10. The training objectives were met.
11. Internship overall was very useful.

In Figures 5.1 to 5.3 survey results relevant for the evaluation of provided internships are presented in a suitable form:

- In Figure 5.1 the results of the survey questions relevant to the impression of the organisation of the internships are given.
- In Figure 5.2 the results of the survey questions relevant to the evaluation of the internship realisation are provided, including quality of the supporting materials, the impression of the industry mentor, and the practical part of the internship.
- Figure 5.3 provides results of the attendees' impression of the provided internship, including impact on their future career.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 5.1 to 5.3. Those values are calculated based on the marks of all attendees who completed the survey.

Having in mind that the total number of the completed surveys is quite large, it can be concluded that the overall impression of students who were included in internships within the Project BENEFIT activities is very good. Scores are over four with a relatively small standard deviation.

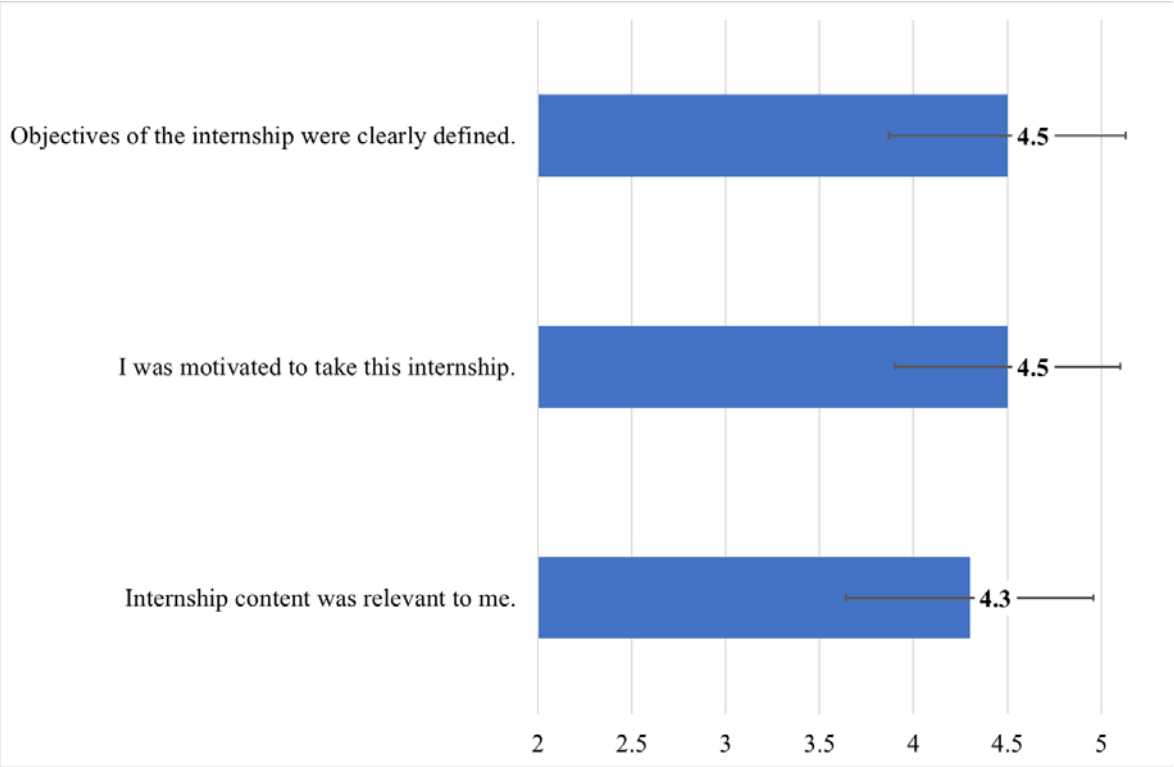

Figure 5.1 – The attendees' impression of the organisation of the internships.

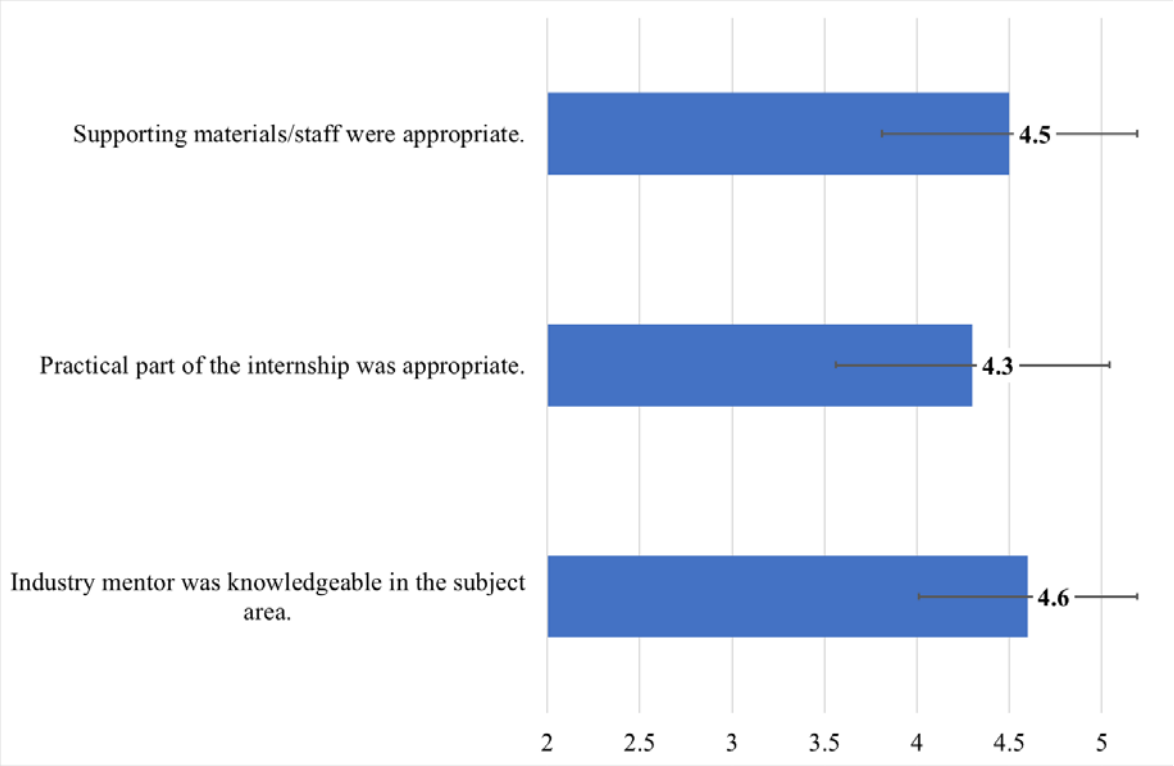

Figure 5.2 – The attendees' impression of the realisation of the internships.

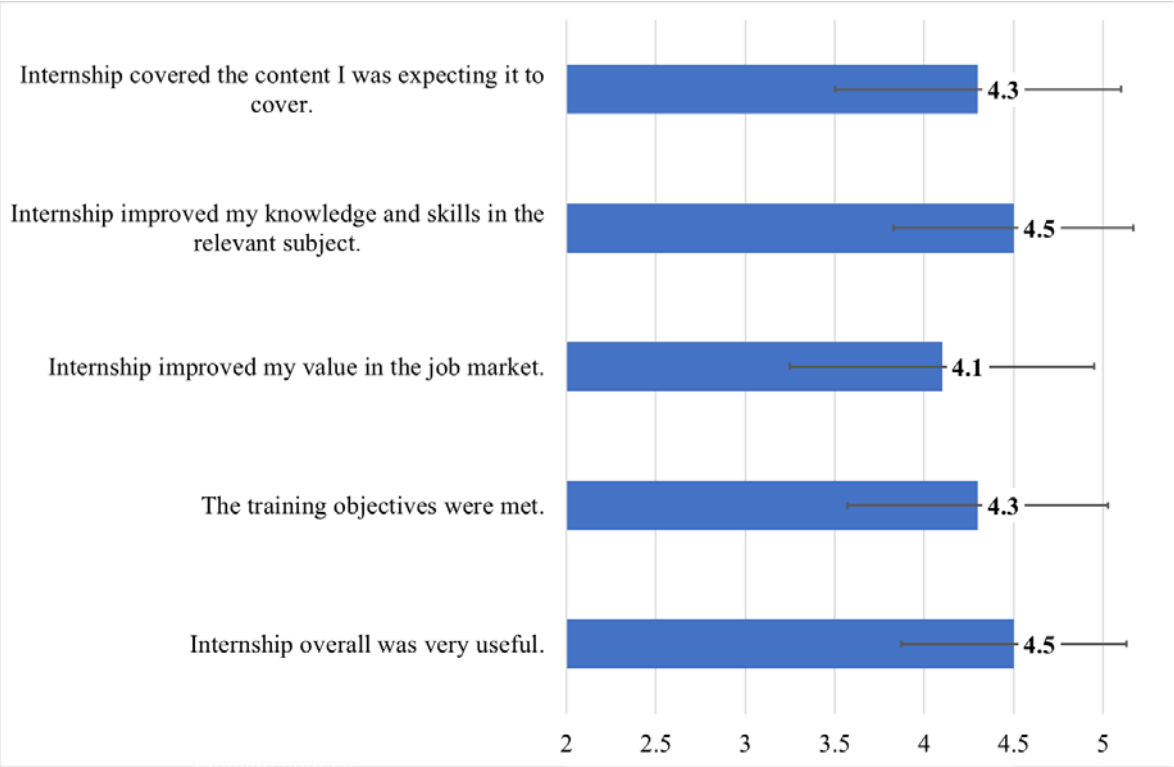

Figure 5.3 – The attendees' overall of the internships and impact on their future career.

6. Review of surveys for supervised theses

The total number of valid survey records was 13. The results are collected together for all supervised theses realized within the framework of the Project BENEFIT. Each student was asked to complete a short anonymous survey and provide the impression of her/his supervised thesis experience. The questionnaire has been provided using survey collection tool 1ka (https://www.1ka.si/).

The set of questions cover important topics for the evaluation of the supervised thesis:

1. I was motivated to take this thesis.
2. Support from the industry mentor was appropriate.
3. Practical part of the thesis was appropriate.
4. Industry mentor was knowledgeable in the subject area.
5. Thesis improved my knowledge and skills in the relevant subject.
6. Thesis improved my value in the job market.
7. Thesis overall was very useful.

In Figures 6.1 and 6.2 survey results relevant for the evaluation of provided co-supervised theses are presented in the appropriate form:

- In Figure 6.1 the results of the survey questions relevant to the evaluation of the supervised thesis realisation are provided, including the impression of the industry mentor, and the practical part of the thesis.
- Figure 6.2 provides results of the attendees' impression of the provided supervised thesis, including impact on their future career.

Notice: For each survey question, the mean value and standard deviation are presented in Figures 6.1 and 6.2. Those values are calculated based on the marks of all attendees who completed the survey.

Based on the provided results, it can be concluded that the overall impression of students who had the opportunity to finish their theses within the Project BENEFIT activities is very good. Scores are over 4.3 with a relatively small standard deviation.

The opinions of the industry mentors are excellent. It can be concluded that industry experts involved in this part of the BENEFIT project found the appropriate way to communicate with students and define tasks relevant for the completion of the thesis.

From the results shown in Figure 6.2. it can be concluded that the co-supervised thesis raised the students' self-confidence, which is a valuable result for the beginning of an engineering career.

Unfortunately, starting from March 2020, most companies in the Western Balkans countries have switched to some kind of online work due to the COVID-19 pandemic. This had a strong impact on this part of the project.

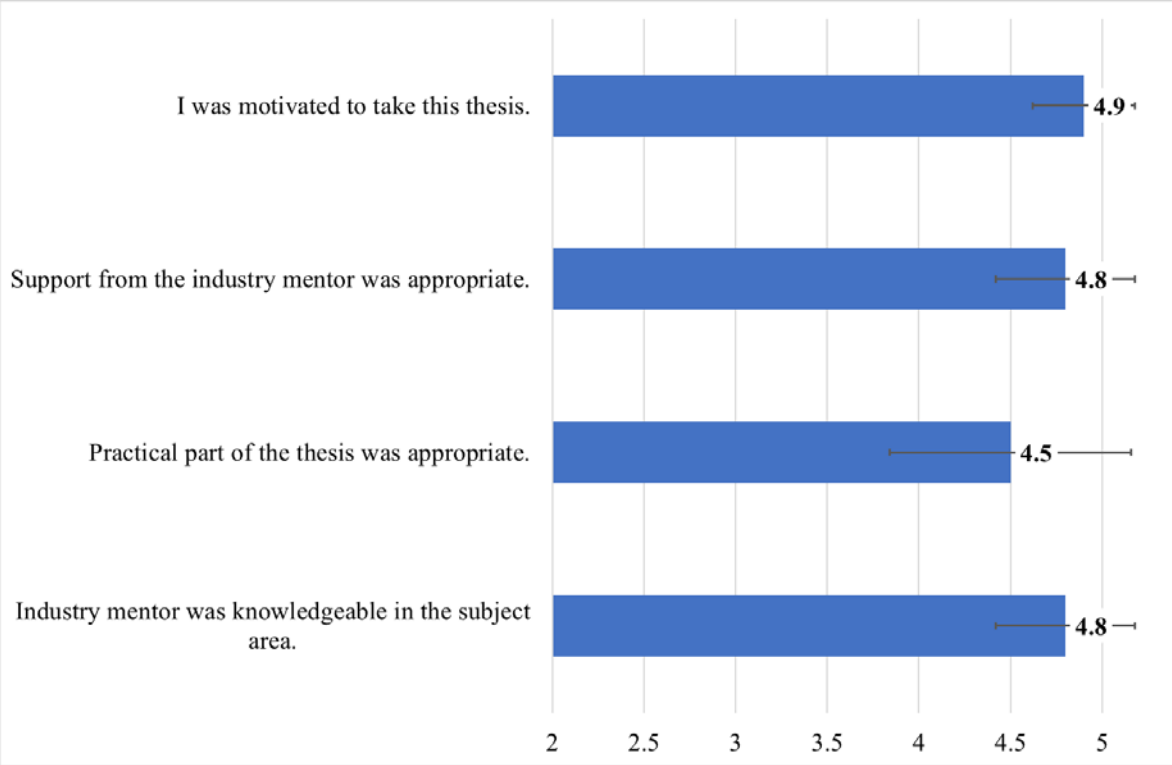

Figure 6.1 – The attendees' impression of the realisation of the supervised thesis.

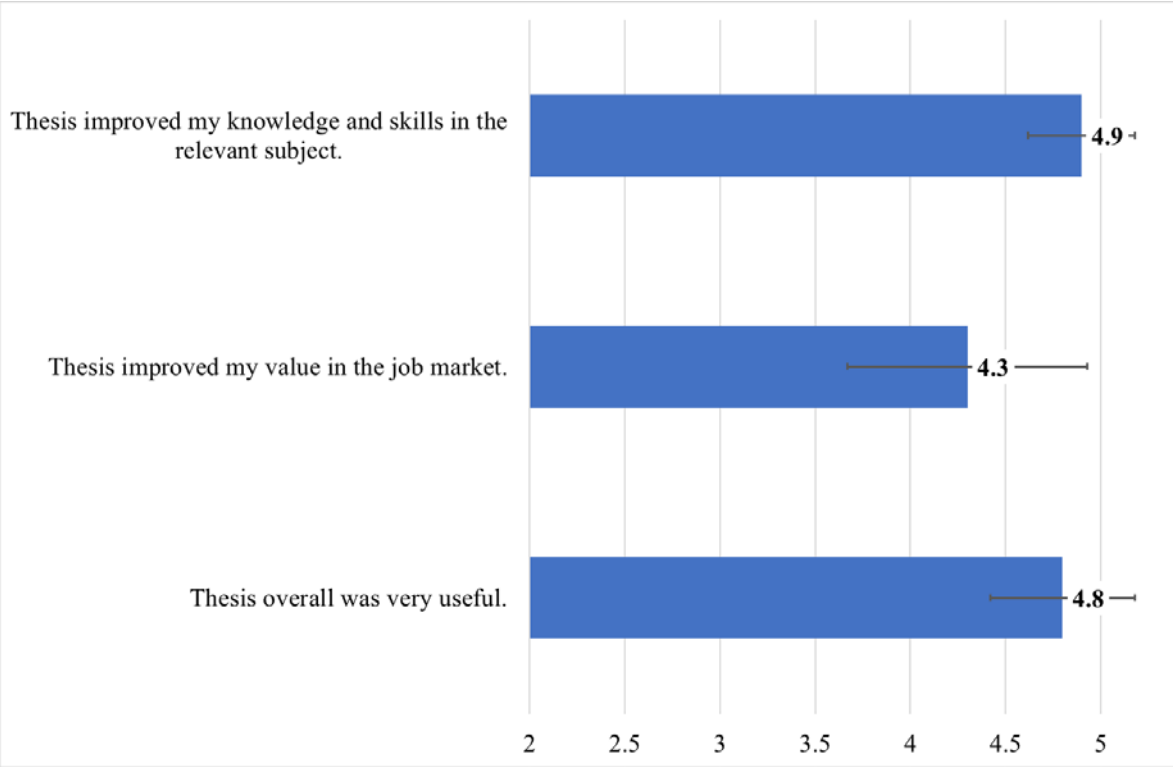

Figure 6.2 – The attendees' overall impression of the supervised thesis and impact on their future career.

7. Conclusions

The deliverable **D4.5 Surveys and reports on training/internship** reports the results of the surveys and questionnaires defined to collect feedback from all participants attending training events, student internships and co-supervised theses in industry.

The project BENEFIT recognized continuous training of teaching staff as an important prerequisite for the successful implementation of modernized study programs in telecommunication engineering by the involved Western Balkans higher education institutions (WB HEI). In the scope of the project BENEFIT the training on ICT (Information-Communications Technologies) teaching tools and lab operations and modern prototyping tools were planned and offered to teacher staff of six WB HEI and other participating universities. In total, six teaching staff training workshops and seminars have been prepared and delivered. Results of the surveys show that the overall impressions of all events were very good, even for two events that were organised in a non-traditional manner due to the COVID-19 pandemic. It can be concluded that the training topics were selected appropriately with the main idea to improve the attendees' knowledge on the selected topics and that the attendees' motivation was high. It can be seen that most events raised attendees' interest in chosen topics and motivate them for forthcoming trainings.

Training for students in the project BENEFIT assumed training modules on technical and entrepreneurial subjects. Training topics were devoted to different fields that are important for future ICT engineering development. Collection of surveys was conducted for nine organized events that included student trainings and it can be seen that the overall impressions of all events were very good. It can be concluded that the training topics were selected appropriately i.e. in the areas that are probably not enough covered, especially in practical aspect, through a regular curriculum of the studies and that the attendees' motivation was large, most likely due to interesting topics and agendas of the events. All events raised attendees' interest in chosen topics and motivate them for forthcoming trainings.

One of the BENEFIT project goals was to enable internship for many students who want to experience work in an industry environment but are currently not provided with many opportunities to do so. Another option for students in the scope of the BENEFIT project was co-supervised theses in the industry. Two questionnaires for these activities were defined, one for students who participated in the internships and another one for students who worked on co-supervised theses in industry. Having in mind that the total number of the completed surveys for internships is quite large, it can be concluded that the overall impression of students who were included in internships within the Project BENEFIT activities is very good. Scores are over four (in a scale from 1 to 5, where the latter is the best score) with a relatively small standard deviation. Based on the provided results for co-supervised thesis, it can be concluded that the overall impression of students who had the opportunity to finish their thesis within the Project BENEFIT activities is very good. Scores are over 4.3 with a relatively small standard deviation.

8. References

[1] BENEFIT project proposal, 2017.

Appendix 1 - Teacher training survey

Dear Participant: We are asking for your perceptions about specific aspects of training on Smart Grid Workshop in Klagenfurt, 8-12 July 2019 via an online survey. All survey responses will be aggregated and used to enhance effective teaching and student learning; therefore your input is crucial in helping us assess the course. This survey is completely anonymous, so please be as honest as you can with your responses. The survey will only take a few minutes, we appreciate your feedback.

XSPOL - Please indicate your gender:

◯ Male
◯ Female

Q1 - What is your age:

Q2 - Please select your status:

◯ Bachelor Student
◯ Master Student
◯ PhD Student
◯ Teacher
◯ Professional / Employed
◯ Other:

Q3 - Please select your country:

◯ Serbia
◯ BiH
◯ Slovenia
◯ Croatia
◯ Austria
◯ Other:

Q4 - What is your opinion of the general organizationand facilities available during the event?

◯ Very disappointed
◯ Disappointed
◯ Not disappointed, not satisfied
◯ Satisfied
◯ Very satisfied

Q5 - Please provide your opinion:

	Very disappointed	Disappointed	Not disappointed, not satisfied	Satisfied	Very satisfied
How doyou evaluate the agenda of the event?	◯	◯	◯	◯	◯
Whatis your opinion of the supplementary material?	◯	◯	◯	◯	◯
Towhich extent did the event live up to your expectations?	◯	◯	◯	◯	◯
How was the communication during preparation of the event?	◯	◯	◯	◯	◯
How do you evaluate the technical resources used?	◯	◯	◯	◯	◯
To what extent were the goals of the meeting fulfilled?	◯	◯	◯	◯	◯
To which extent did the event cover the announced title?	◯	◯	◯	◯	◯
How satisfied are you from the level of participation to the eventproceedings?	◯	◯	◯	◯	◯

Q6 - Here you can provide your general remarks or suggestions about the event. For example, whichaspects of the training could be improved?

Q7 - Please provide your opinion:

	Very disappointed	Disappointed	Not disappointed, not satisfied	Satisfied	Very satisfied
What is your opinion of the presenters / speakers?	◯	◯	◯	◯	◯
Levelof quality of presentations given by speakers?	◯	◯	◯	◯	◯
The instructorstimulated my interest in the subject.	◯	◯	◯	◯	◯
Theinstructor was well prepared for class.	◯	◯	◯	◯	◯
Theinstructor’s teaching methods were effective.	◯	◯	◯	◯	◯

Q8 - Indicate your agreement with the proposed statements:

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Trainingcontent flow was in a clear and logical way	◯	◯	◯	◯	◯
Supportingmaterials were appropriate	◯	◯	◯	◯	◯
Learning/teachingtechnology of this training was appropriate	◯	◯	◯	◯	◯
Practicalpart of the training was appropriate	◯	◯	◯	◯	◯
Instructor was knowledgeable in the subject area.	◯	◯	◯	◯	◯
Assessments were relevant to the course content.	◯	◯	◯	◯	◯

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Training covered the content I was expecting it to cover.	◯	◯	◯	◯	◯

Q9 - Suggestnew technical topics that training should cover.

Q10 - Suggest new learning/teaching technology thatcan improve courses like this.

Q11 - Indicate your opinion on the 1 (low) - 5 (high) scale.

	1	2	3	4	5
My previous knowledge on the subject of the training.	◯	◯	◯	◯	◯
My motivation to attend this training.	◯	◯	◯	◯	◯
Improvement of my knowledge and skills.	◯	◯	◯	◯	◯

Q12 - Indicate your agreement with the proposed statements about the training / course:

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Training improved my knowledge and skills in the relevant subject.	◯	◯	◯	◯	◯
Training will be useful to my work.	◯	◯	◯	◯	◯
Training improved my value in the job market.	◯	◯	◯	◯	◯
The training objectives were met.	◯	◯	◯	◯	◯
Training overall was very useful.	◯	◯	◯	◯	◯
I would take similar training in the future.	◯	◯	◯	◯	◯

Q13 - Pleaseshare any other comments :

Appendix 2 - Student training survey

Dear Participant: We are asking for your perceptions about specific aspects of this training via an online survey. All survey responses will be aggregated and used to enhance effective teaching and student learning; therefore your input is crucial in helping us assess the course. This survey is completely anonymous, so please be as honest as you can with your responses. The survey will only take a few minutes, we appreciate your feedback.

XSPOL - Please indicate your gender:

◯ Male
◯ Female

Q1 - What is your age:

[ ]

Q2 - Please select your status:

◯ Bachelor Student
◯ Master Student
◯ PhD Student
◯ Teacher
◯ Professional / Employed
◯ Other:

Q3 - Please select your country:

◯ Serbia
◯ BiH
◯ Croatia
◯ Slovenia
◯ Austria
◯ Other:

Q4 - What is your opinion of the general organizationand facilities available during the event?

◯ Very disappointed
◯ Disappointed
◯ Not disappointed, not satisfied
◯ Satisfied
◯ Very satisfied

Q5 - Please provide your opinion:

	Very disappointed	Disappointed	Not disappointed, not satisfied	Satisfied	Very satisfied
How doyou evaluate the agenda of the event?	◯	◯	◯	◯	◯
Whatis your opinion of the supplementary material?	◯	◯	◯	◯	◯
Towhich extent did the event live up to your expectations?	◯	◯	◯	◯	◯
How was the communication during preparation of the event?	◯	◯	◯	◯	◯
How do you evaluate the technical resources used?	◯	◯	◯	◯	◯
To what extent were the goals of the meeting fulfilled?	◯	◯	◯	◯	◯
To which extent did the event cover the announced title?	◯	◯	◯	◯	◯
How satisfied are you from the level of participation to the eventproceedings?	◯	◯	◯	◯	◯

Q6 - Here you can provide your general remarks or suggestions about the event. For example, whichaspects of the training could be improved?

Q7 - Please provide your opinion:

	Very disappointed	Disappointed	Not disappointed, not satisfied	Satisfied	Very satisfied
What is your opinion of the presenters / speakers?	◯	◯	◯	◯	◯
Levelof quality of presentations given by speakers?	◯	◯	◯	◯	◯
The instructorstimulated my interest in the subject.	◯	◯	◯	◯	◯
Theinstructor was well prepared for class.	◯	◯	◯	◯	◯
Theinstructor’s teaching methods were effective.	◯	◯	◯	◯	◯

Q8 - Indicate your agreement with the proposed statements:

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Trainingcontent flow was in a clear and logical way	◯	◯	◯	◯	◯
Supportingmaterials were appropriate	◯	◯	◯	◯	◯
Learning/teachingtechnology of this training was appropriate	◯	◯	◯	◯	◯
Practicalpart of the training was appropriate	◯	◯	◯	◯	◯
Instructor was knowledgeable in the subject area.	◯	◯	◯	◯	◯

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Assessments were relevant to the course content.	◯	◯	◯	◯	◯
Training covered the content I was expecting it to cover.	◯	◯	◯	◯	◯

Q9 - Suggestnew technical topics that training should cover.

Q10 - Suggest new learning/teaching technology thatcan improve courses like this.

Q11 - Indicate your opinion on the 1 (low) - 5 (high) scale.

	1	2	3	4	5
My previous knowledge on the subject of the training.	◯	◯	◯	◯	◯
My motivation to attend this training.	◯	◯	◯	◯	◯
Improvement of my knowledge and skills.	◯	◯	◯	◯	◯

Q12 - Indicate your agreement with the proposed statements about the training / course:

	1 – Strongly Disagree	2 – Disagree	3 – Neutral	4 – Agree	5 – Strongly Agree
Training improved my knowledge and skills in the relevant subject.	◯	◯	◯	◯	◯
Training will be useful to my work.	◯	◯	◯	◯	◯
Training improved my value in the job market.	◯	◯	◯	◯	◯
The training objectives were met.	◯	◯	◯	◯	◯
Training overall was very useful.	◯	◯	◯	◯	◯
I would take similar training in the future.	◯	◯	◯	◯	◯

Q13 - Pleaseshare any other comments :
