



# CDWaste-ManageVET

Developing VET for addressing Construction and Demolition Waste Management skills needs

**IO4:** CD Waste-Manage VET Programme Delivery and Assessment

**T.4.4.:** Final training programme monitoring and recommendations

## Post Course Evaluation REPORT



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## *Executive Summary*

This report represents Task 4.4 “Final training programme monitoring and recommendations’ of the CD Waste project, a European training programme for construction workers interested to improve their knowledge and upgrade their skills in the Construction and Demolition Management area. It evaluates and analyzes the whole set of training activities in the six project countries and summarizes the experiences and lessons learnt in the implementation of the CD-waste on-line course. All materials related to the trainings (programs, training materials, results of group work, literature for further reference, etc.) are made publicly available in the website for further dissemination and to foster replication.

The methodology for this evaluation included quantitative and qualitative evaluation methods to provide conclusions and recommendations from the findings, substantiated with statistical data. For this scope a post-course evaluation questionnaire – Learners Satisfaction Survey- was developed to gauge’s participants’ reactions to the CDWaste-ManageVET e-learning course they took and facilitate Consortium Partners improve the course and future training materials (see Annex A). The Learners Satisfaction Survey comprised of five sections that allowed Partners to get feedback from all components of the course.

**The sections of the Learners Satisfaction survey used for evaluating and measuring the effectiveness of the training are mentioned below:**

1. CD Waste-Manage VET Online Course Expectations
2. Course Structure and Content
3. Student Course learning outcomes
4. E-Learning Navigation
5. Open ended questions

**The Scale used to measure the effectiveness of the pilot training is mentioned below:**

- 1 = Not at all /not at all satisfactory
- 2 = A little /a little satisfactory
- 3 = Somewhat it covered/somewhat satisfactory
- 4 = Covered quite a bit / quite satisfactory
- 5 = Greatly covered/ excellent

Observations from the project managers, trainers and facilitators of the pilot trainings conducted in all Partner countries were also taken into consideration to verify the positive results of the CD Waste on line course.

In total 102 trainees enrolled and took part in the pilot testing of the CD Waste course and 80 responses were collected from the learner's satisfaction survey.

The report is structured in four main sections and covers the various organizational stages including the difficulties encountered and the strengths that have emerged.

**The first section** provides an overall description of the on-line course, its aims and objectives; its structure; summary of the Modules and distribution of hours; the steps followed for the implementation of the pilot training and an introduction to the work-based learning component.

**The second section concerns** the characteristics of the trainings in each partner country, the time and strategy of the pilots followed by each participating country and the feedback received. It also provides an overall evaluation of all six pilot trainings and analysis of the level of effectiveness and satisfaction received from all trainees that took part in the course.

**The third section** presents the results from the Work based learning followed by the trainees in all participating countries. It is important to say that it has represented a real challenge for the CD Waste project, especially because of the Covid19 pandemic constraints

**The fourth section** presents a compilation of recommendations made by learners who have attended the course including the strengths, challenges and constraints as well as a general overview from the suggestions made by project partners who facilitated and contributed to the development and delivery of the course.

## 1. Final Conclusions ( EN)

Based on the respondent's feedback, the results of the pilot evaluation showed that the six pilots were all viewed very positively by the majority of learners and proved to be an effective solution to increase learner's engagement, motivation, and empowerment throughout the learning and WBL process. Especially regarding the overall impression about the course, the quality of the content, the capability of improving and deepen the knowledge, skills and competences, the relevance of the quizzes and evaluation tests and the ease of navigation the results showed that learners were very satisfied by the overall process. The Work Based learning component had also proved to be successful as in all participating countries the skills and knowledge acquired, the information provided by the hosting company and the overall experience was very positively rated (excellent for most countries)

Improvements that had been requested by trainees were minor, mainly related to the addition of more interactive elements, less specific regulatory information and some translation issues. Most of them also requested the increase of the practical part and the increase of the Work based learning component.

Based on the Partners feedback, the training course was also evaluated as very comprehensive and complete mainly due to the learning material shared on the platform which is well structured and provides an excellent basis for learning. Further, the course proved also really effective as it contributed to the knowledge and skills development of a growing number of learners in all six (6) participating countries. In addition, the e-course is believed that will continue to have an important impact on the professionals which start or pursue a career in CD Waste as it will be widely available to anyone interested on this topic

According to Partners feedback main strengths of the CD-Waste course include:

- Is a free up-to-date e-course on the topic of CDW management, which can be integrated into the learning platforms of any interested training center
- is a training programme that can be expanded to other levels of training (skills repository available for EQF levels 3,4,5)
- Has the possibility to adapt and use parts or the whole training programme in technical training courses
- Can contribute to the increase of knowledge and exchange of good practices at European level, regarding CD Waste management, both for students and teaching staff;
- New contacts and collaborations were established with industrial partners involved in waste/CDW management, and educational providers from all levels.

According to Partners feedback main weaknesses of the CD-Waste course include:

- The need of fine-tuning regarding typos and updated legislation
- Make registration to the online platform easier to access
- Need to be enriched with more interactive elements, including games, simulations and scenarios

## 1. Conclusions finales (FR)

Sur la base du retour d'information des répondants, les résultats de l'évaluation pilote ont montré que les six formations pilotes ont toutes été perçues très positivement par la majorité des apprenants et se sont avérées être une solution efficace pour accroître l'engagement, la motivation et l'autonomisation des apprenants tout au long du processus d'apprentissage et de WBL. En ce qui concerne l'impression générale sur le cours, la qualité du contenu, la capacité d'améliorer et d'approfondir les connaissances, les aptitudes et les compétences, la pertinence des quiz et des tests d'évaluation et la facilité de navigation, les résultats ont montré que les apprenants étaient très satisfaits du processus global. La formation en milieu professionnel s'est également avérée être un véritable succès puisque dans tous les pays participants, les compétences et les connaissances acquises, les informations fournies par la société d'accueil et l'expérience globale ont été jugées excellentes.

Les améliorations demandées par les stagiaires étaient mineures et concernaient principalement l'ajout d'éléments plus interactifs, des informations réglementaires moins spécifiques et quelques problèmes de traduction. La plupart d'entre eux ont également demandé l'augmentation de la partie pratique et de la composante d'apprentissage par le travail.

Sur la base du retour d'information des partenaires, le cours de formation a également été évalué comme très complet et exhaustif, principalement en raison du matériel d'apprentissage partagé sur la plateforme, qui est bien structuré et fournit une excellente base pour l'apprentissage. En outre, le cours s'est également avéré très efficace car il a contribué au développement des connaissances et des compétences d'un nombre croissant d'apprenants dans les six (6) pays participants. En outre, le cours en ligne devrait continuer à avoir un impact important sur les professionnels qui commencent ou poursuivent une carrière dans le domaine des déchets chimiques, car il sera largement accessible à toute personne intéressée par ce sujet.

Selon les commentaires des partenaires, les principaux atouts du cours CD-Waste sont les suivants :

- est un cours électronique gratuit et actualisé sur le thème de la gestion des CEP, qui peut être intégré dans les plateformes d'apprentissage de tout centre de formation intéressé
- est un programme de formation qui peut être étendu à d'autres niveaux de formation (référentiel de compétences disponible pour les niveaux 3,4,5 du CEC)
- A la possibilité d'adapter et d'utiliser des parties ou l'ensemble du programme de formation dans des cours de formation technique
- Peut contribuer à l'augmentation des connaissances et à l'échange de bonnes pratiques au niveau européen, concernant la gestion des déchets de CD, à la fois pour les étudiants et le personnel enseignant ;
- De nouveaux contacts et collaborations ont été établis avec des partenaires industriels impliqués dans la gestion des déchets/CDW, et des prestataires de services éducatifs de tous niveaux.

Selon les commentaires des partenaires, les principales faiblesses du cours CD-Waste sont les suivantes :

- La nécessité d'une mise au point concernant les coquilles et la mise à jour de la législation
- Rendre l'inscription à la plateforme en ligne plus facile d'accès
- Nécessité de s'enrichir d'éléments plus interactifs, notamment de jeux, de simulations et de scénarios

## 1. Conclusioni Finali (IT)

Sulla base dei feedback degli intervistati, i risultati delle valutazioni del percorso pilota hanno mostrato che i sei percorsi sono stati tutti considerati molto positivamente dalla maggior parte dei discenti e si sono rivelati una soluzione efficace per aumentare l'impegno, la motivazione e la responsabilizzazione dei discenti durante il processo di apprendimento e di WBL. Soprattutto per quanto riguarda l'aspetto generale sul corso, la qualità dei contenuti, la capacità di migliorare e approfondire le conoscenze, le abilità e le competenze, la rilevanza dei quiz e dei test di valutazione e la facilità di navigazione, i risultati hanno mostrato che i discenti erano molto soddisfatti del processo complessivo. Anche la componente di apprendimento basato sul lavoro si è rivelata un successo, poiché in tutti i Paesi partecipanti le competenze e le conoscenze acquisite, le informazioni fornite dall'azienda ospitante e l'esperienza complessiva sono state valutate molto positivamente (eccellenti per la maggior parte dei Paesi).

I miglioramenti richiesti dai tirocinanti sono stati di minore entità, principalmente legati all'aggiunta di più elementi interattivi, di informazioni normative meno specifiche e di alcuni problemi di traduzione. La maggior parte di loro ha anche richiesto l'aumento della parte pratica e della componente di apprendimento basato sul lavoro.

Sulla base del feedback dei partner, il corso di formazione è stato valutato come molto completo ed esaustivo, soprattutto grazie al materiale didattico condiviso sulla piattaforma, che è ben strutturato e fornisce un'ottima base per l'apprendimento. Inoltre, il corso si è rivelato davvero efficace in quanto ha contribuito allo sviluppo delle conoscenze e delle competenze di un numero crescente di discenti in tutti e sei i Paesi partecipanti. Inoltre, si ritiene che il corso elettronico continuerà ad avere un impatto importante sui professionisti che iniziano o proseguono una carriera nel settore dei rifiuti CD, poiché sarà ampiamente disponibile per chiunque sia interessato a questo argomento.

Secondo quanto emerso dai partner, i principali punti di forza del corso sui rifiuti CD sono stati:

- è un corso elettronico gratuito e aggiornato sul tema della gestione dei rifiuti CD, che può essere integrato nelle piattaforme di apprendimento di qualsiasi centro di formazione interessato
- è un programma di formazione che può essere esteso ad altri livelli di formazione (archivio di competenze disponibile per i livelli EQF 3,4,5)
- ha la possibilità di adattare e utilizzare parti o l'intero programma di formazione in corsi di formazione tecnica
- Può contribuire all'aumento delle conoscenze e allo scambio di buone pratiche a livello europeo sulla gestione dei rifiuti CD, sia per gli studenti che per il personale docente;
- Sono stati stabiliti nuovi contatti e collaborazioni con partner industriali coinvolti nella gestione dei rifiuti/CDW e con enti di formazione di tutti i livelli.

Secondo il feedback dei partner, i principali punti deboli del corso CD-Waste includono:

- La necessità di una messa a punto per quanto riguarda gli errori di battitura e la legislazione aggiornata.

- Facilitare la registrare alla piattaforma online
- Necessità di arricchire il corso con elementi più interattivi, tra cui giochi, simulazioni e scenari.

## 1. *Concluzii finale ( RO)*

Pe baza răspunsurilor date de cursanți, rezultatele evaluării au arătat că cele șase cursuri pilot au fost apreciate foarte bine de majoritatea cursanților și s-au dovedit a fi o soluție eficientă pentru a crește implicarea, motivația și responsabilizarea cursanților pe tot parcursul procesului de învățare și WBL. În ceea ce privește impresia generală despre curs, calitatea conținutului, capacitatea de îmbunătățire și aprofundare a cunoștințelor, abilităților și competențelor, relevanța chestionarelor și a testelor de evaluare și ușurința de navigare, rezultatele au arătat că elevii au fost foarte mulțumiți, în general, de aceste aspecte. Componenta de învățare bazată pe muncă (WBL) s-a dovedit, de asemenea, a fi cu adevărat de succes, deoarece în toate țările participante abilitățile și cunoștințele dobândite, informațiile furnizate de companiile gazdă și experiența generală au fost evaluate ca fiind excelente.

Îmbunătățirile care au fost solicitate de cursanți au fost minore, și vizează în principal adăugarea unor elemente mai interactive, informații legislative mai puțin specifice și îmbunătățirea unor aspecte legate de traducere. Cele mai multe sugestii au vizat creșterea ponderii activităților practice și creșterea componentei de învățare bazată pe muncă.

Pe baza feedback-ului partenerilor, cursul de formare a fost, de asemenea, evaluat ca fiind foarte cuprinzător și complet, în principal datorită suportului de curs disponibil pe platformă, care este bine structurat și oferă o bază excelentă pentru învățare. În plus, cursul s-a dovedit, de asemenea, foarte eficient, deoarece a contribuit la dezvoltarea cunoștințelor și abilităților unui număr mare de cursanți, în toate cele șase țări participante la proiect. În plus, se estimează că acest curs electronic va continua să aibă un impact important asupra profesioniștilor care încep sau urmează o carieră în domeniul gestionării deșeurilor din construcții și demolări (CDW), deoarece va rămâne în continuare disponibil on-line pentru oricine este interesat de acest subiect.

Conform feedback-ului partenerilor, principalele puncte forte ale cursului CD-Waste Manage VET constau în:

- este un curs electronic gratuit și actual pe tema managementului CDW, care poate fi integrat în platformele de învățare ale oricărui centru de formare interesat;
- este un program de formare care poate fi extins la alte niveluri de formare (competențe disponibile pentru nivelurile CEC 3,4,5);
- există posibilitatea de a adapta și de a utiliza capitole sau întregul program de formare în cadrul cursurilor de formare tehnică;
- poate contribui la creșterea nivelului cunoștințelor și a schimbului de bune practici la nivel european, în ceea ce privește gestionarea deșeurilor CDW, atât pentru cursanți, cât și pentru personalul didactic;
- au fost stabilite noi contacte și colaborări cu parteneri industriali implicați în gestionarea deșeurilor/CDW și cu furnizori de educație de la toate nivelurile.

Potrivit feedback-ului partenerilor, principalele puncte slabe ale cursului CD-Waste Manage VET includ:

- necesitatea verificării unor traduceri și menținerea la zi a informațiilor din capitolul de legislație;
- îmbunătățirea modului în care se face înregistrarea cursanților pe platforma online;
- cursul ar trebuie să fie îmbogățit cu elemente mai interactive, inclusiv jocuri, simulări și scenarii.

## 1. Τελικά συμπεράσματα (GR)

Με βάση τα σχόλια των ερωτηθέντων, τα αποτελέσματα της πιλοτικής αξιολόγησης έδειξαν ότι οι έξι πιλοτικές εκπαιδεύσεις αντιμετωπίστηκαν πολύ θετικά από την πλειοψηφία των εκπαιδευομένων και αποδείχθηκαν αποτελεσματική λύση για την αύξηση της εμπλοκής, των κινήτρων και της ενδυνάμωσης των εκπαιδευομένων καθ' όλη τη διάρκεια της διαδικασίας μάθησης και της πρακτικής άσκησης (WBL). Ειδικά όσον αφορά τη συνολική εντύπωση για το μάθημα, την ποιότητα του περιεχομένου, τη δυνατότητα βελτίωσης και εμπάθυνσης των γνώσεων, δεξιοτήτων και ικανοτήτων, τη συνάφεια των κοιζ και των δοκιμασιών αξιολόγησης αλλά και την ευκολία πλοήγησης, τα αποτελέσματα έδειξαν ότι οι εκπαιδευόμενοι ήταν πολύ ικανοποιημένοι από τη συνολική διαδικασία. Η πρακτική άσκηση ( WBL) αποδείχθηκε επίσης επιτυχής, καθώς σε όλες τις συμμετέχουσες χώρες οι δεξιότητες και οι γνώσεις που αποκτήθηκαν, οι πληροφορίες που παρείχε η εταιρεία υποδοχής και η συνολική εμπειρία αξιολογήθηκαν πολύ θετικά (άριστα για τις περισσότερες χώρες).

Οι βελτιώσεις που ζητήθηκαν από τους εκπαιδευόμενους ήταν ήσσονος σημασίας και αφορούσαν κυρίως την προσθήκη περισσότερων διαδραστικών στοιχείων, λιγότερο εξειδικευμένων κανονιστικών πληροφοριών και ορισμένων μεταφραστικών ζητημάτων. Οι περισσότεροι από αυτούς ζήτησαν, επίσης, την αύξηση του πρακτικού μέρους καθώς και την αύξηση του WBL.

Με βάση τα σχόλια των εταίρων, το πρόγραμμα κατάρτισης αξιολογήθηκε, επίσης, ως πλήρες, κυρίως λόγω του μαθησιακού υλικού που διαμοιράστηκε στην πλατφόρμα, το οποίο είναι καλά δομημένο και παρέχει μια εξαιρετική βάση για μάθηση. Περαιτέρω, το μάθημα αποδείχθηκε πραγματικά αποτελεσματικό, καθώς συνέβαλε στην ανάπτυξη των γνώσεων και των δεξιοτήτων ενός αυξανόμενου αριθμού εκπαιδευομένων και στις έξι (6) συμμετέχουσες χώρες. Επιπλέον, το ηλεκτρονικό μάθημα πιστεύεται ότι θα συνεχίσει να έχει σημαντικό αντίκτυπο στους επαγγελματίες που ξεκινούν ή συνεχίζουν τη σταδιοδρομία τους στον τομέα της διαχείρισης αποβλήτων κατασκευών, κατεδαφίσεων και εκσκαφών, καθώς θα είναι ευρέως διαθέσιμο σε όλους όσους ενδιαφέρονται για το θέμα αυτό.

Σύμφωνα με τα σχόλια των εταίρων, τα κύρια πλεονεκτήματα του μαθήματος CD-Waste περιλαμβάνουν:

- Είναι ένα ενημερωμένο δωρεάν ηλεκτρονικό μάθημα για το θέμα της διαχείρισης των αποβλήτων κατασκευών, κατεδαφίσεων και εκσκαφών, το οποίο μπορεί να ενσωματωθεί στις πλατφόρμες μάθησης οποιουδήποτε ενδιαφερόμενου κέντρου κατάρτισης
- Είναι ένα πρόγραμμα κατάρτισης που μπορεί να επεκταθεί και σε άλλα επίπεδα (διαθέσιμο αποθετήριο δεξιοτήτων για τα επίπεδα EQF 3,4,5)
- Έχει τη δυνατότητα προσαρμογής και χρήσης τμημάτων ή ολόκληρου του προγράμματος σε μαθήματα τεχνικής κατάρτισης
- Μπορεί να συμβάλει στην αύξηση της γνώσης και στην ανταλλαγή καλών πρακτικών σε ευρωπαϊκό επίπεδο, όσον αφορά τη διαχείριση των αποβλήτων, τόσο για τους σπουδαστές όσο και για το διδακτικό προσωπικό,

- Δημιουργήθηκαν νέες επαφές και συνεργασίες με βιομηχανικούς εταίρους που εμπλέκονται στη διαχείριση αποβλήτων, καθώς και με εκπαιδευτικούς φορείς από όλα τα επίπεδα.

Σύμφωνα με τα σχόλια των εταιρών, οι κύριες αδυναμίες του μαθήματος CD-Waste περιλαμβάνουν:

- Η ανάγκη τελειοποίησης όσον αφορά τα τυπογραφικά λάθη και την επικαιροποιημένη νομοθεσία
- Διευκόλυνση της πρόσβασης στην εγγραφή στην ηλεκτρονική πλατφόρμα
- Ανάγκη εμπλουτισμού με περισσότερα διαδραστικά στοιχεία, συμπεριλαμβανομένων παιχνιδιών, προσομοιώσεων και σεναρίων

## 1. Conclusiones finales (ES)

Basándose en los comentarios de los encuestados, los resultados de la evaluación de las pruebas piloto mostraron que las seis formaciones fueron consideradas de forma muy positiva por la mayoría de los alumnos. Estas formaciones demostraron ser una solución eficaz para aumentar el compromiso, la motivación y la capacitación de los alumnos a lo largo del proceso de aprendizaje y de prácticas en el entorno profesional (WBL).

Especialmente en lo que respecta a la impresión general sobre el curso, la calidad del contenido, la capacidad de mejorar y profundizar en los conocimientos, habilidades y competencias, la relevancia de los cuestionarios y las pruebas de evaluación y la facilidad de navegación, los resultados mostraron que los alumnos estaban muy satisfechos con el proceso general. El componente de aprendizaje basado en el trabajo también demostró ser un gran éxito, ya que, en todos los países participantes, las habilidades y los conocimientos adquiridos, la información proporcionada por la empresa de acogida y la experiencia general se calificó como muy positiva (excelente en la mayoría de países).

Las mejoras solicitadas por los alumnos fueron de menor importancia, principalmente relacionadas con la adición de más elementos interactivos, información normativa menos específica y algunas cuestiones de traducción. La mayoría de ellos también solicitaron el aumento de la parte práctica y el incremento del componente de aprendizaje basado en el trabajo.

Según los comentarios de los socios, la formación también fue evaluada como muy exhaustivo y completa, principalmente debido al material de aprendizaje compartido en la plataforma, que está bien estructurado y proporciona una excelente base para el aprendizaje. Además, el curso ha demostrado ser realmente eficaz, ya que ha contribuido al desarrollo de conocimientos y habilidades de un número creciente de alumnos en los seis (6) países participantes. Además, se cree que el curso online seguirá teniendo un impacto importante en los profesionales que inician o prosiguen una carrera en el ámbito de la gestión de Residuos de construcción y demolición (RCD), ya que estará disponible para cualquier persona interesada en este tema.

Según los comentarios de los socios, los principales puntos fuertes del curso de CD-Waste Manage VET son los siguientes:

- Es un curso online gratuito y actualizado sobre el tema de la gestión de los RCD, que puede integrarse en las plataformas de aprendizaje de cualquier centro de formación interesado
- Es un programa de formación que puede ampliarse a otros niveles de formación (repositorio de competencias disponible para los niveles 3,4,5 del MEC).

- Tiene la posibilidad de adaptar y utilizar partes o todo el programa de formación en cursos de formación técnica
- Puede contribuir a aumentar el conocimiento y el intercambio de buenas prácticas a nivel europeo, en relación con la gestión de los residuos de CD, tanto para los estudiantes como para el personal docente;
- Se establecieron nuevos contactos y colaboraciones con socios profesionales implicados en la gestión de residuos y desechos, así como con proveedores de educación de todos los niveles.

Según los comentarios de los socios, los principales puntos débiles del curso de CD-Waste son los siguientes

- La necesidad de afinar en cuanto a las erratas y la legislación actualizada
- Facilitar el acceso al registro en la plataforma online
- Es necesario enriquecerlo con más elementos interactivos, como juegos, simulaciones y escenarios.

## 1. Conclusões finais (PT)

Com base no feedback dos inquiridos, os resultados da avaliação-piloto mostraram que as seis formações-piloto foram vistas de forma muito positiva pela maioria dos formandos e revelaram-se uma solução eficaz para aumentar o envolvimento, motivação e capacitação do formando ao longo do processo de aprendizagem e WBL. Especialmente no que diz respeito à impressão geral sobre o curso, a qualidade do conteúdo, a capacidade de melhorar e aprofundar os conhecimentos, competências e competências, a relevância dos testes de avaliação e a facilidade de navegação os resultados mostraram que os formandos estavam muito satisfeitos com o processo global. A componente de aprendizagem baseada no trabalho também provou ser realmente bem-sucedida como em todos os países participantes as competências e conhecimentos adquiridos, a informação fornecida pela empresa de hospedagem e a experiência geral foi classificada como excelente, exceto em Espanha, onde os formandos classificaram a experiência geral do WBL como boa. As melhorias solicitadas pelos estagiários foram menores, principalmente relacionadas com a adição de elementos mais interativos, informações regulamentares menos específicas e algumas questões de tradução. A maioria deles também solicitou o aumento da parte prática e o aumento da componente de aprendizagem baseada no trabalho.

Com base no feedback dos Parceiros, o curso de formação foi também avaliado como muito abrangente e completo, principalmente devido ao material de aprendizagem partilhado na plataforma que está bem estruturado e proporciona uma excelente base de aprendizagem. Além disso, o curso revelou-se também realmente eficaz, uma vez que contribuiu para o desenvolvimento de conhecimentos e competências de um número crescente de formandos nos seis (6) países participantes. Além disso, acredita-se que o curso online continuará a ter um impacto importante nos profissionais que iniciam ou prosseguem uma carreira em GESTÃO DE RESÍDUOS de CD, uma vez que estará amplamente disponível para todos os interessados neste tema.

De acordo com os parceiros, os principais pontos fortes do curso de CD-Waste são:

- É um curso e-learning gratuito atualizado sobre o tema da gestão da CDW, que pode ser integrado nas plataformas de aprendizagem de qualquer centro de formação interessado;
- É um programa de formação que pode ser alargado a outros níveis de formação (repositório de competências disponível para os níveis de QEQ 3,4,5) ;
- Tem a possibilidade de adaptar e utilizar partes ou todo o programa de formação em cursos de formação técnica;
- Pode contribuir para o aumento do conhecimento e do intercâmbio de boas práticas a nível europeu, no que diz respeito à gestão de resíduos de CD, tanto para estudantes como para docentes;
- Foram estabelecidos novos contactos e colaborações com parceiros industriais envolvidos na gestão de resíduos/CDW e fornecedores educacionais de todos os níveis.

De acordo com os parceiros, as principais fraquezas do curso de CD-Waste incluem:

- A necessidade de afinar os erros em relação aos erros e à legislação atualizada;
- Facilitar o acesso à inscrição na plataforma online;
- Precisa de ser enriquecido com elementos mais interativos, incluindo jogos, simulações e cenários.

## 2. Presentation of the CD-waste on- line training

### CD-Waste on line training overall aim

The main objective of the CD-WASTE project was to create an online VET program that responds to skills needs in terms of CDWM and circular economy, enhance opportunities for integration into labor market and create the conditions for developing human capital capacity, and career opportunities for construction workers. To this end all participating countries ( France, Italy, Spain, Portugal, Greece and Romania) following the information gathered through the research conducted in IO1, proceeded with the definition of the learning outcomes in terms of knowledge, skills and competences, according to the EQF and delivered an online training course at EQF level 5 for all these workers in the civil construction sector who would like to improve and deepen their knowledge and skills on CDW management.

The development of the e-modules comprised of the following 3 main steps

- 1) Content development: collecting and writing all the required knowledge and information;
- 2) Storyboard development: integrating instructional methods and media elements (describe all components of the final interactive products, including images, text, interactions, assessment tests) and
- 3) Courseware development: developing media and interactive components, producing the course, translating and integrating the content elements into the e-tool. The Courseware development area also included the elaboration of the assessment component- examination area which comprised of online questionnaires/evaluation forms (that trainees would undertake via the platform).

Overall, the final training material produced and shared on the CD Waste online platform is well easy to follow and appealing, and manages approx. 300 pages of text into an online course that has been tested in five different languages. The online training course comprises of four (4) modules with a total of 80 hours of e-learning and self-assessment. In the below scheme a summary of the Training modules; Learning units and the distribution of hours is presented.

### CDWasteTraining Modules:

<b>Module 1: Regulations applicable to the management of CDW and environmental registers.</b>	<b>Total duration: 8 hours</b>	<b>Contact hours: 0 Hours of practice: 0 Hours of study: 7 Evaluation hours: 1</b>
<b>Units Module 1</b>		
<ol style="list-style-type: none"> <li>1. Unit 1: National waste management legislation and regulations (EQF 3)</li> <li>2. Unit 2: National regulations and legislation for the management and re-use of CDW (EQF 3)</li> </ol>		
<b>Distribution of learning units</b>		
Unit 1: National waste management legislation and regulations Contact hours: 0	Unit 2: National regulations and legislation for the management and re-use of CDW	

Practical hours: 0 Study hours: 4 Evaluation hours: 0,5	Contact hours: 0 Practical hours: 0 Study hours: 3 Evaluation hours: 0,5	
<b>Support</b>		
Lessons, Activities; Video viewing; Simulators; Applications.		
Evaluation		

<b>Module 2: Waste Management on site</b>	<b>Total Duration: 30 hours</b>	<b>Contact hours: 5 hours Hands-on hours: 10 hours Self-study hours: 10 hours Assessment hours: 5 hours</b>		
<b>Learning Units Distribution</b>				
Unit 1: The properties of waste and its classification  Contact hours: 1h Hands-on hours: 2h Self-study hours: 2h Assessment hours: 1h	Unit 2: Pre-demolition audit: quantitative and qualitative aspects of inert waste  Contact hours: 1 h Hands-on hours: 2h Self-study hours: 2h Assessment hours: 1h	Unit 3: Waste management planning on site  Contact hours: 1h Hands-on hours: 2h Self-study hours: 2h Assessment hours: 1h	Unit 4: On-site compliance in the management and recycling of CDWaste  Contact hours: 1h Hands-on hours: 2h Self-study hours: 2h Assessment hours: 1h	Unit 5: Selective demolition and CDWaste recovery  Contact hours: 1h Hands-on hours: 2h Self-study hours: 2h Assessment hours: 1h

<b>Module 3: Construction and Demolition Waste Management and Recycling</b>	<b>Total Duration: 30 hours</b>	<b>Contact hours: 15hours Hands-on hours: 5hours Self-study hours: 7hours Assessment hours: 3hour</b>		
<b>Learning Units Distribution</b>				
Unit 1: Waste treatment activities on-site in the different processes  Contact hours: 4h Hands-on hours: 1h Self-study hours: 2h Assessment hours: 1h	Unit 2: Requirements and procedures for on-site re-use and recycling of inert materials from CDW activities  Contact hours: 4h Hands-on hours: 1h Self-study hours: 2h Assessment hours: 1h	Unit 3: Selective demolition and recycling plan: costs and benefits  Contact hours: 7h Hands-on hours: 3 h Self-study hours: 3 h Assessment hours: 1h		

<b>Module 4: LCA building materials and environmental sustainability</b>	<b>Total Duration: 12 hours</b>	<b>Contact hours: 8 hours Hands-on hours: 0 hours Self-study hours: 2 hours Assessment hours: 2 hours</b>		
<b>Module 4 L.U.</b>				

a) Unit 1: Environmental damage due to non-recovery of waste from CDWaste b) Unit 2: Objectives and strategies for a low impact construction site environmental c) Unit 3: Economic and social considerations that must be made for the selection of sustainable products d) Unit 4: Material selection with the LCA method			
Learning Units Distribution:			
Unit 1: Environmental damage due to non-recovery of waste from CDWaste  Contact hours: 2.5 hours Hands-on hours: 0 hours Self-study hours: 0 hours Assessment hours: 0.5 hours	Unit 2: Objectives and strategies for a low impact construction site environmental  Contact hours: 3 hours Hands-on hours: 0 hours Self-study hours: 0 hours Assessment hours: 0.5 hours	Unit 3: Economic and social considerations that must be made for the selection of sustainable products  Contact hours: 2.5 hours Hands-on hours: 0 hours Self-study hours: 0 hours Assessment hours: 0.5 hours	Unit 4: Material selection with the LCA method  Contact hours: 0 hours Hands-on hours: 0 hours Self-study hours: 2 hours Assessment hours: 0.5 hours

Summary of the Modules and distribution of hours is described in the below table:

Modules and hours distribution	%	TOTAL
<b>A. Waste legislation and environmental records</b>	<b>10%</b>	<b>8</b>
<b>B. Waste management on site</b>	<b>37,5%</b>	<b>30</b>
<b>C. Construction and Demolition Waste Management and Recycling</b>	<b>37,5%</b>	<b>30</b>
<b>D. LCA building materials and environmental sustainability</b>	<b>15%</b>	<b>12</b>
<b>TOTAL</b>	<b>100%</b>	<b>80</b>

### Steps followed for the implementation of the pilot training

- Pre-registration / creation of the account in autonomy
- Access through the ISQ Moodle platform (Rise 360 by Articulate) and the UPB Moodle
- Students control the pace of their learning, allowing them to spend more time on what they need and want to learn

- Access to the trainer for remote monitoring of each student's progress and results
- Final online evaluation with delivery of CDWaste-ManageVET certificates if more than 50% of responses are positive
- Collection of feedback from learners through the learner's satisfaction questionnaire

Concerning the self –assessment section for measuring the knowledge acquired, Partners created a final evaluation tool which is also very appreciated for its flexibility and effectiveness and comprises a pool of 132 questions from which 10 are randomly selected each time a trainee finishes the study section and proceeds with the self-assessment part. Partners are also given the opportunity to change this setting covering only one of the modules, or changing the number of the questions to be selected.

### **Work based Learning component**

After the delivery and completion of the on-line training 44 trainees from all participating countries that had performed best in the module's assessment had also proceeded to do the Work Based learning in each country in order to put their acquired skills into practice under real work conditions.

### ***3. Evaluation results per Partner Country.***

Following the elaboration of the European curriculum for Construction and Demolition Waste, the training implementation took place in the 6 countries of the consortium, France, Italy, Spain, Greece, Portugal and Romania consisting on:

- The testing of 4 modules with a total length of 80 hours; 11 hours of which comprised of self-assessment.
- The delivery of the work- based learning component to a number of trainees with a view to acquire a boarder understanding of the CD Waste management and valorization activities.

Overall, the pilot strategy followed the guidelines presented in CD Waste-Manage VET proposal and is described below:

- Dissemination of information about the CD Waste-Manage VET program and pilot test on the e-platform to the target group (VET trainers, professionals in construction sector and waste/CDW management, students enrolled in technical universities, local actors, NGOs etc.)
- Organization of e-course developed using Articulate (RISE 360) on the Moodle platform – available to anyone interested in the subject
- Organization of WBL training for the learners with the highest score obtained in the final evaluation test (learners satisfaction survey), performed on the training e-platform
- Local partnerships with industrial partners involved in waste and CDW management and evaluation of the WBL activity.

The CD- Waste training was tested by a total of 102 construction workers and university students as follows:

- France: fifteen (15) trainees
  - Italy: nineteen (19) trainees
  - Greece eighteen (18) trainees
  - Romania: nineteen (19) trainees
  - Portugal: fifteen (15) trainees
  - Spain: sixteen (16) trainees
- TOTAL: 102 trainees

### ***3.1. Pilot training in France: OEC***

In France 15 trainees took part in the Self-directed CD Waste-manage VET training with the possibility of guidance from the teaching team. The training took place between beginning of May and end of June. Trainees had also the possibility of self-assessment after each module or a final assessment to obtain the CD Waste – Manage VET certificate (level 5). Further, 7/15 trainees shared their feedback on the Course evaluation by filling out the CD-waste satisfaction survey.

The main recommendations from the French trainees that took the online course were: better synthesize the content; give a more interactive aspect / possibility to listen to the contents (podcasts, automatic

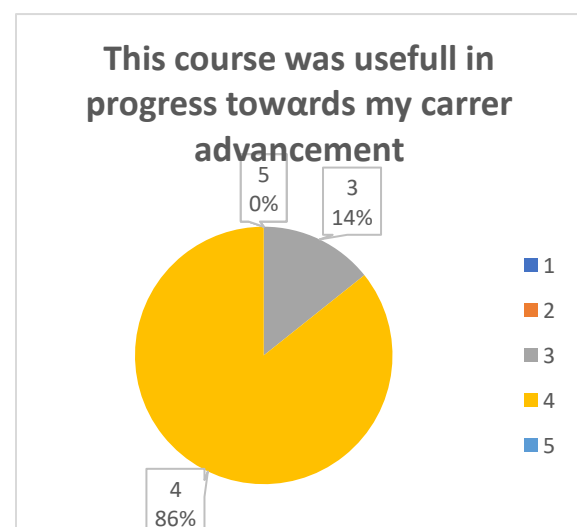
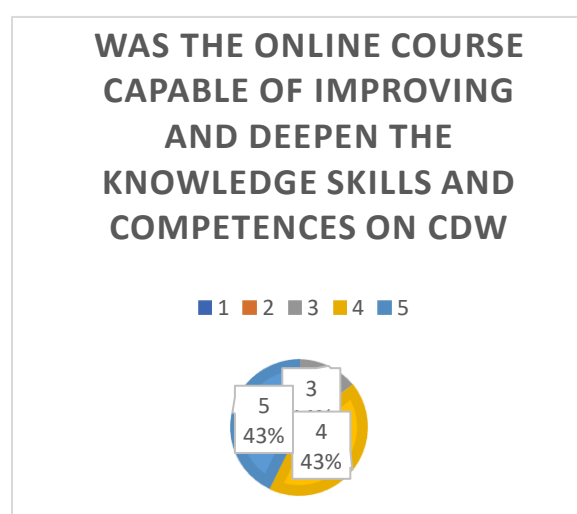
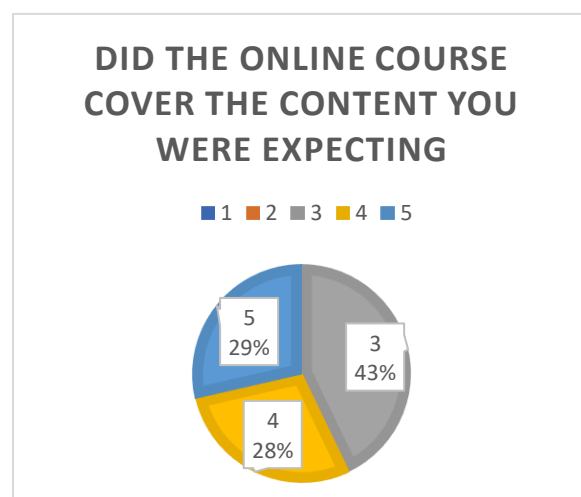
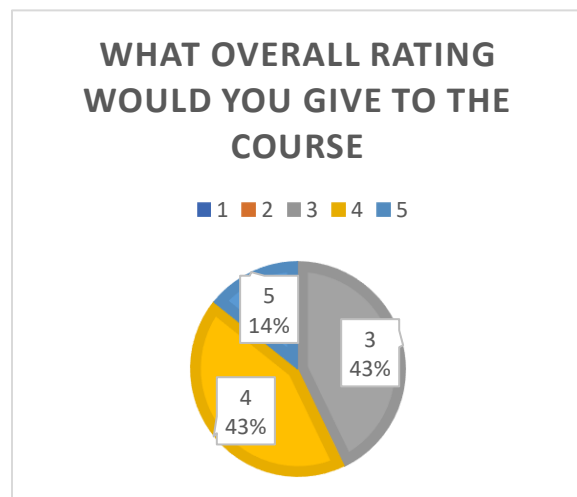
reading,) / infographics; Shorter evaluation questions; Easier and more autonomous access to the platform.

**The feedback received from the learners which attended the e-course on the Articulate platform (Rise 360) was really positive as 43% rated overall the course as quite satisfactory and 14% as satisfactory.**

- 28% of the learners considered that the online course covered the content they were expecting to an important extend, 29% considered that it was greatly covered and 43% that it somewhat covered.

-43% considered that the online course greatly improved and deepened their knowledge, skills and competences on CDW management, 43% had seen a clear improvement and 14% considered that it helped quite a bit.

- Over 85% of the respondents appreciated that the course was really useful towards their career advancement.



### 3.2. Pilot Training in Portugal: ISQ

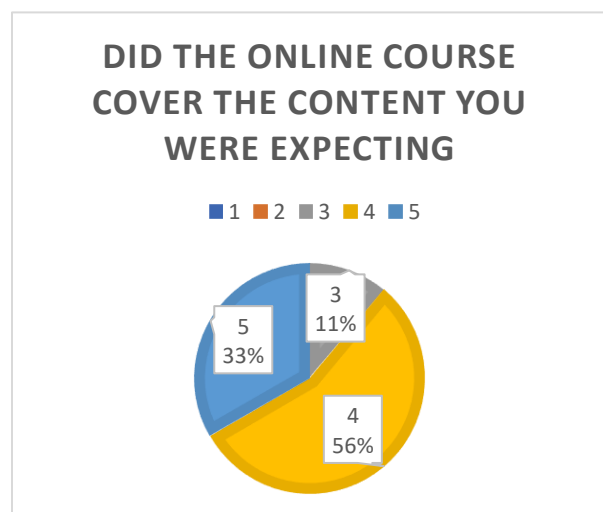
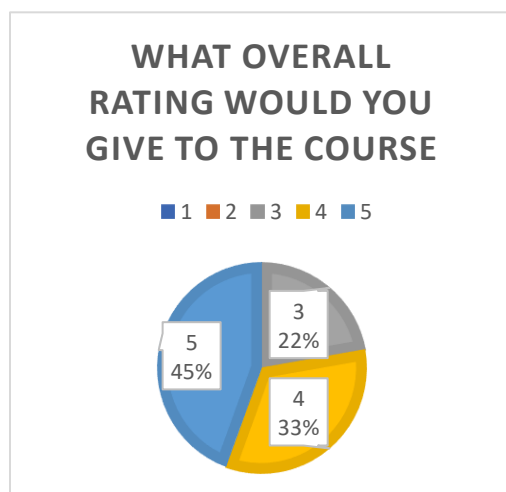
In Portugal 15 trainees took the online course between 1st and 30th of June 2022; tested their knowledge on the multichoice test; and the five students with the best marks tested their knowledge also on site within their companies. Further, 9/15 trainees shared their feedback on the Course evaluation by filling out the CD-waste Satisfaction survey.

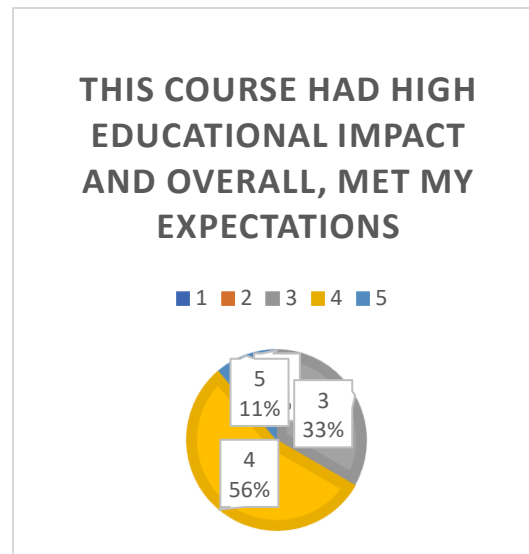
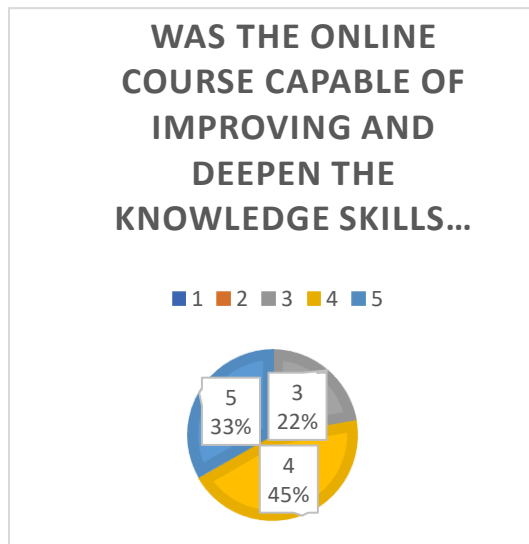
The main recommendations from the Portuguese trainees that took the online course were to Keep updating the “Unit 1: National regulations and requirements for waste management; and focus on “Circular Construction “by Developing a new chapter highlighting how the development of circular solutions can be a way to fulfill European targets through the reuse/separation/valorisation of CDWs bringing:

- a) direct economic benefits (capital gains - results);
- b) indirect benefits (such as “image”) to companies.

**The feedback received from the learners which attended the e-course on the Articulate platform (Rise 360) was really positive as 45% rated overall the course as really satisfactory and 33% as satisfactory.**

- 56% of the learners considered that the online course covered the content they were expecting to an important extend and 33% considered that it was greatly covered and only 11% that it somewhat covered.
- 45% considered that the online course greatly improved and deepened their knowledge, skills and competences on CDW management, 33% considered that it helped quite a bit and 22% considered had seen a clear improvement.
- Over 67% of the respondents appreciated that the course had a high- medium educational impact, overall meet their expectations while 33% argued that it somewhat had an educational impact



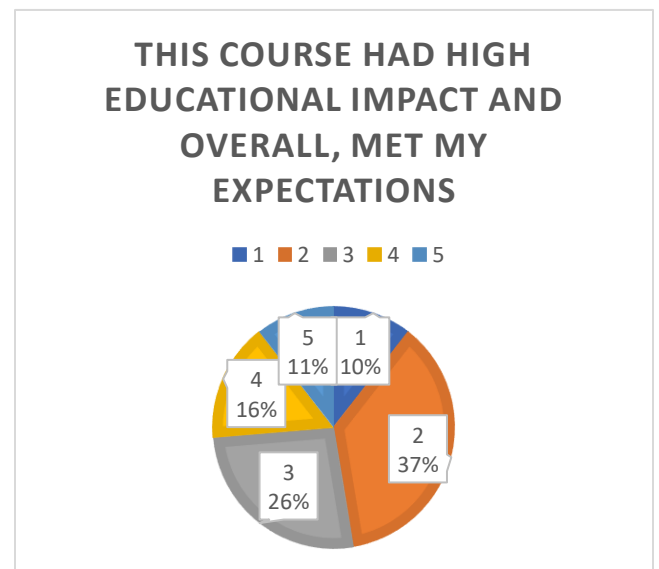
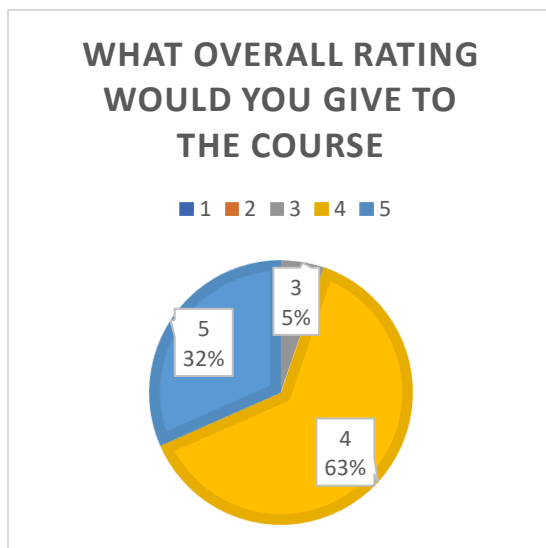
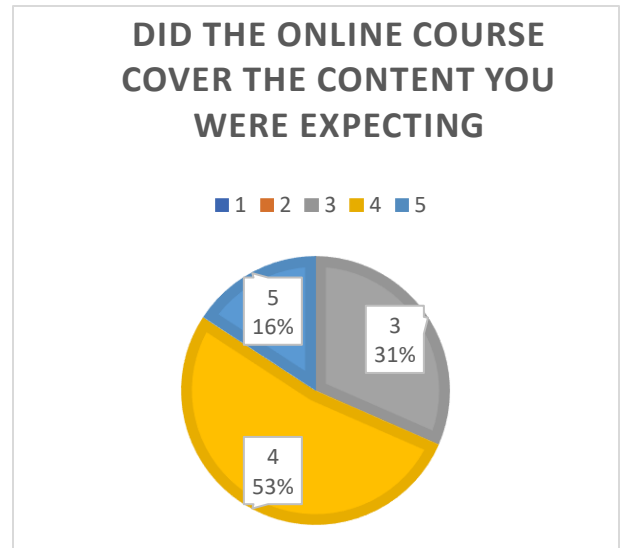
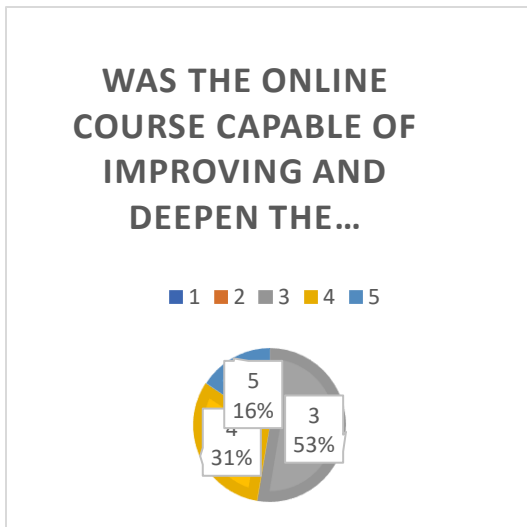


### 3.3. Pilot Training in Italy: Formedil

In Italy 19 trainees took the online course between 2th May – 26th May 2022; The trainees comprised of construction company workers, engaged in recycling and reuse of construction materials (level EQF 4) and six (6) of them continued with the Work Based learning in the construction industry. Further 19/19 trainees shared their feedback on the course evaluation by filling out the CD-waste Satisfaction survey. The main recommendations were to simplify module 1 and 4. They stated that some topics of Module 4 are too technical and therefore unsuitable for workers with EQF 4. They also pointed out that Self-learning is not very effective for the construction sector and that the combination of classroom, self -study and WBL is the right solution for this type of training.

**The feedback received from the learners which attended the e-course on the Articulate platform was really positive as 63% rated overall the course as satisfactory and 32% as really satisfactory.**

- 53% of the learners considered that the online course covered the content they were expecting to an important extend and 16% considered that it was greatly covered and 31% that it somewhat covered.
- 53% considered that the online course somewhat improved and deepened their knowledge, skills and competences on CDW management, 31% considered that it helped quite a bit and 16% considered had seen a clear improvement.
- Over 43% of the respondents appreciated that the course had a high educational impact, overall meet their expectations while 37% argued that it had little educational impact and only10% that it did not have at all.



### 3.4. Pilot Training in Romania- UPB

The e-course developed in the framework of the CD Waste-Manage VET project was accessed by 19 learners who implemented the online course on UPB Moodle platform from March 1<sup>st</sup> until May 1<sup>st</sup> 2022. It was also available (“one click distance”) to anyone interested in this subject. The course (e-course, content, organization of pilot program) was presented during the CD Waste-Manage VET OPEN DAY ROMANIA – online meeting (TEAMS platform) on November 25<sup>th</sup> 2021. The trainees comprised:

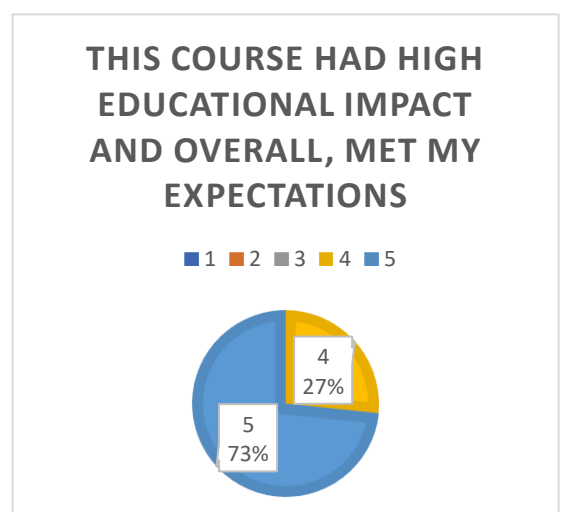
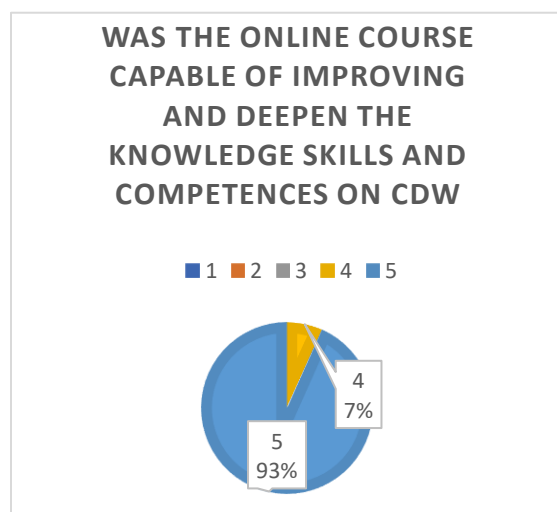
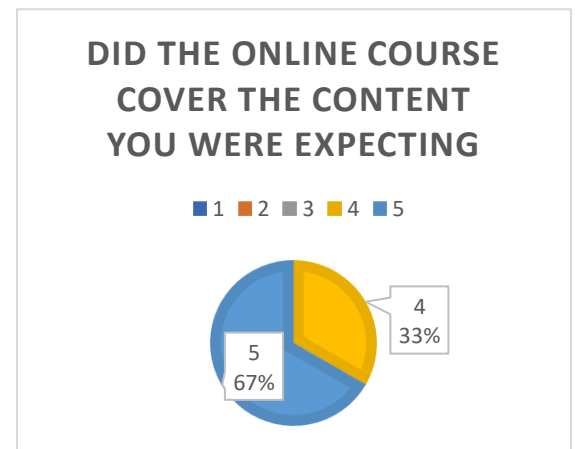
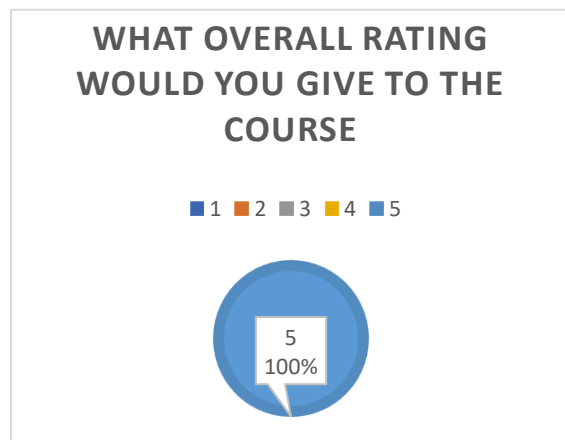
- BSc and MSc students from technical universities
- VET trainers and professors from technical colleges
- Professionals from industry and RDI (construction and waste management sectors)
- Representatives of NGOs

Further 14 of them took the final evaluation test and obtained the necessary score to be awarded the attendance certificate.

The number of learners which obtained the maximum score (10 out of 10) at the final evaluation test held on CD Waste-Manage VET e-course platform was 9 therefore UPB decided to extend the number of WBL trainees from 5 to 9. In order to be able to provide to the trainees a boarder understanding of the CD Waste management and valorisation activities, UPB organized technical visits to 4 industrial partners involved in waste and CDW sorting and recycling, as well as concrete production, including eco-friendly concrete (with reduced CO2 emissions, recycling of water and with recycled aggregates)

**The feedback received from the learners which attended the e-course on Moodle platform was really positive as 100% rated overall the course as really satisfactory.**

- 33% of the learners considered that the online course covered the content they were expecting to an import extend and 67% considered that it was largely covered.
- 7% considered that the online course improved and deepened their knowledge, skills and competences on CDW management in an important extent and 93% considered a clear improvement.
- Over 73% of the respondents appreciated that the course had a high educational impact, overall meet their expectations and was useful to progress in their actual/potential career in the CD waste management sector



### 3.5. Pilot Training in Greece: PEDMEDE

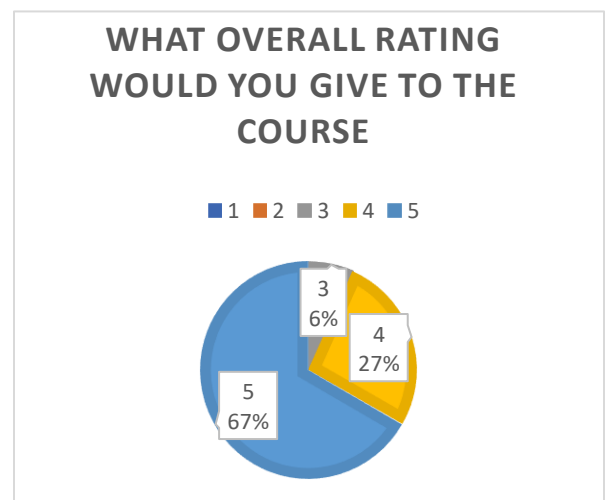
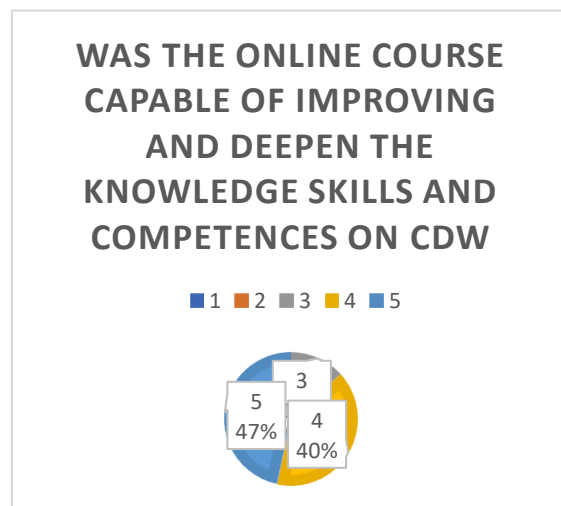
In Greece 18 trainees took the online course between 28 May – 30<sup>th</sup> June 2022; The trainees comprised of construction company workers, members of PEDMEDE (8 females and 10 males) and five (5) of them continued with the Work Based learning in the construction industry. The communication campaign before conducting the piloting consisted of disseminating the training on the 2000 persons of PEDMEDE. The selection criteria for the participants to take up the training included:

1. Motivation to be enrolled into the training path and actively participate in a learning process;
2. Professional skills and willingness of their up-skilling and/or re-skilling;
3. Gender equality criterion

Further 15/15 trainees shared their feedback on the course evaluation by filling out the CD-waste Satisfaction survey. The main recommendations were to simplify module 1 and 4. They stated that some topics of Module 4 are too technical and therefore unsuitable for workers with EQF 4. They also pointed out that Self-learning is not very effective for the construction sector and that the combination of classroom, self -study and WBL is the right solution for this type of training.

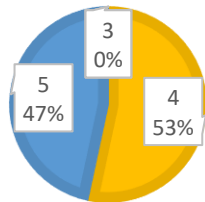
**The feedback received from the learners which attended the e-course on the Articulate platform was really positive as 67% rated overall the course as really satisfactory and 27% as satisfactory**

- 60% of the learners considered that the online course covered the content they were expecting to an important extent and 40% considered that it was largely covered.
- 47% considered that the online course improved and deepened their knowledge, skills and competences on CDW management in an important extent and 40% considered a clear improvement.
- Over 47% of the respondents appreciated that the course had a high educational impact, overall meet their expectations and 53% that the course somewhat had a high educational impact.



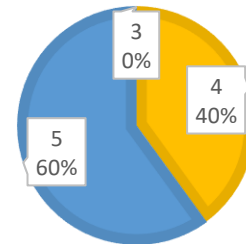
### THIS COURSE HAD HIGH EDUCATIONAL IMPACT AND OVERALL, MET MY EXPECTATIONS

■ 1 ■ 2 ■ 3 ■ 4 ■ 5



### DID THE ONLINE COURSE COVER THE CONTENT YOU WERE EXPECTING

■ 1 ■ 2 ■ 3 ■ 4 ■ 5



### 3.6. Pilot Training in Spain: FLC

In Spain the pilot started on the 1st of June 2022 and ended mid of July: It has involved:

2 training centers (Madrid and Navarra)

16 students enrolled on the online programme training

6 out of which took part in a WBL experience

Trainees involved Technicians working in educational contents; Trainers from the construction field and Students from the construction field

To design the piloting strategy, FLC:

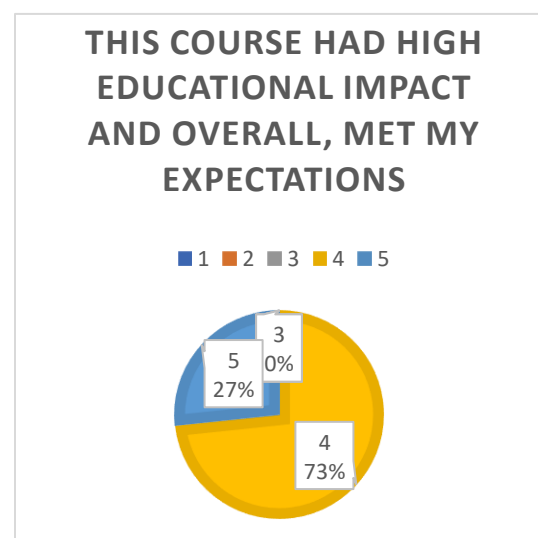
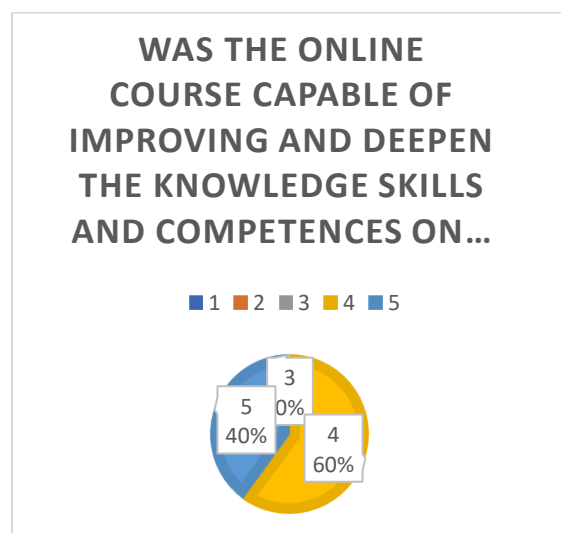
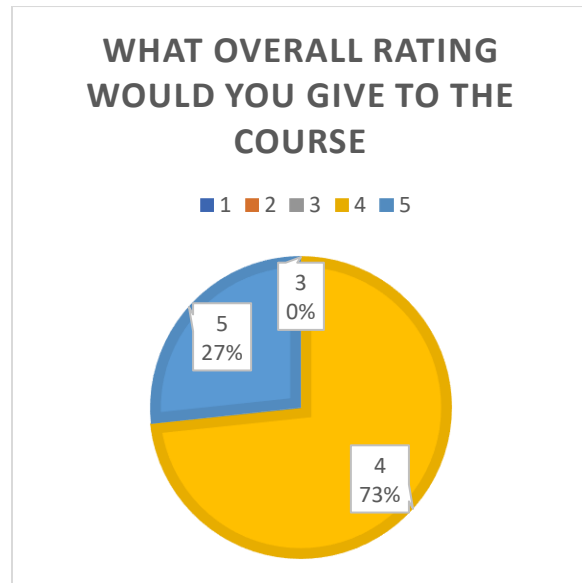
- 1) Considered results from previous IO's, particularly IO1's: An Industry Driven Analysis and Best Practice handbook aiming to investigate the forward-looking skills in demand for CDW Management.
- 2) Conducted a SWOT analysis related to the CD Waste Manage VET project piloting activities in order to establish a piloting strategy adapted to our organization needs and strengths.

**The main recommendations from the Spanish trainees** that took the online course were

- Make registration to the Moodle easier to access
- Use of other learning tools that are more practical, more dynamic, with greater student interaction...
- Possibility of practice; continuity over time
- Include games, simulations and scenarios.
- Encourage reflection through questions, practical propositions, etc.
- Less legislation, more directly applicable content.

**The feedback received from the learners which attended the e-course on the Articulate platform was really positive as 73% rated overall the course as satisfactory and 27 % as really satisfactory.**

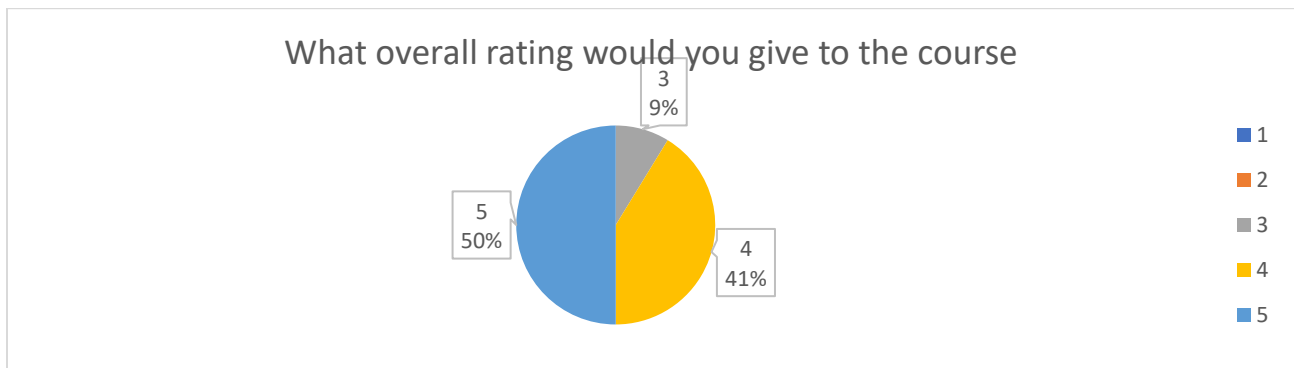
- 87% of the learners considered that the online course covered the content they were expecting to a satisfactory level and 7% considered that it was largely covered.
- 40% considered that the online course greatly improved and deepened their knowledge, skills and competences on CDW management in an important extent and 60% considered a clear improvement.
- Over 73% of the respondents appreciated that the course had a high educational impact, overall meet their expectations and 27% that the course greatly had a high educational impact.



#### 4. Evaluation results combining feedback received from all partner countries

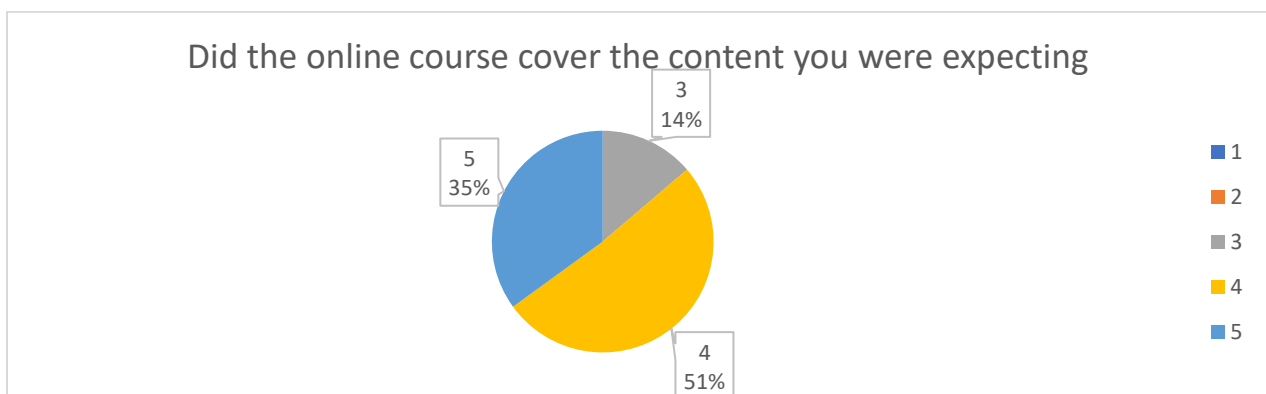
The main results and conclusions of the report on the training delivery were extracted from the learner’s satisfaction survey that was responded by 80 trainees that have followed the online course in all participating countries. The results gathered by all trainees show that:

The overall rating given to the CD Waste on line course by the 80 learners that attended the course and responded to the satisfaction survey was really positive as 91% rated overall the training as really satisfactory and satisfactory and only 9% that it was a bit satisfactory.



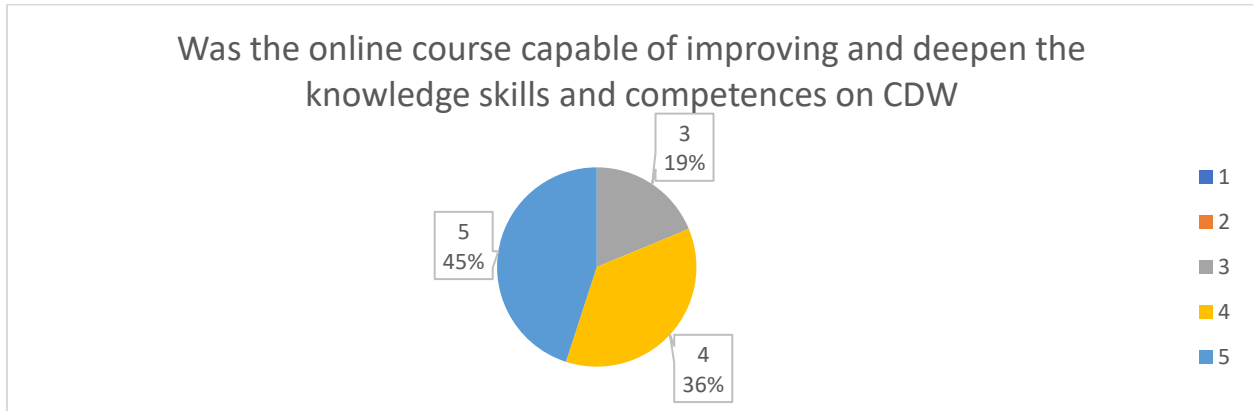
#### Further:

- 51% of the learners considered that the online course covered the content they were expecting to a satisfactory level and 35% considered that it was largely covered.



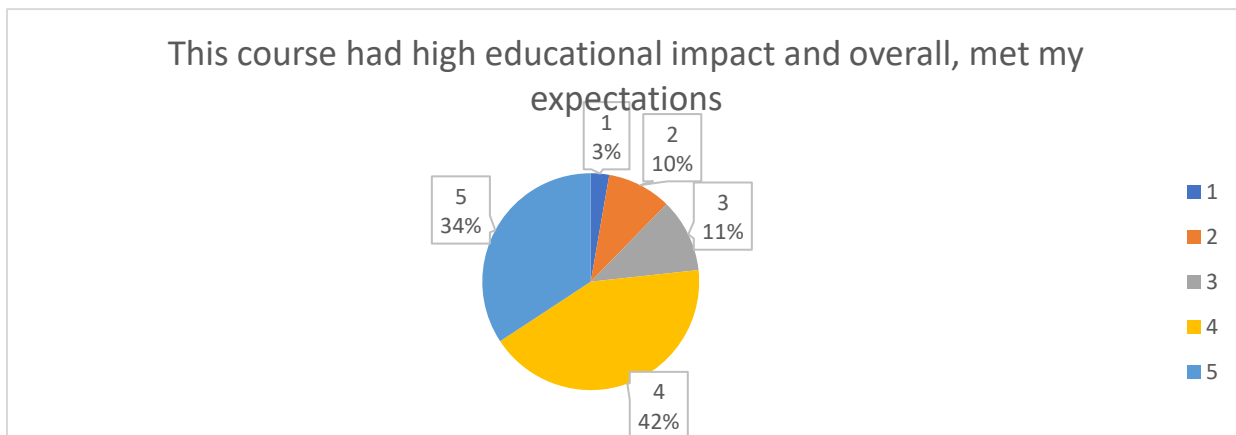
#### Moreover:

- 45% considered that the online course greatly improved and deepened their knowledge, skills and competences on CDW management in an important extent and 36% considered a clear improvement.

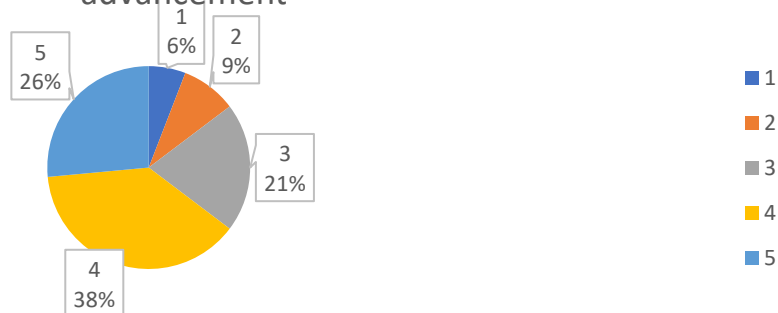


**While:**

- Over 75% of the respondents appreciated that the course had a high educational impact and overall met their expectations while 26% found that the course deemed to be of great use towards their career advancement and 38% found it really useful towards that direction.



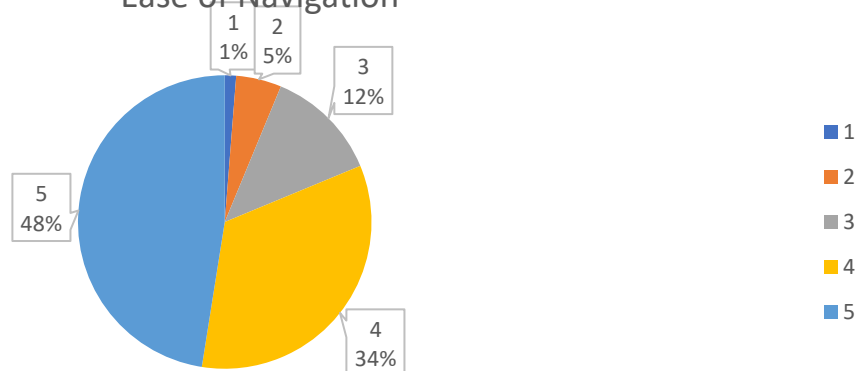
This course was useful in progress towards my career advancement



**Lastly:**

48% of the respondents were greatly satisfied by the online platform and the ease of navigation, while 34% were satisfied with the navigation process.

Ease of Navigation



### 5. Recommendations derived from CD-Waste Trainees

From the two open-ended questions 1) *Identify three ways to improve this e-learning course* and 2) *Make two suggestions to improve understanding of the course content* that were responded by trainees in the framework of the learners satisfaction survey we can also identify possible further improvements, mainly the possibility to go through the course in a format that allows a better visualization of the presented aspects; The elimination of certain legislative aspects and the presentation of those remaining in as simple terms as possible. Learners also mentioned that they would need more images and more attractive and interactive content; less specific regulatory information; increasing on-site training hours, practical hours and eliminate too much theory.

Learners also, highlighted the importance of implementing the course in the classroom. Here It is important to underline that learning pedagogy through E-learning cannot replace face-to-face activity and

that training for the profile of Construction and Demolition worker strongly requires also a combination of on-line and classroom activity rich in simulations, role playing, use of materials and products. However, the E-learning activity can be very useful for reworking what has been done in the classroom, recovering lost lessons, providing units of competence.

**Below the answers given by trainees to the open-ended questions derived by the *Learner's satisfaction survey*:**

### Open ended questions

#### 1. Identify three ways to improve this e-learning course.

- Possibility of practice; continuity over time
- It is perfect as it is
- Use of other learning tools that are more practical, more dynamic, with greater student interaction...
- Correct translation of the contents. Improvement of the navigation arrows, which do not work. And including more training through videos, which would speed it up.
- The videos with subtitles in Spanish, not changing the language in the questions that are in English, it is not very clear in the distribution of the content.
- Including the structure of the course in the left menu.
- I think it is correct
- Brief explanation of how the self-assessment of each practical unit is; more images and attractive content; identifying how much is left to finish each unit in a clear way.
- less specific regulatory information; increase on-site training hours;
- conduct the course entirely in the classroom
- less regulation better classroom than online part
- remove the computer-based part and have the lecturer in the classroom
- Increase hours on site
- it's too important a subject to study alone, I prefer to be in the classroom and listen to the engineer who gives us directions and explains some issues. I had difficulty understanding some topics and didn't know who to ask.
- it's a course based very much on practice but we did too much theory and not enough practice
- eliminate some topics that are too challenging for us workers
- excellent training course, the material was well structured although some topics were too long and should be streamlined
- for access, it took me a few minutes to understand where the course was located
- Less text, shorter questions, we should be able to listen
- Better synthesis of the text - More interactive things - Shorter questions
- Make the layout more dynamic, more concrete examples, translated videos

- The possibility to go through the course in a format that allows a better visualization of the presented aspects; The elimination of certain legislative aspects and the presentation of those remaining in as simple terms as possible.

## **2. Make two suggestions to improve understanding of the course content**

- Less legislation, more directly applicable content.
- Include games, simulations and scenarios. Encourage reflection through questions, practical propositions, etc.
- It is very well translated. There are some images or test questions in English.
- Translation of all content into the chosen language.
- When choosing the language, EVERYTHING should be in that language.
- It should be more intuitive, subtitles in Spanish when the video is in a different language.
- There are images that are in English, which can be difficult to understand.
- Explanation of what the self-assessment is like.
- more examples also with some videos
- more instruction by video increase practice; decrease the regulatory part - talk about sanctions only so we can do more courses
- take away some topics and do more hours in the classroom and on the construction site with the engineer to ask questions; more hours of practice
- I would balance more theory and practice
- Information can be more structured, highlighting it through more schemes, images. Presentation of several real cases of pollution and their resolution.
- Adding additional questions after each chapter, more than those already existing. Adding information on the final assessment test (stating that it is a grid test, but also the number of questions in the time allocated to the test
- More interactive "games" with the concepts of the course

## **6. *Work- Based Learning on CD- Waste management.***

Upon finalization of the CD-Waste course, partners proceeded with the organization of the WBL training for the trainees with the highest score obtained in the final assessment test, performed on the e-platform. Overall, 44 trainees participated in the WBL.

The key point of the work-based learning elaborated in all Partner countries (France, Italy, Spain, Greece, Portugal, Romania) was Construction and Demolition Waste knowledge acquisition and competence development in a genuine working environment.

With a view to evaluate the knowledge and skills acquired by the trainees during the WBL, EKS prepared an evaluation questionnaire addressed both to trainees and trainers presented in Annex II. The scale used for measuring the effectiveness of the WBL is:

0 = Poor 1 = Fair 2 = Good 3 = Excellent.

The conclusions of the WBL evaluation per Partner country are presented below:

## 6.1 WBL Learning in France: OEC

In France a total number of 14 construction workers attended the WBL .During the CD Waste WBL learning program trainees attended the following companies: LES FRERES PIACENTINI company that carries out masonry, stone cutting, carpentry and roofing work; KYRNOLIA CIE DES EAUX ET DE L'OZONE company specialized in the water collection, treatment and distribution sector; one company with more than 40 years of know-how in the field of the construction of individual houses, renovation or extension but also in the realization and in the assembly of real estate program on the Ajaccien sector; IUT Corte and CP2B, which is a company specializing in the construction of individual house; university department in BVP INGENIERIE.

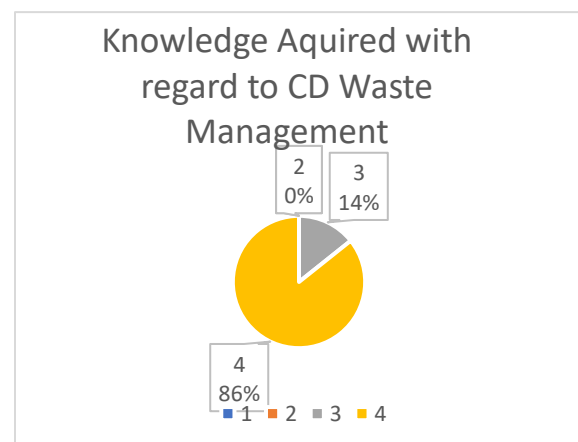
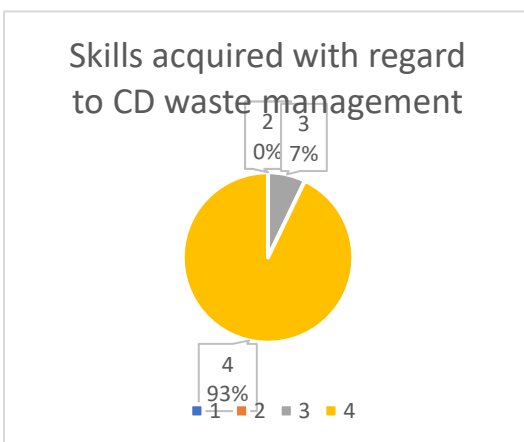
Overall trainees were satisfied by the WBL component and the knowledge and skills acquired with CDWASTE program were useful and they could better understand the importance of CD waste management in all the building projects and in all phases of its implementation. Most of trainees stated that they did not change their career plans but they had a new vision about the job responsibilities and the green component it includes.

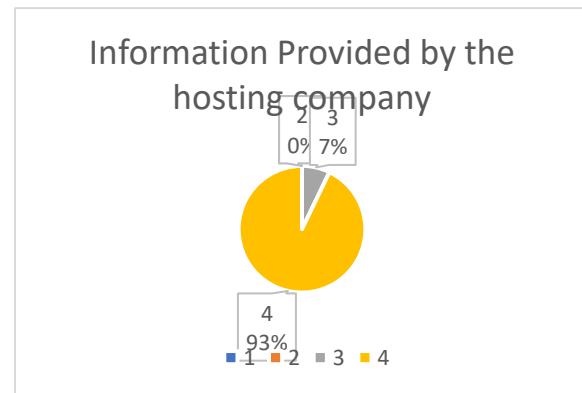
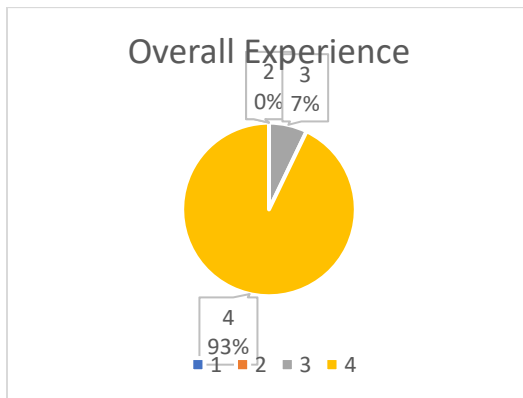
**The feedback received from the trainees that attended the companies/industry in the CD Waste sector for implementing the WBL showed that:**

-93% declared that they acquired excellent CD-waste skills

-86% declared that they acquired excellent knowledge on the CD-Waste management field and

-93% declared that the overall experience and organisational structure of the hosting company was excellent



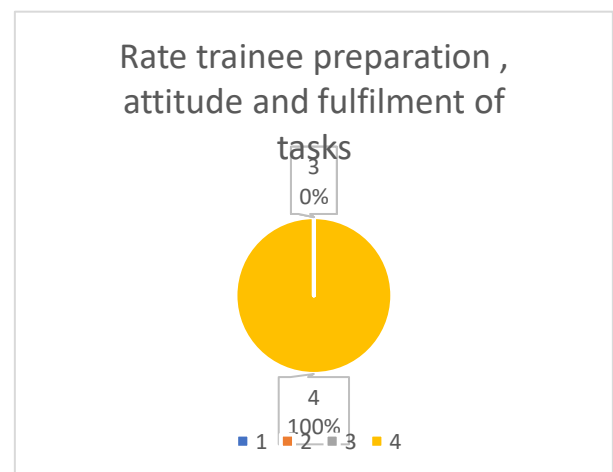
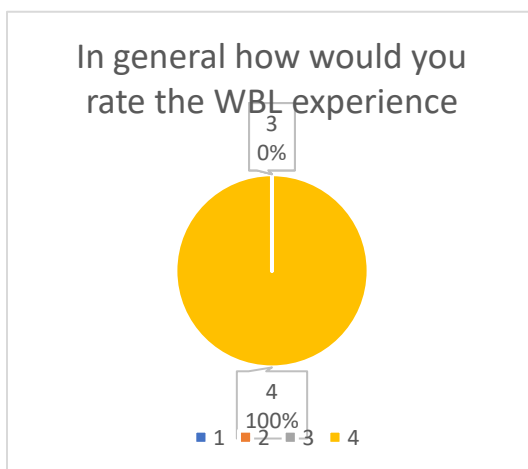


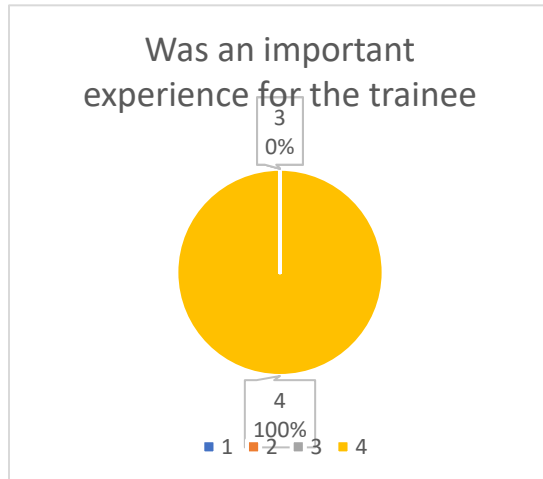
**Tutors:**

Overall, tutors were also satisfied by the WBL process and they stated that it strongly serves to strengthen not only the technical skills but also the soft skill areas of trainees such as communication, enthusiasm and attitude, teamwork, networking, problem solving and critical thinking, and professionalism. They also appreciated this initiative and they encourage it for the future. They were also pleased to see the future generation will be prepared for Waste Management Plans for construction, renovation and demolition projects that are part of a growing movement to better manage materials and create sustainable communities. The majority were also convinced that today all the education pathways should include a WBL component in order to allow young future professionals to be aware about the reality of their future job and also understand how they can contribute to improving the organization's life.

**The feedback received from the tutors that attended the companies/industry in the CD Waste sector for implementing the WBL showed that:**

- 100% declared that they were really satisfied with the WBL experience
- 100% declared that they were really satisfied with the trainee's preparation, attitude and fulfilment of tasks
- 100% thought that it was a great and important experience for the trainees.





## 6.2 WBL Learning in Italy: Formedil

In Italy a total number of 7 construction workers attended the WBL. During the CD Waste WBL learning program trainees attended and followed the apprenticeship in one company: Cobiem SRL during May 2022. According to the tutors most trainees were very impressed by the WBL experience and they declared that it was also very helpful and interesting for them as they were all deeply involved with the process.

Overall trainees were satisfied by the WBL component and the knowledge and skills acquired with CDWASTE program were useful and they could better understand the importance of CD waste management in all the building projects and in all phases of its implementation

Trainees also declared that they have learnt new working methods: *we learnt by working and seeing the various work steps in practice; we were able to compare what was said in theory with practice at the same time.*

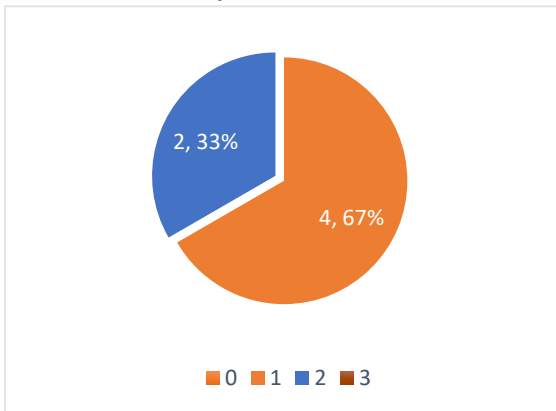
**The feedback received from the trainees that attended the companies/industry in the CD Waste sector for implementing the WBL showed that:**

- 67% declared that they acquired CD-waste skills at a satisfactory level

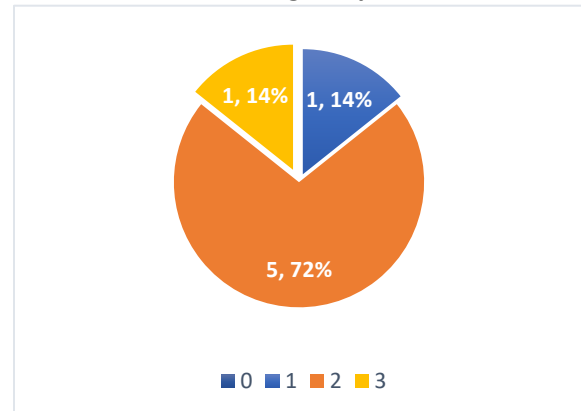
- 72% declared that they acquired good knowledge on the CD-Waste management field and

- 100% declared that the overall experience and organisational structure of the hosting company was excellent

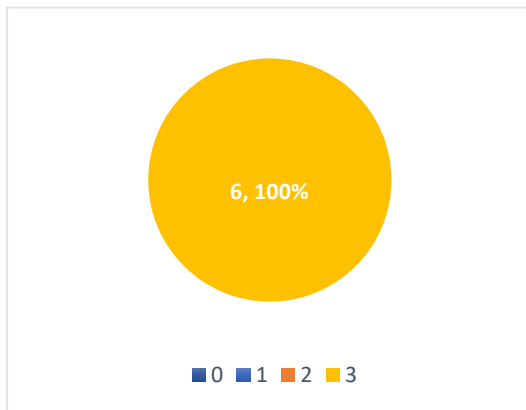
**Skills acquired**



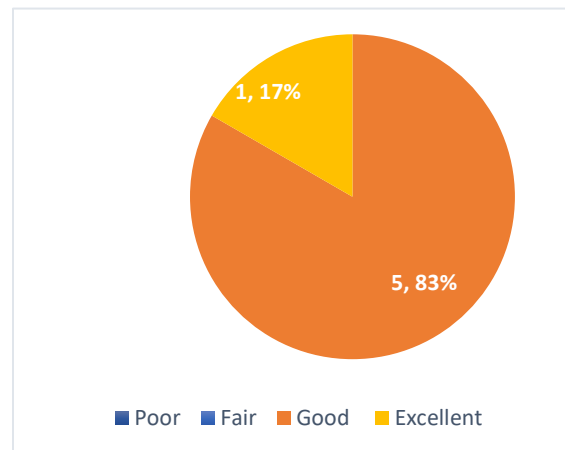
**Knowledge acquired**



**Organizational structure of the hosting company**



**Overall experience**



### 6.3 WBL in Romania-UPB

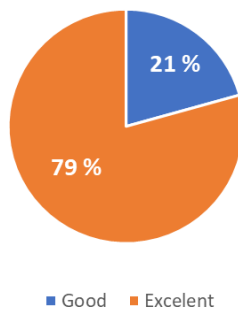
In Romania the WBL was attended by 9 trainees. In order to be able to provide to the trainees a broader understanding of the CD Waste management and valorization activities, UPB organized technical visits to 4 industrial partners involved in waste and CDW sorting and recycling, as well as concrete production, including eco-friendly concrete (with reduced CO<sub>2</sub> emissions, recycling of water and with recycled aggregates).

Overall trainees were greatly satisfied by the WBL conducted under the supervision of UPB as they gained practical knowledge and skills regarding the production of concrete with recycled aggregates, automatization of concrete manufacture process, how the prefabricated elements are obtained. Trainees mentioned that they were also be given comprehensive explanations and access to all departments.

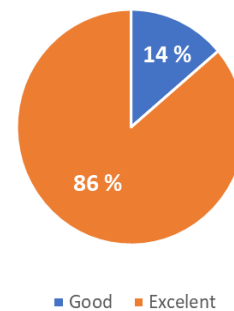
**The feedback received from the trainees that attended the companies/industry in the CD Waste sector for implementing the WBL showed that:**

- 79% declared that they acquired excellent skills on Construction and Demolition issues
- 86% declared that they acquired excellent knowledge on Construction and Demolition issues
- 100% declared that the information provided by the hosting company was excellent.
- 86% declared that the overall experience was excellent

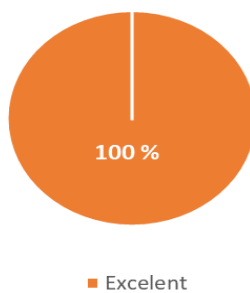
Skills acquired with regard to the Construction and Demolition Waste Management and Recycling process



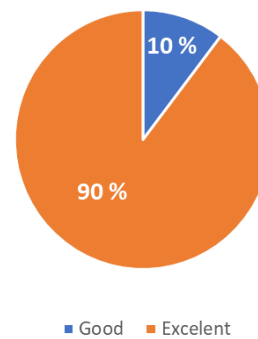
Knowledge acquired with regard to the Construction and Demolition Waste Management and Recycling process



Information provided by the hosting company with regard to the Construction and Demolition Waste Management and Recycling process and the job market



In general, how do you rate your Work-Based Learning Experience?



## 6.4 WBL in Greece: PEDMEDE

In Greece a total number of 5 construction workers 3 males and 2 females attended the WBL. Trainees had the opportunity to make their apprenticeship at the premises of PEDEMEDE ECO, a body responsible for the alternative management of Construction and Demolition waste Management.

Overall, trainees stated that the WBL has proved really valuable as they gained practical knowledge, practical skills on CD Waste management, and learnt more about the legislative framework of the sector and other technical issues. Some of them highlighted that the WBL urged them to want to delve more into the CD Waste management issues, or make them aware of the different and many alternations that this field entails. Other trainees claimed that the knowledge gained by the WBL could assist a transition at the field of the CD Waste management or that this course would be a getaway for a successful career in the field of construction and demolition sector.

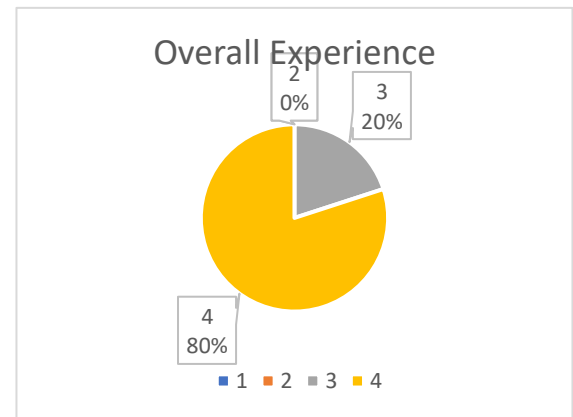
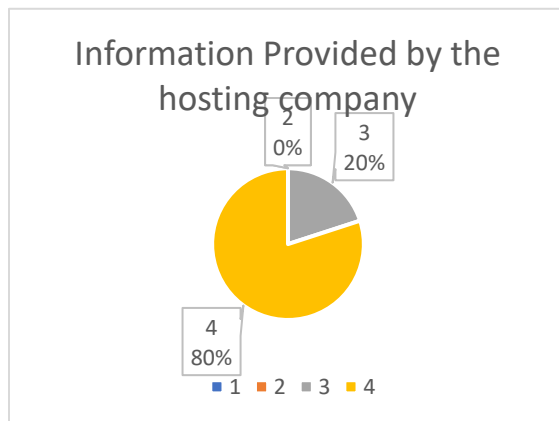
### Tutors

Tutors were also greatly satisfied by the WBL process as they strongly believed that the WBL provided an added value to the learning experience of the trainees. They also stated that it is really important to connect the offered skills from theory with more practical ones. For the improvement of the WBL, they would suggest to proceed with both online and WBL learning at the same time, in order to eliminate the gap between the theory and the practice.

**The feedback received from the trainees that attended the companies/industry in the CD Waste sector for implementing the WBL showed that:**

-100% declared that they acquired excellent knowledge and skills on Construction and Demolition issues  
-80% declared that the information provided by the hosting company and the overall experience was excellent.



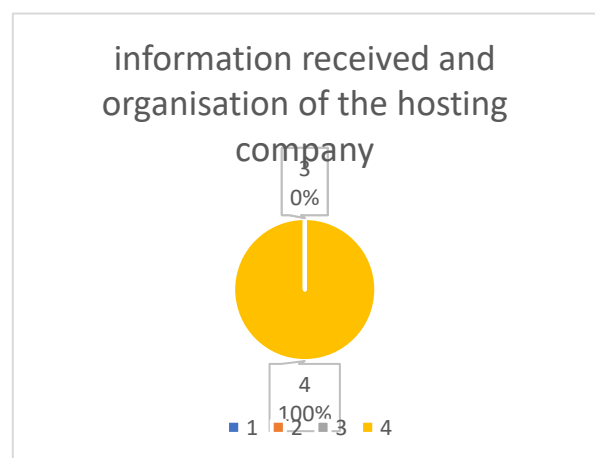
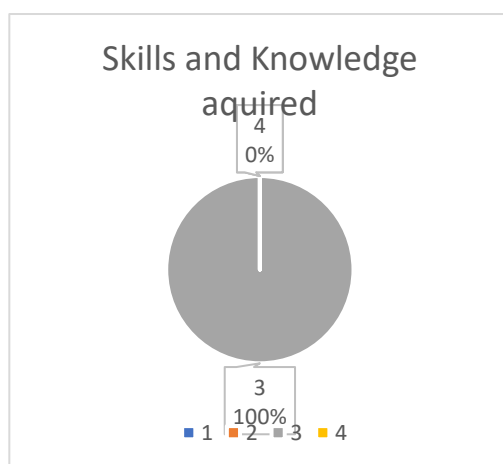


### 6.5 WBL in Portugal: ISQ

In Portugal a total number of 4 trainees attended the WBL in peer/self-learning process. The company in question showed interest in enrolling four workers on the CD Waste Management VET course. Two university students, also attending the CD Waste course, had the possibility to spend one day at a worksite along with the rest of their colleagues from this company. All learners attended the course as a self-learning experience and were challenged to apply the knowledge within their working context. From the feedback gathered, the possibility of applying the acquired knowledge in the field – while taking the course - represented an important step in consolidating the competences acquired during the e-learning phase. The trainees understood the importance of CDW management and how to comply with the national legislation. Students also shared the need/interest to attend the course in a synchronous mode, since they found it important to have some technical guidance during the course attendance.

**The feedback received from the trainees that attended the company in the CD Waste sector for implementing the WBL showed that:**

- 100% declared that they acquired good knowledge and skills on Construction and Demolition issues
- 80% declared that the information provided by the hosting company was excellent.
- 100% declared that the overall experience.



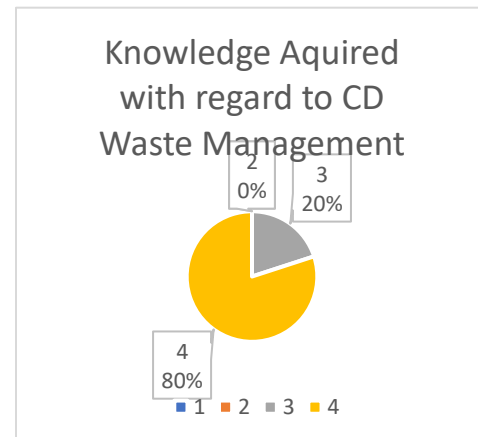
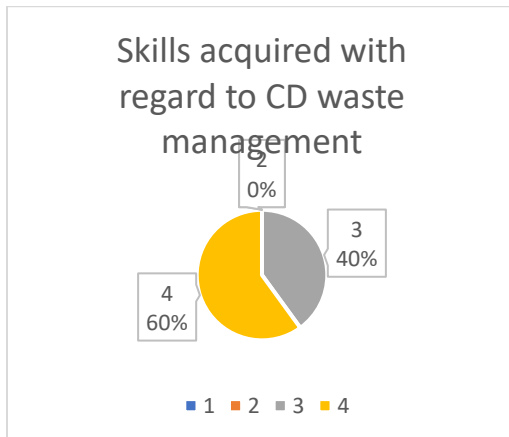
## 6.6 WBL in Spain: FLC

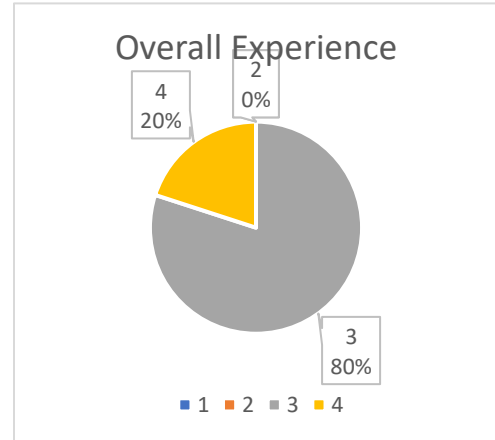
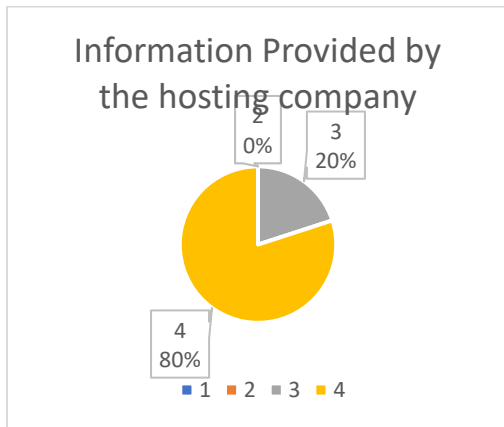
In Spain a total number of 5 construction workers attended the WBL. Trainees had the opportunity to make their apprenticeship at the premises of a company named REAM. AM “Recuperación Ambiental”, which mainly works with aggregates from public works and construction. It focuses on the environmental recovery of deteriorated areas in order to improve the quality of their surroundings.

Overall, trainees stated that the WBL granted them general knowledge; made them more aware of the amount of waste from demolition and excavation and the importance of its proper management; made them learn of the possibility of reuse and management of CDW as far as land is concerned, and made them have a clearer idea of the subject matter.

**The feedback received from the trainees that attended the company in the CD Waste sector for implementing the WBL showed that:**

- 60% declared that they acquired excellent knowledge on Construction and Demolition issues
- 80% declared that they acquired excellent skills on Construction and Demolition issues
- 80% declared that the information provided by the hosting company was excellent.
- 20% declared that the overall experience was excellent and 80% that it was good.





## 7.References:

### ANNEX A.

#### Template of the Learners Satisfaction Survey

##### Evaluation Questions for the CD Waste-Manage VET online course

#### 1.CDWaste-Manage VET Online Course Expectations

What overall rating would you give this course?

1 ----- 2 ----- 3 ----- 4 ----- 5

Did the online course cover the content you were expecting?

1 = Not at all

2 = A little

3 = Somewhat it covered

4 = Covered quite a bit

5 = Greatly covered

Was the online course capable of improving and deepen the knowledge, skills and competences on CDW management?

1 = Not at all

2 = Helped a little

3 = Somewhat helped

4 = Helped quite a bit

5= Greatly helped

Did the course provide an appropriate balance between theory and practice?

1 = Not at all

2 = A little

3 = Somewhat it provided

4 = Provided quite a bit

5 = Greatly provided

## 2.Course Structure and Content

Rate your understanding of the course structure.

1 ----- 2 ----- 3 ----- 4 ----- 5

Rate the consistency of the course content with the objectives.

1 ----- 2 ----- 3 ----- 4 ----- 5

Rate your confidence level for completing the knowledge/ skills/attitudes presented.

1 ----- 2 ----- 3 ----- 4 ----- 5

Rate the quality of the examples presented in the e-learning.

1 ----- 2 ----- 3 ----- 4 ----- 5

Rate the relevance of quizzes, and evaluation tests.

1 ----- 2 ----- 3 ----- 4 ----- 5

Was the amount of time it took to complete this course appropriate?

1 ----- 2 ----- 3 ----- 4 ----- 5

## 3.Student Course learning outcomes

I was challenged to think deeply about the subject matter.

1 ----- 2 ----- 3 ----- 4 ----- 5

This course had high educational impact and overall, met my expectations

1 ----- 2 ----- 3 ----- 4 ----- 5

This course was useful in progress toward my career advancement in the CD Waste sector

1 ----- 2 ----- 3 ----- 4 ----- 5

#### 4.E-Learning Navigation

Rate the ease of navigation.

1 ----- 2 ----- 3 ----- 4 ----- 5

Did the e-learning unfold in a clear direction?

1 ----- 2 ----- 3 ----- 4 ----- 5

Did you understand where you had to click to move forward?

1----- 2 ----- 3 ----- 4 ----- 5

#### 5.Open ended questions

Identify three ways to improve this e-learning course.

1.

2.

3.

Make two suggestions to improve understanding of the course content.

1.

2.

## ANNEX B:

### Template of the WBL Questionnaire

### Evaluation Questions for the CD Waste-Manage VET WBL Learning

#### TRAINEE WBL EVALUATION FORM

Trainee Name.....

Hosting Company Name.....

Tutors Name.....

Work-Site Visited..... Address.....

**DIRECTIONS:** Please use the following rating system for your evaluation: 0 = Poor 1 = Fair 2 = Good 3 = Excellent

- skills acquired with regard to the Construction and Demolition Waste Management and Recycling process

0	1	2	3
---	---	---	---

- Knowledge acquired with regard to the Construction and Demolition Waste Management and Recycling process

0	1	2	3
---	---	---	---

- Information provided by the hosting company with regard to the Construction and Demolition Waste Management and Recycling process and the job market

0	1	2	3
---	---	---	---

- Organizational structure of the hosting company

0	1	2	3
---	---	---	---

5. In general, how do you rate your Work-Based Learning Experience?

Poor	Fair	Good	Excellent
------	------	------	-----------

### Open ended questions

1. Briefly explain what you did in the framework of the Work-Based Learning Experience.

--

2. How did this program change your thinking about your career plans in the construction sector?

--

### Confidentiality and data protection

Any information and personal data you give will be treated according to the national data protection law and to Regulation (EU) 2016/679 (General Data Protection Regulation).

The results of the Questionnaires may be summarized in published articles, reports and presentations. Quotes or key findings will always be made anonymous in any formal outputs unless we have your prior and explicit written permission to attribute them to you by name.

## Evaluation Questions for the CD Waste-Manage VET WBL Learning

### TUTOR WBL EVALUATION FORM

Tutor Name.....

Hosting Company Name.....

Trainee Name.....

Work-Site Visited..... Address.....

Direction: Please use the following rating system for your evaluation: 0 = Poor 1 = Fair 2 = Good 3 = Excellent

In general, how would you rate the Work-Based Learning Program?

0	1	2	3
---	---	---	---

Please evaluate your trainee's preparation, attitude and fulfillment of his/her responsibilities

0	1	2	3
---	---	---	---

To what degree do you feel this was a worthwhile experience for the trainee?

0	1	2	3
---	---	---	---

### Open ended questions

What was your general impression of the WBL? Please write down any suggestions or recommendations you might find useful for the improvement of the WBL

### Confidentiality and data protection

Any information and personal data you give will be treated according to the national data protection law and to Regulation (EU) 2016/679 (General Data Protection Regulation).

The results of the Questionnaires may be summarized in published articles, reports and presentations. Quotes or key findings will always be made anonymous in any deliverable unless we have your prior and explicit written permission to attribute them to you by name.

## ANNEX C.

### Statistical Analysis of the Evaluation results in each Partner Country

#### Results from the On - line Training in FRANCE.

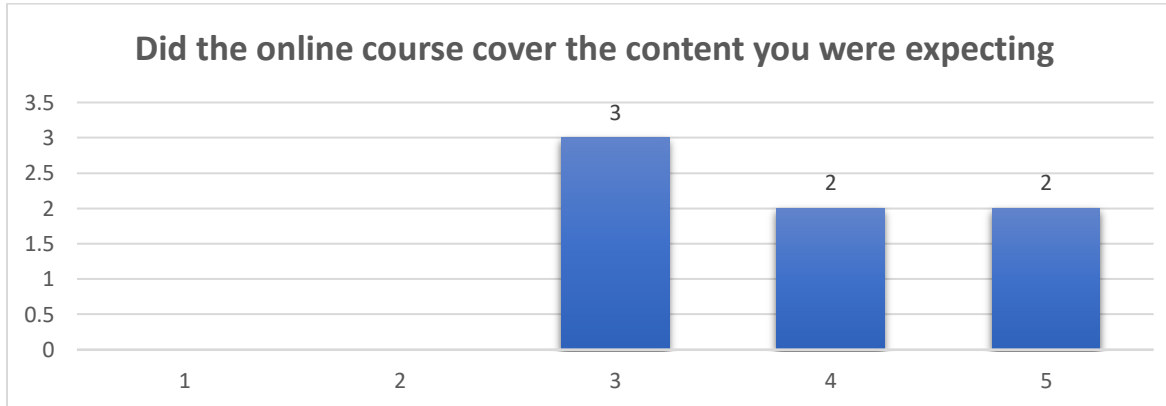
Seven (7) respondents

##### A. CD Waste-Manage VET Online Course Expectations

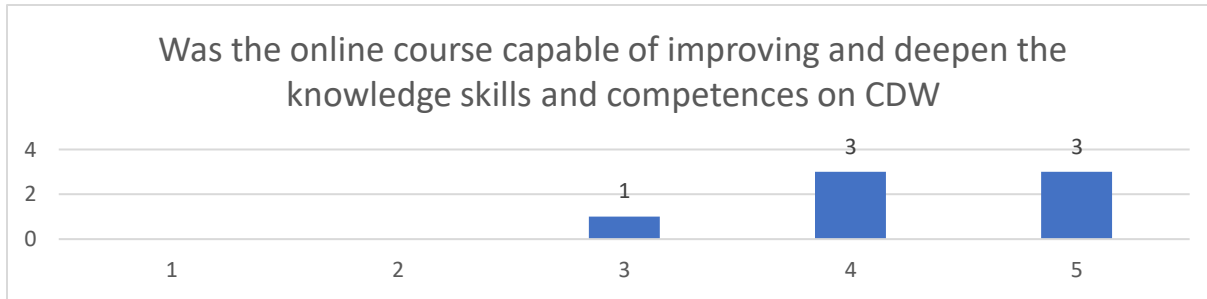
What overall rating would you give this course?



Did the online course cover the content you were expecting?

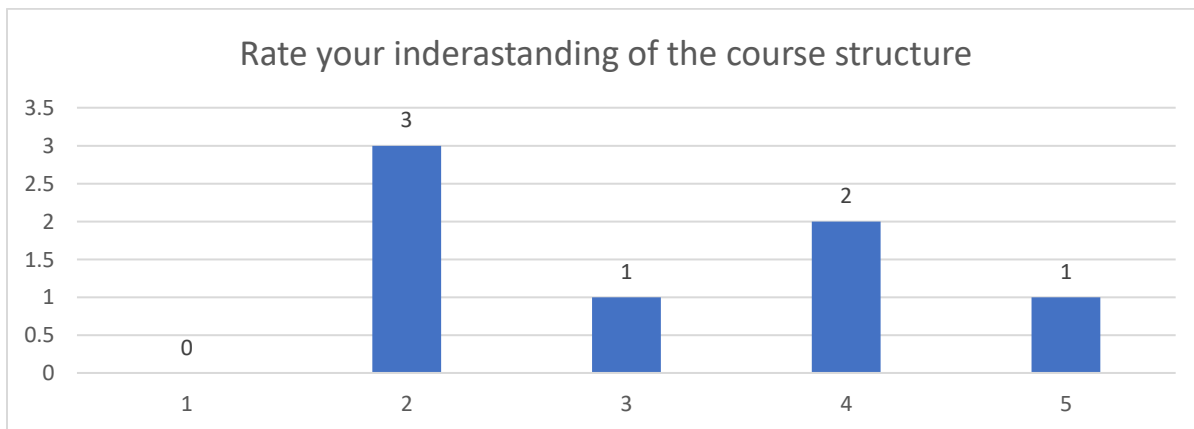


Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?

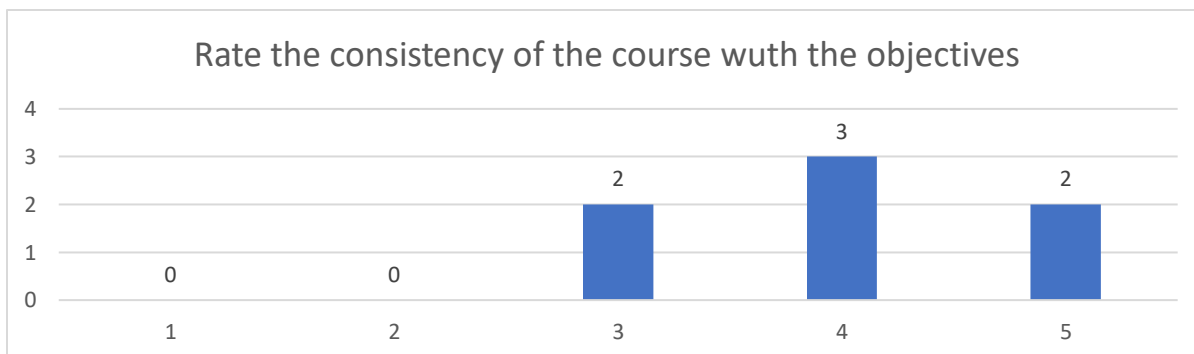


### B. Course Structure and Content

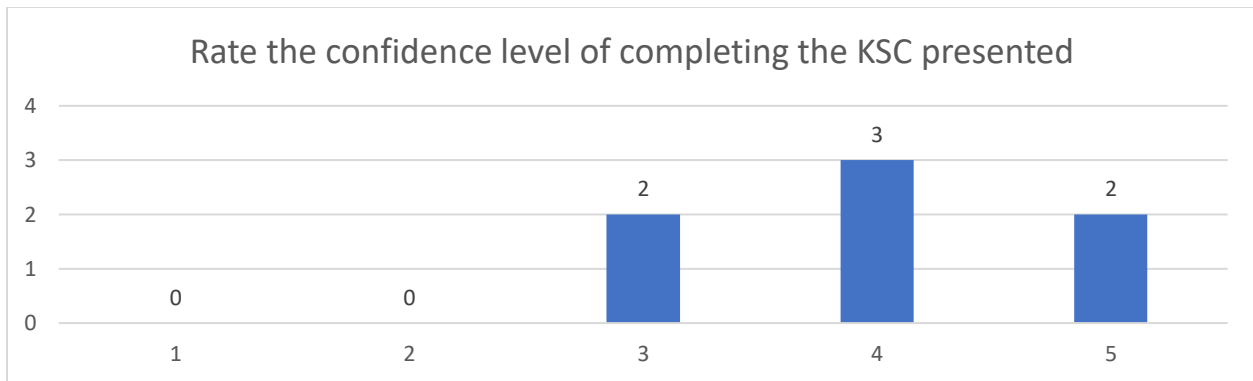
Rate your understanding of the course structure.



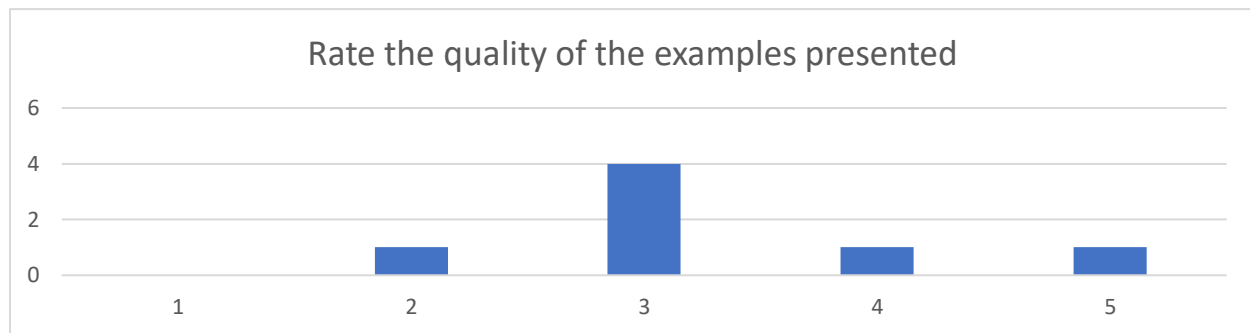
Rate the consistency of the course content with the objectives.



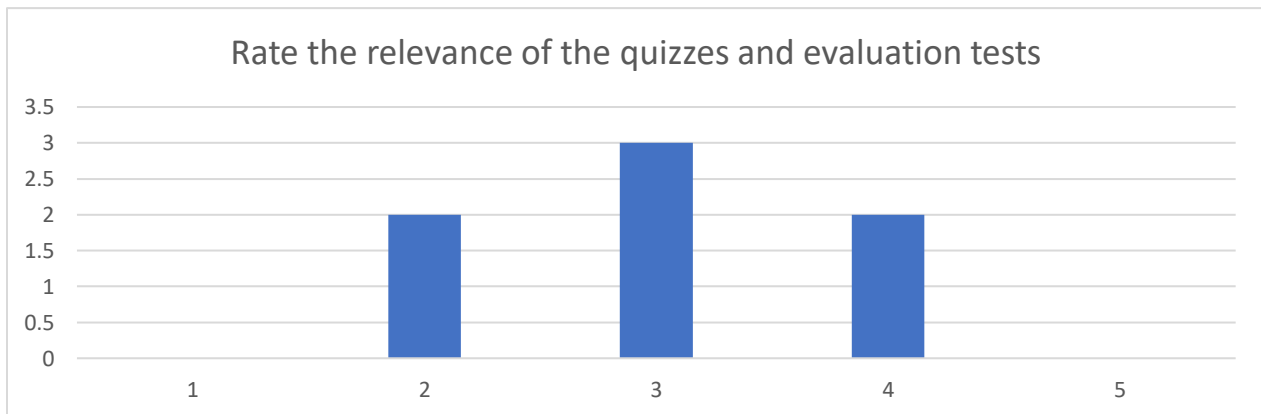
Rate your confidence level for completing the knowledge/ skills/attitudes presented.



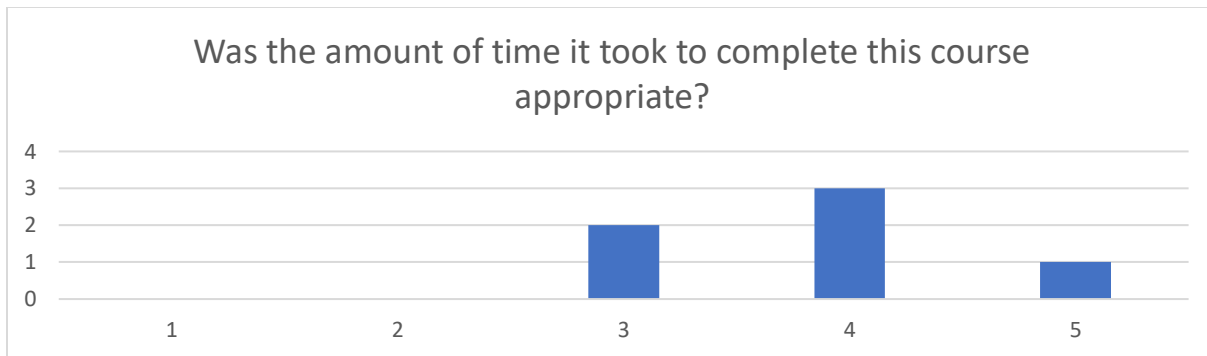
Rate the quality of the examples presented in the e-learning



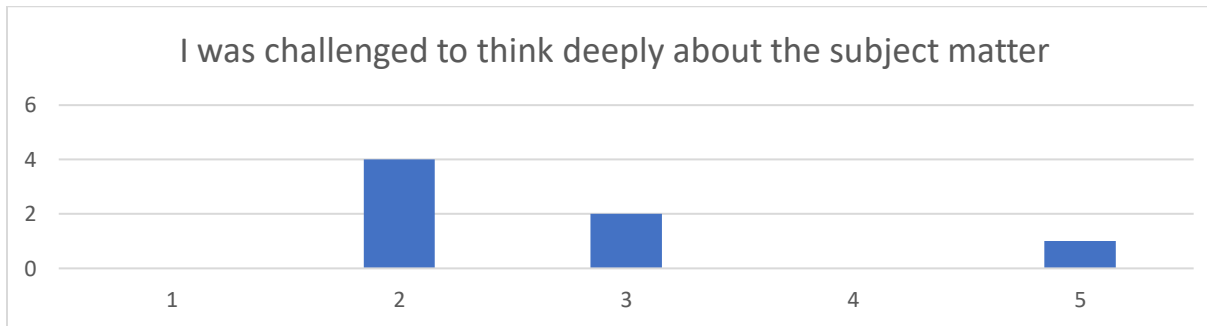
Rate the relevance of quizzes, and evaluation tests



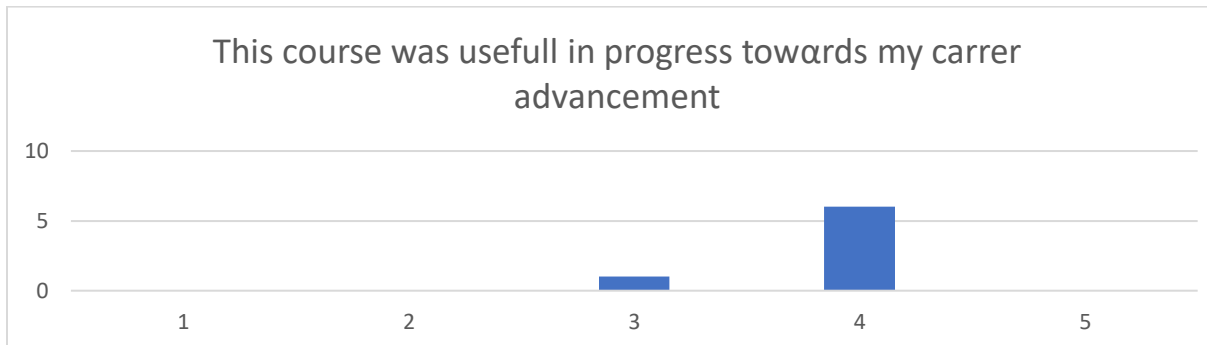
**Was the amount of time it took to complete this course appropriate?**



**I was challenged to think deeply about the topic.**

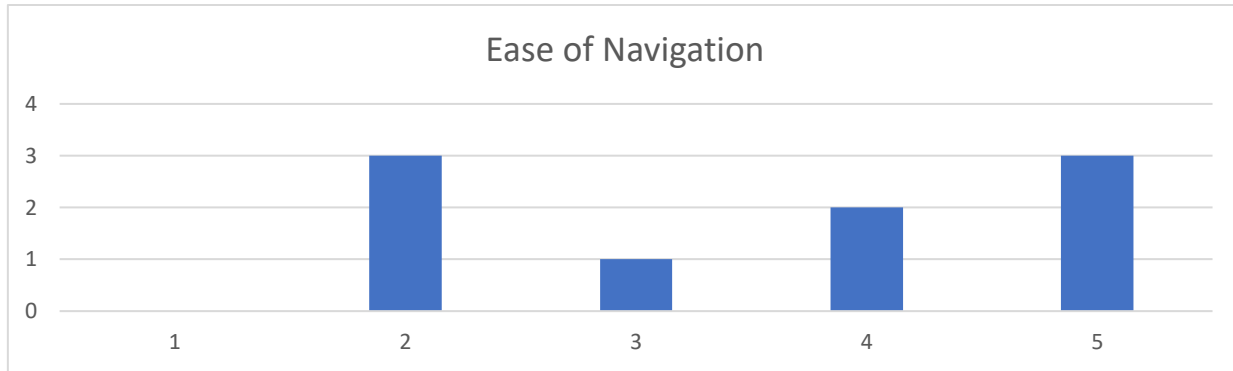


**This course was useful in progress towards my career advancement in the CD Waste sector**

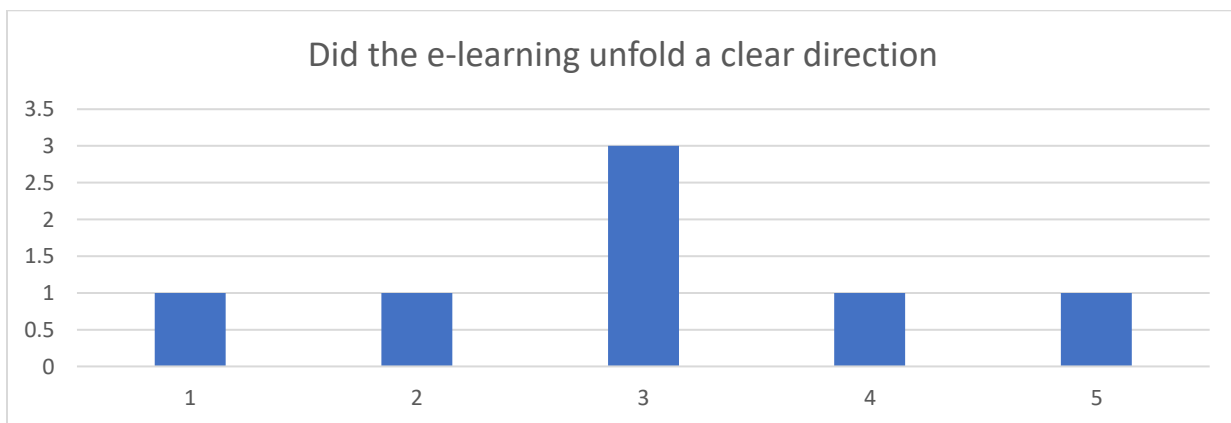


### **C. *E-learning navigation***

**Rate the ease of navigation**



**Did e-learning unfold in a clear direction**



**Did you understand where you had to click to move forward?**

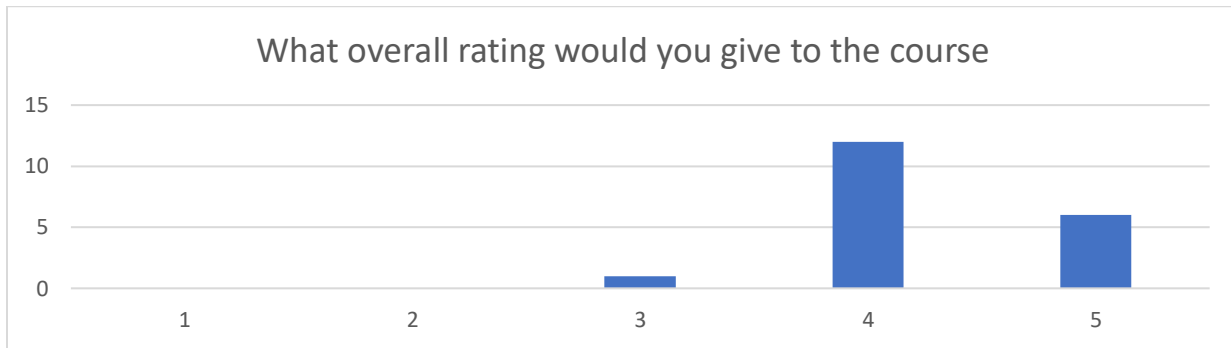


## Results from the On-Line Training in ITALY

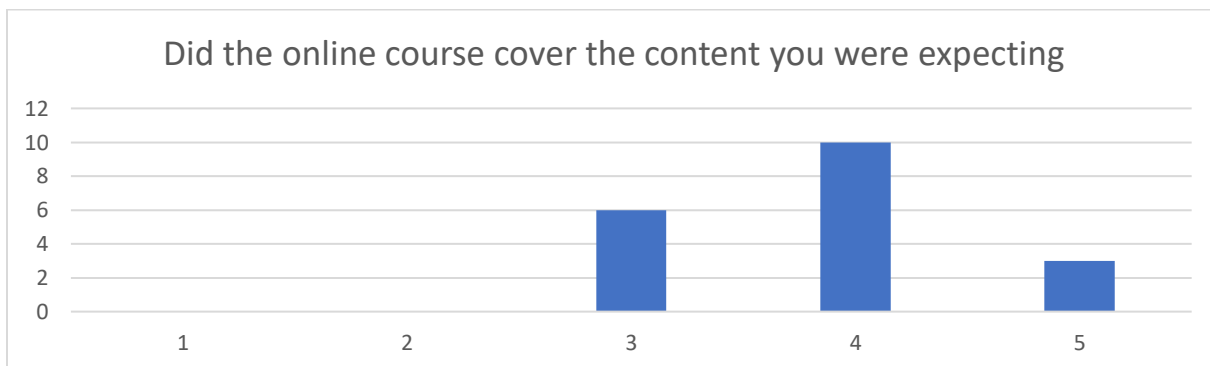
Nineteen (19) Respondents

### A. CD Waste-Manage VET Online Course Expectations

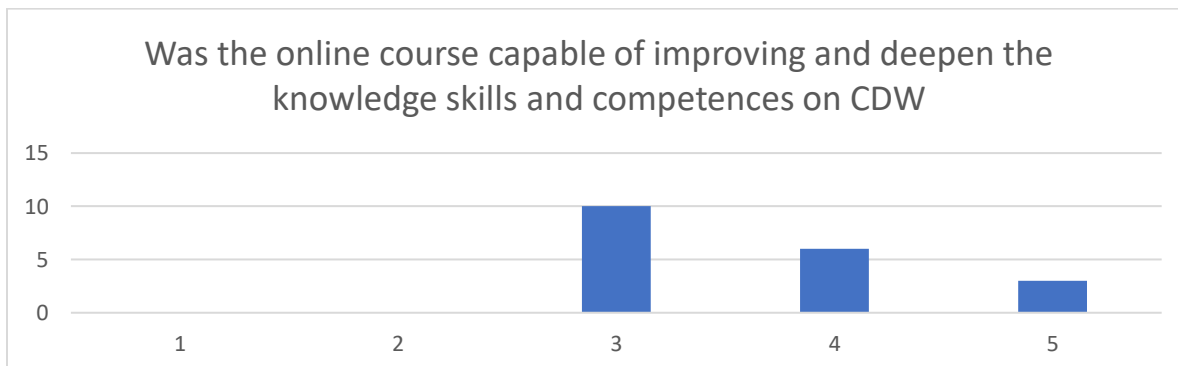
What overall rating would you give this course?



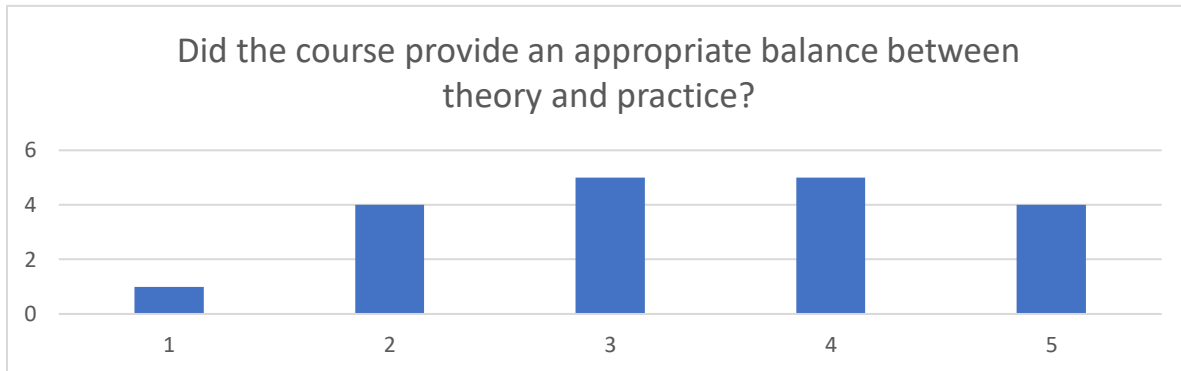
Did the online course cover the content you were expecting?



Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?

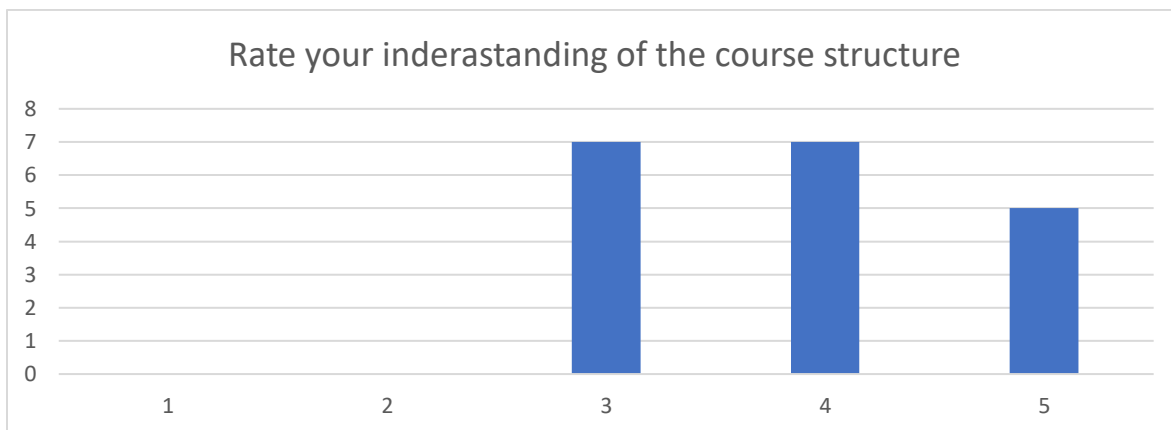


Did the course provide an appropriate balance between theory and practice?

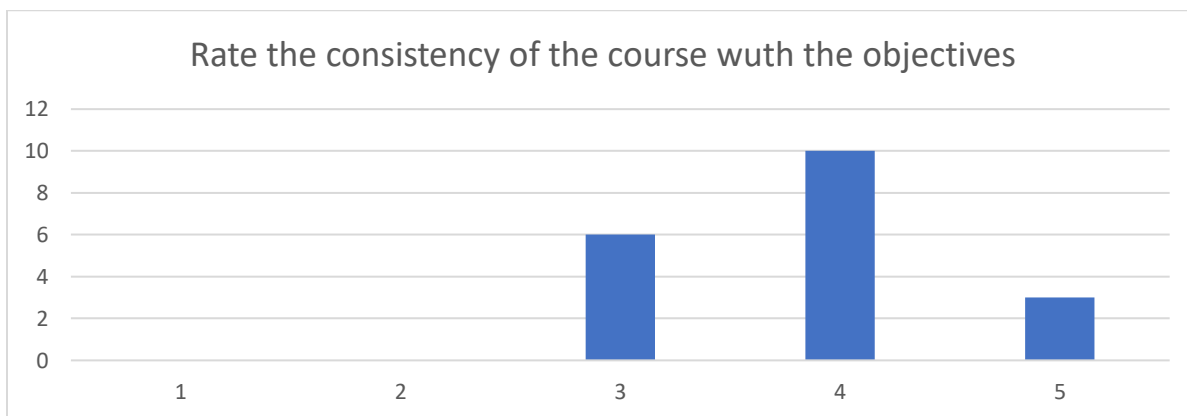


### B. Course Structure and Content

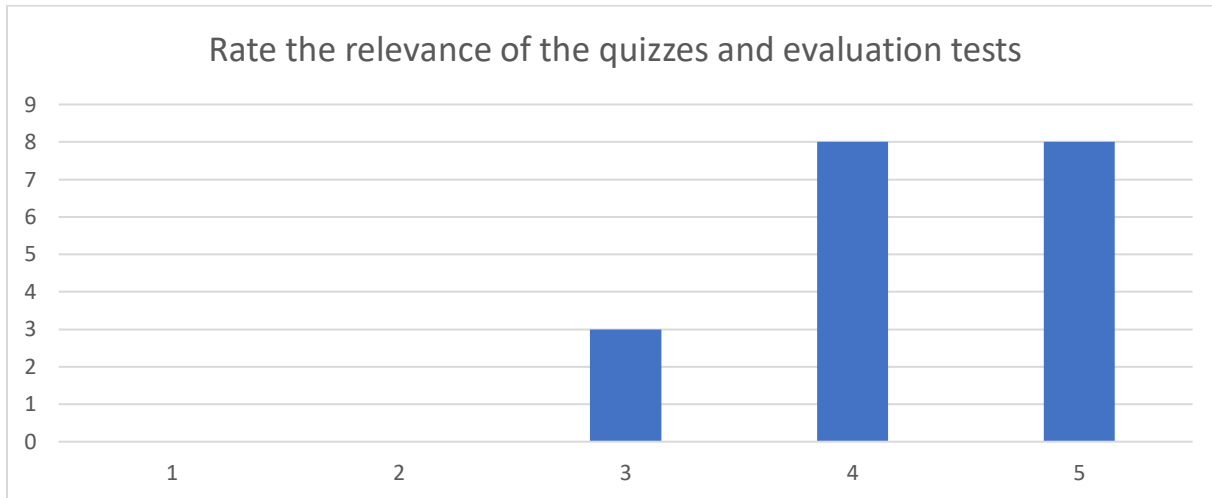
Rate your understanding of the course structure.



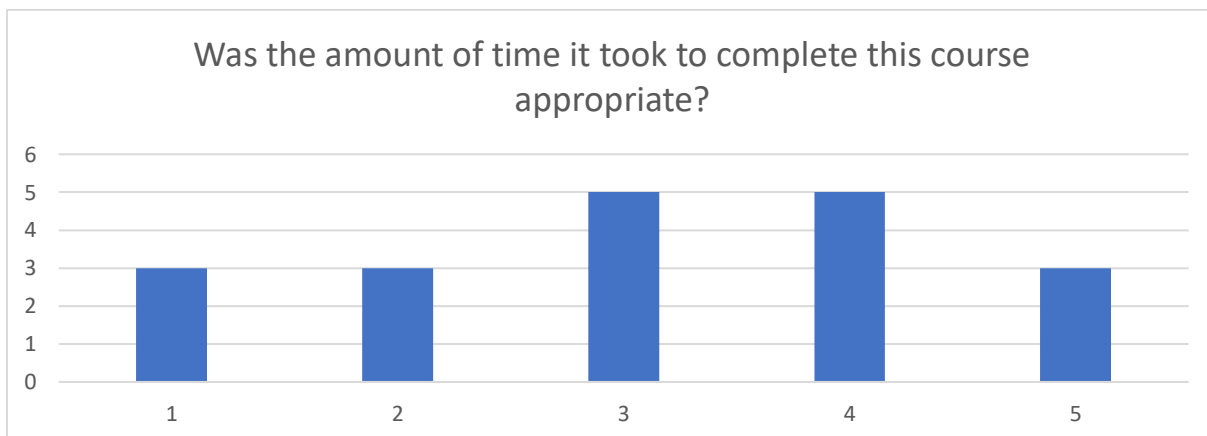
Rate the consistency of the course content with the objectives.



**Rate the relevance of quizzes, and evaluation tests.**

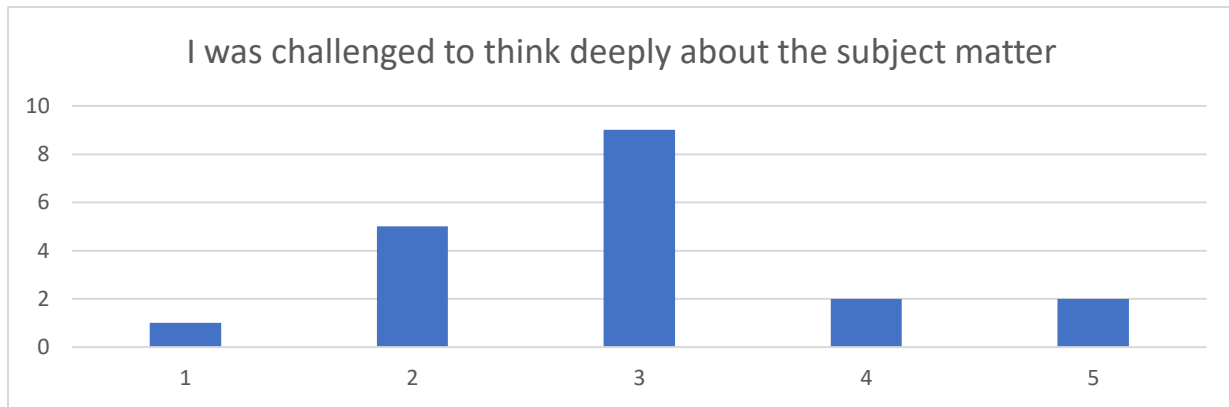


**Was the amount of time it took to complete this course appropriate?**

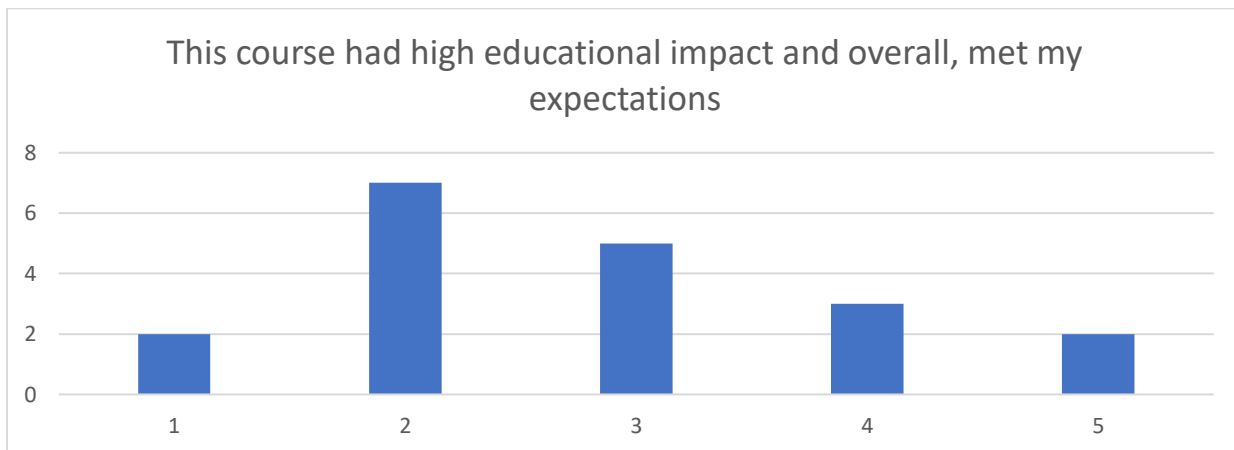


### *C. Student Course learning outcomes*

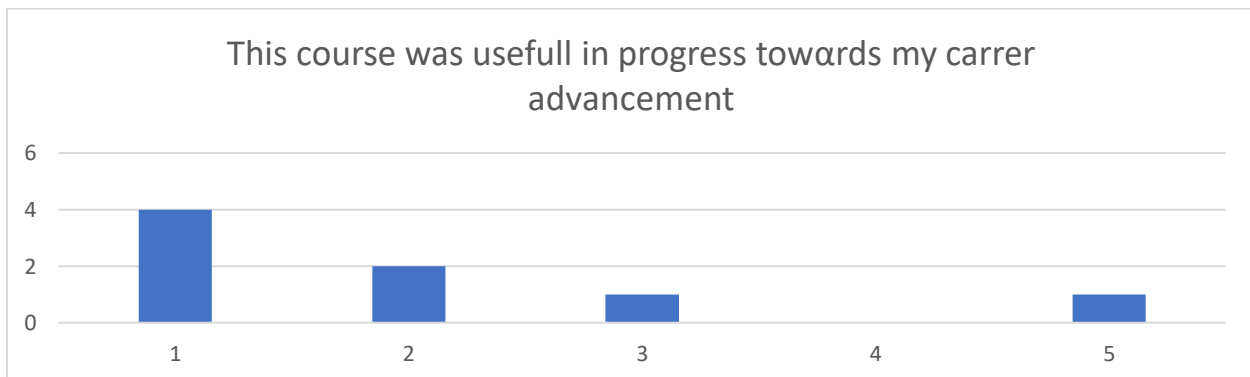
**I was challenged to think deeply about the topic.**



**This course had a high educational impact and, overall, met my expectations.**

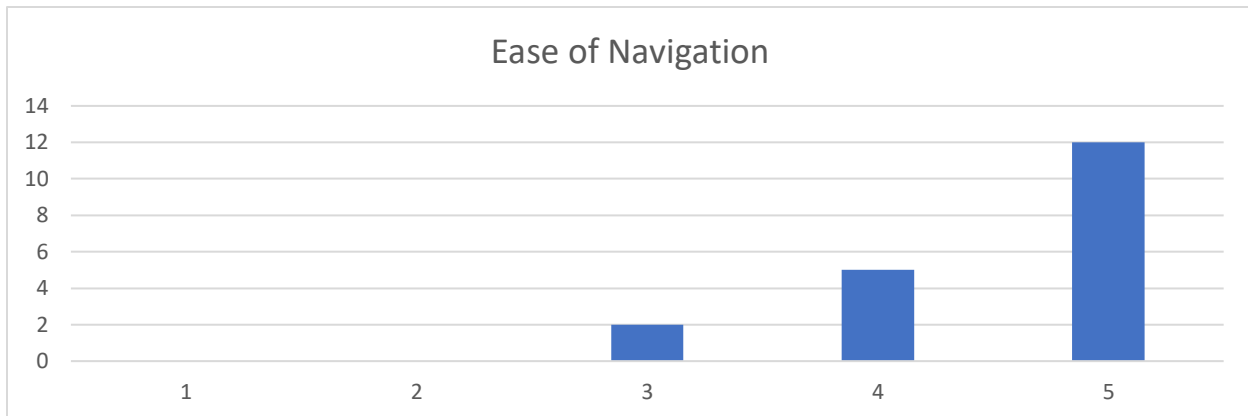


**This course was useful in progress towards my career advancement in the CD Waste sector**

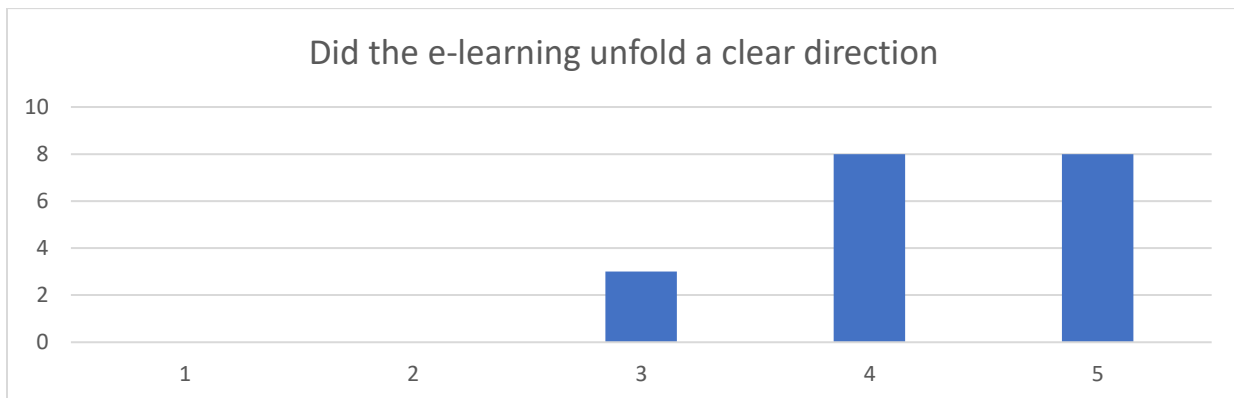


### ***C. E-Learning Navigation***

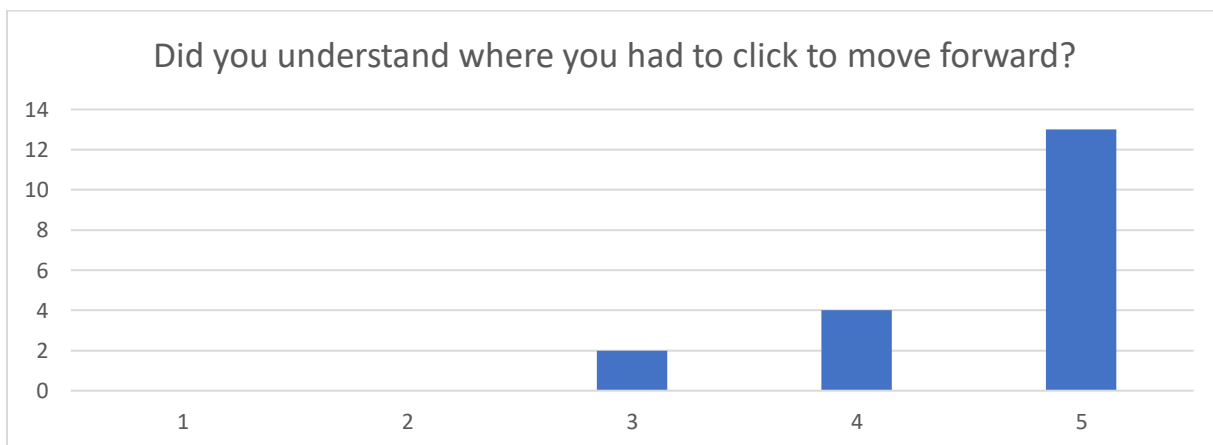
**Rate the ease of navigation**



**Did e-learning unfold in a clear direction?**



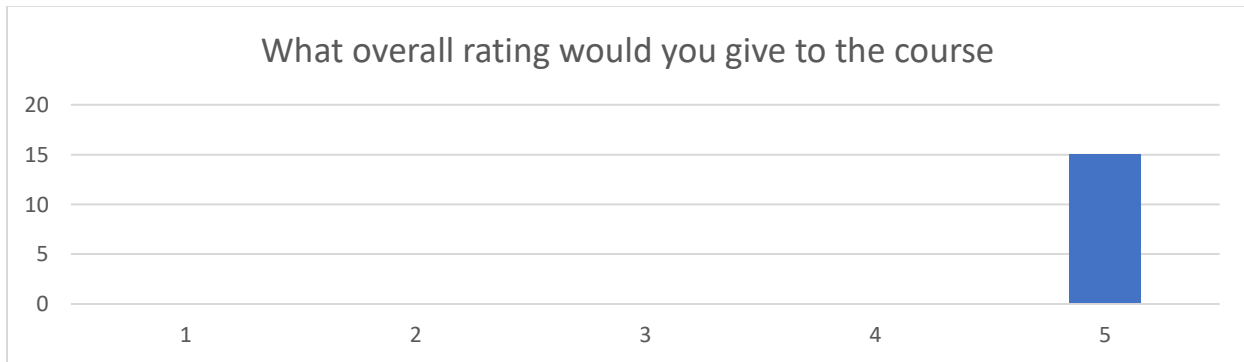
**Did you understand where you had to click to move forwards**



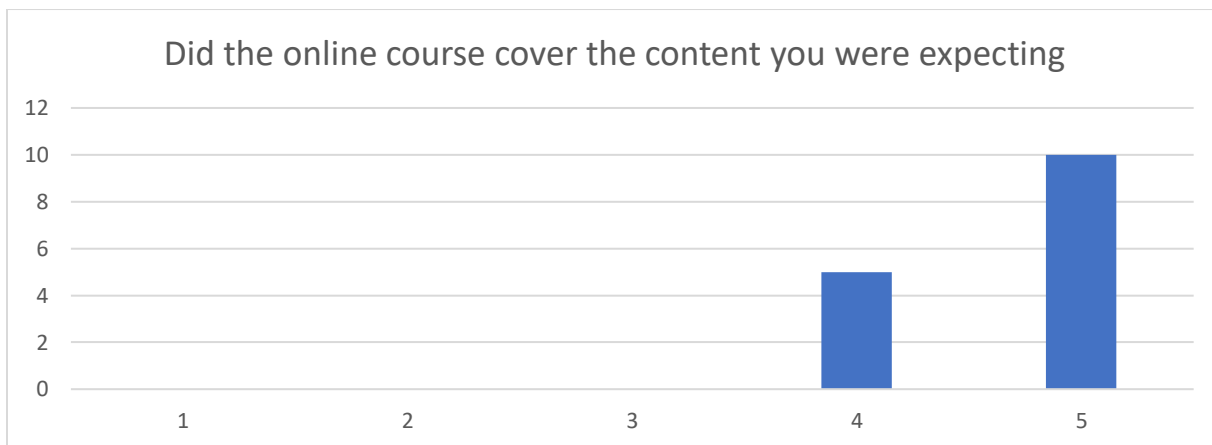
**Results from the On-Line Training in ROMANIA**

**A.CD Waste-Manage VET Online Course Expectations**

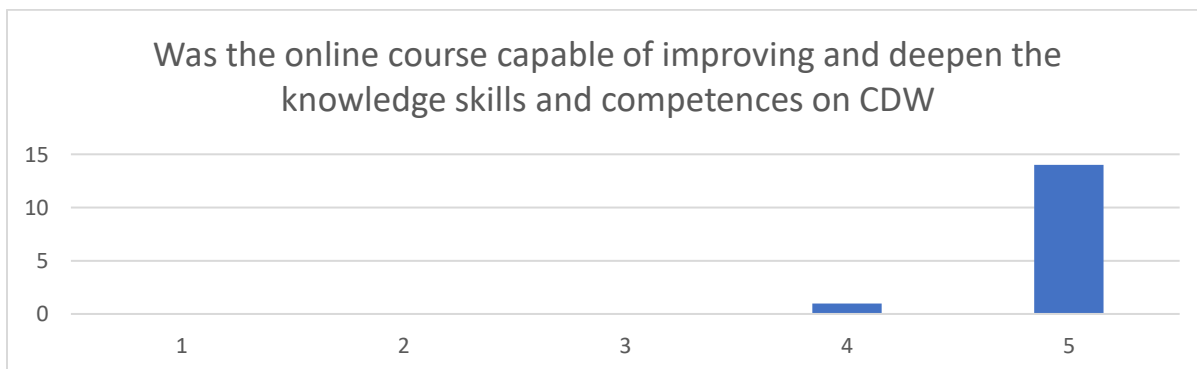
**What overall rating would you give this course?**



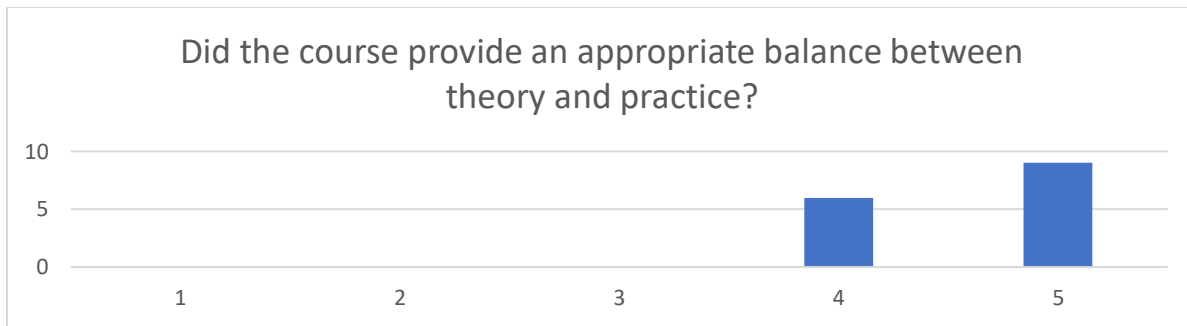
**Did the online course cover the content you were expecting?**



**Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?**

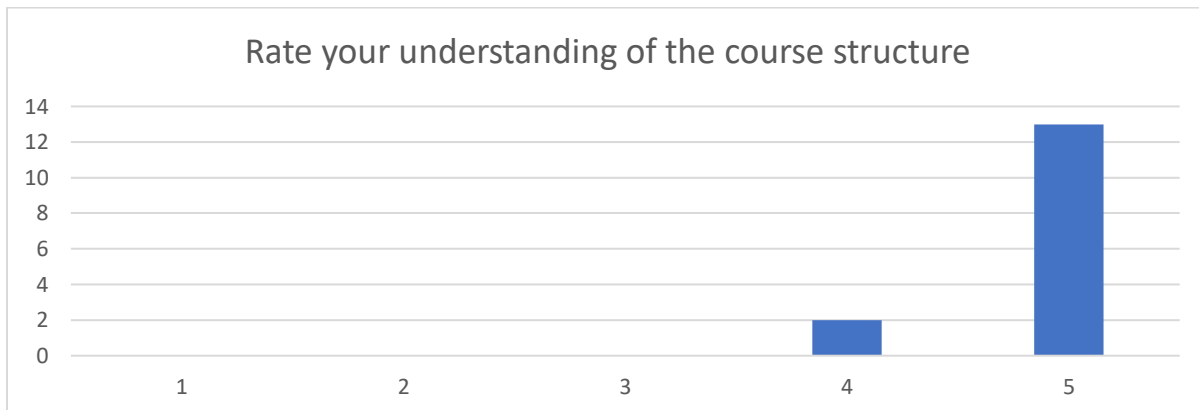


**Did the course provide an appropriate balance between theory and practice?**

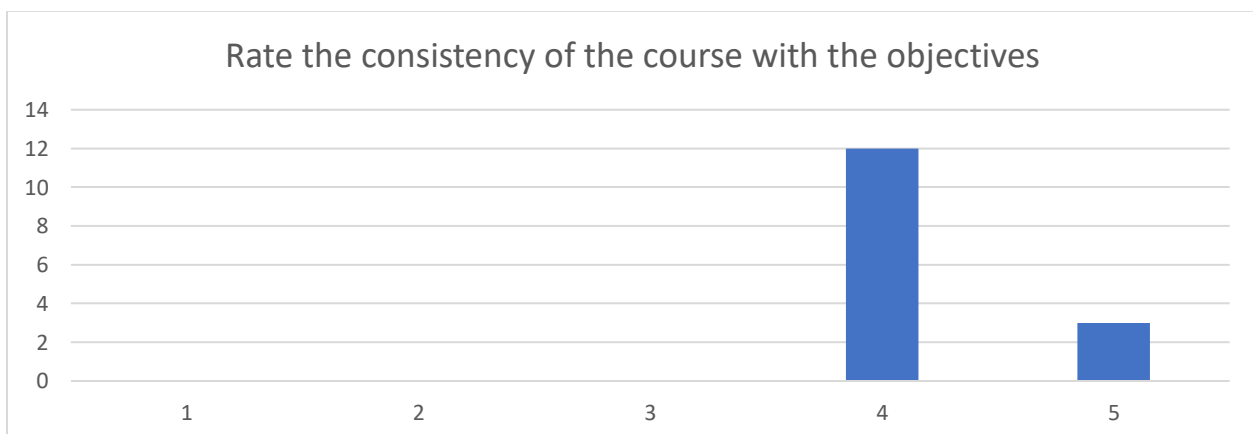


### ***B. Course Structure and Content***

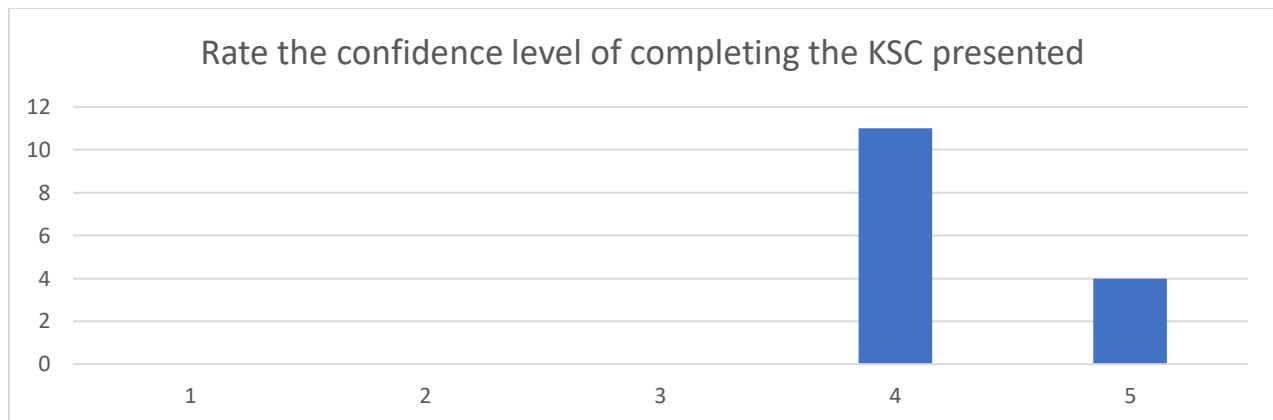
**Rate your understanding of the course structure.**



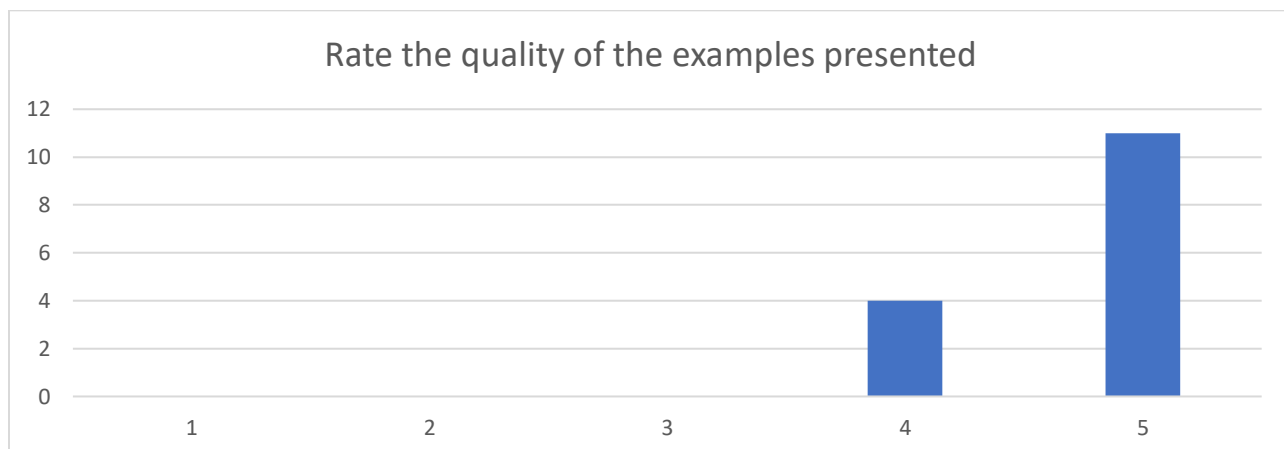
**Rate the consistency of the course content with the objectives.**



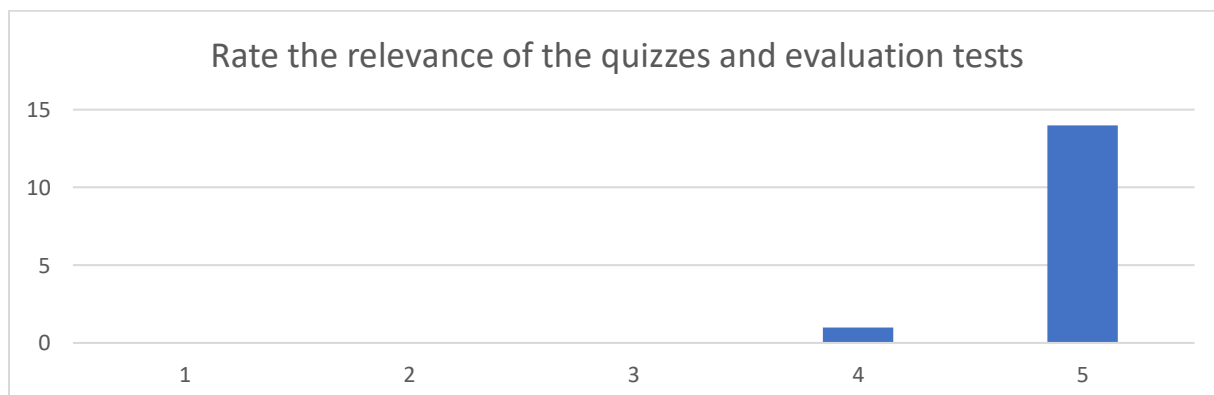
**Rate your confidence level for completing the knowledge/ skills/attitudes presented.**



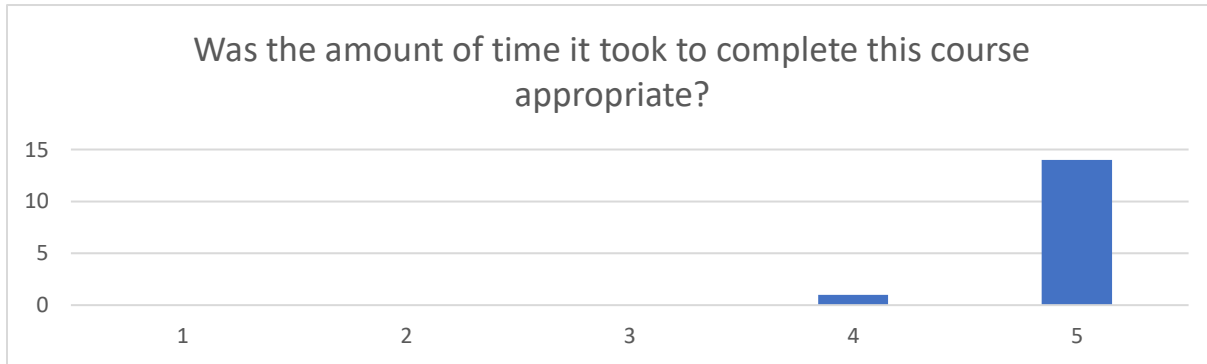
**Rate the quality of the examples presented in the e-learning**



**Rate the relevance of quizzes, and evaluation tests.**

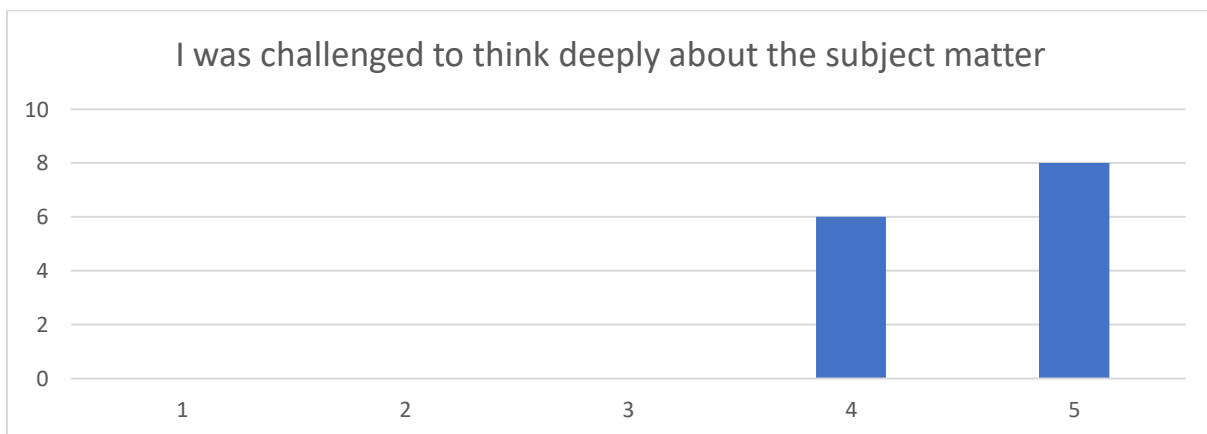


**Was the amount of time it took to complete this course appropriate?**

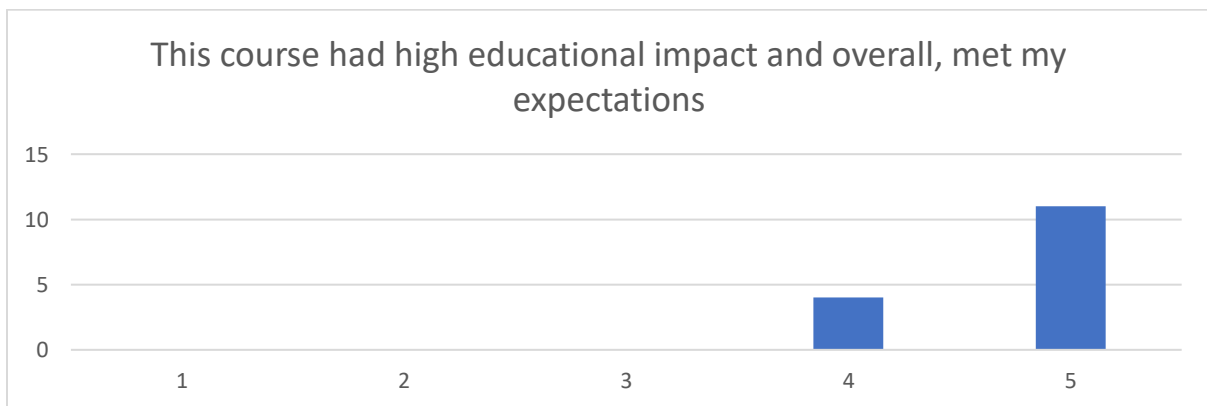


### *C.Student Course learning outcomes*

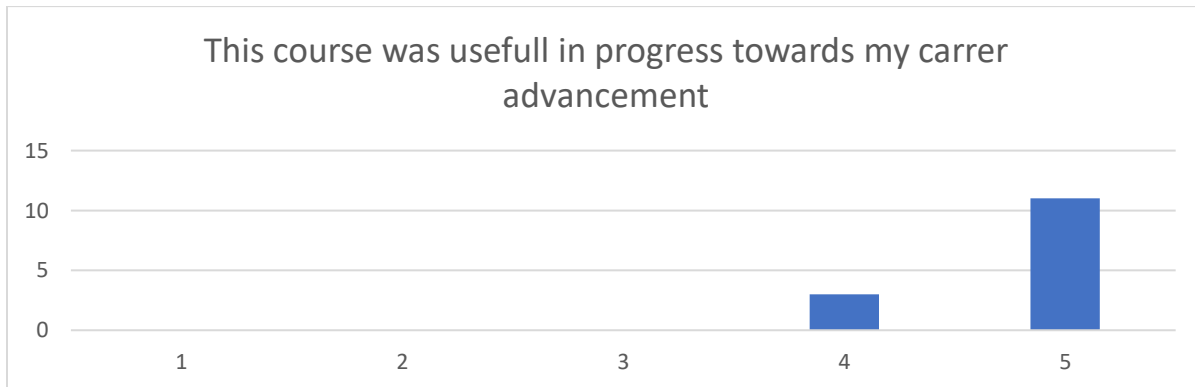
**I was challenged to think deeply about the topic**



**This course had a high educational impact and, overall, met my expectations.**

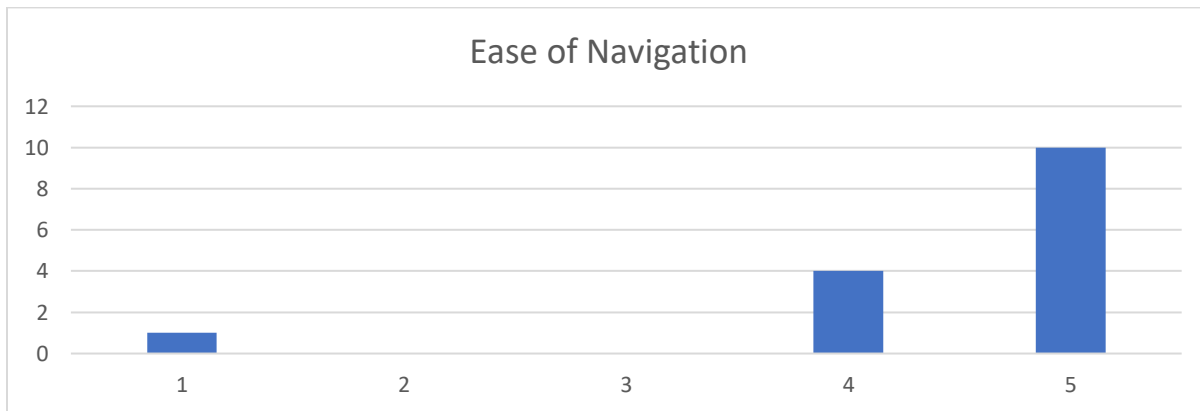


**This course was useful in progress towards my career advancement in the CD Waste sector**

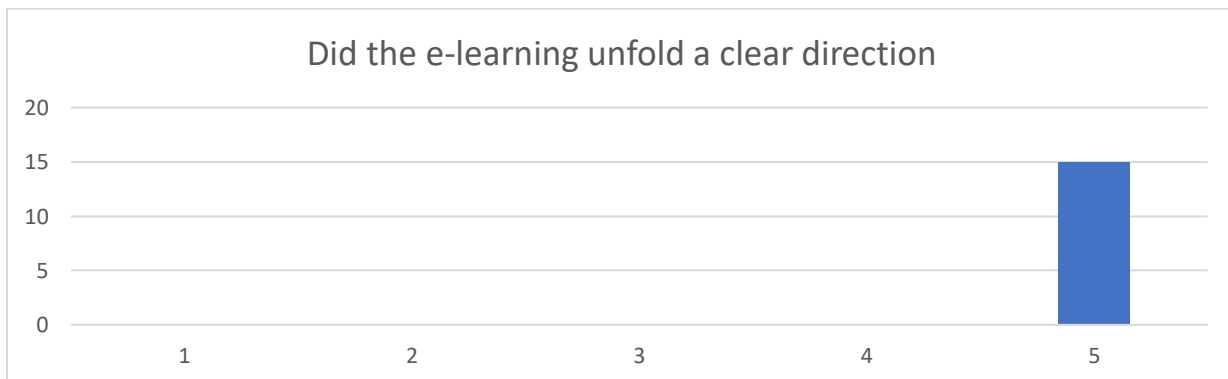


***D.E-Learning Navigation***

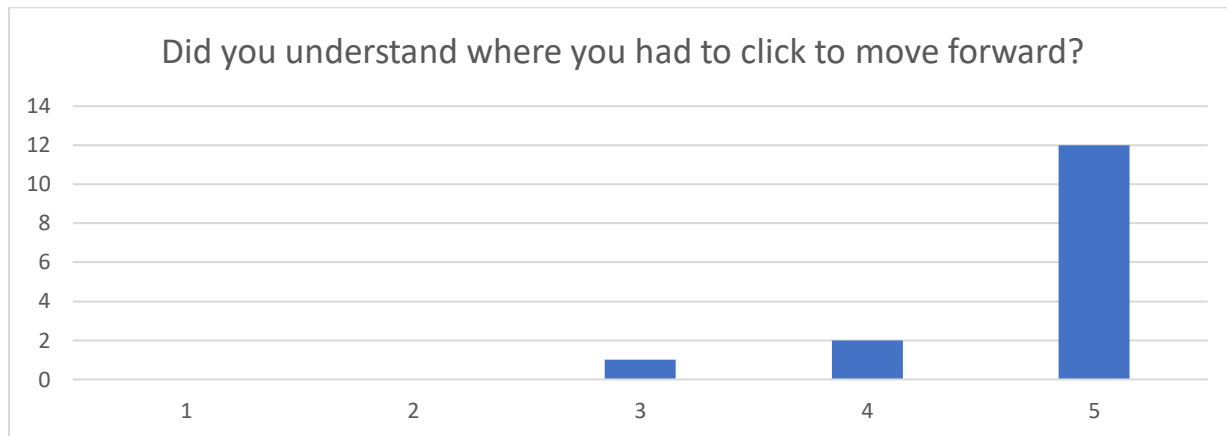
**Rate the ease of navigation**



**Did the e-learning unfold in a clear direction?**



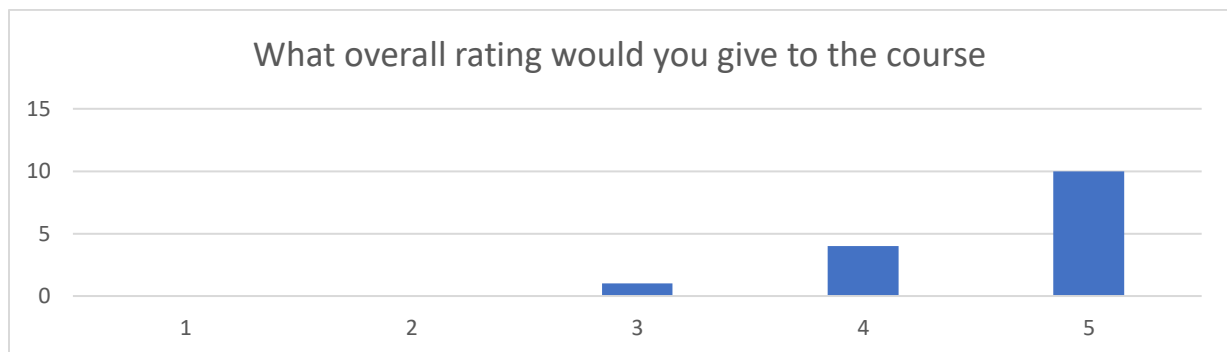
**Did you understand where you had to click to move forward?**



**Results from the on-line training in Greece**

*A.CD Waste-Manage VET Online Course Expectations*

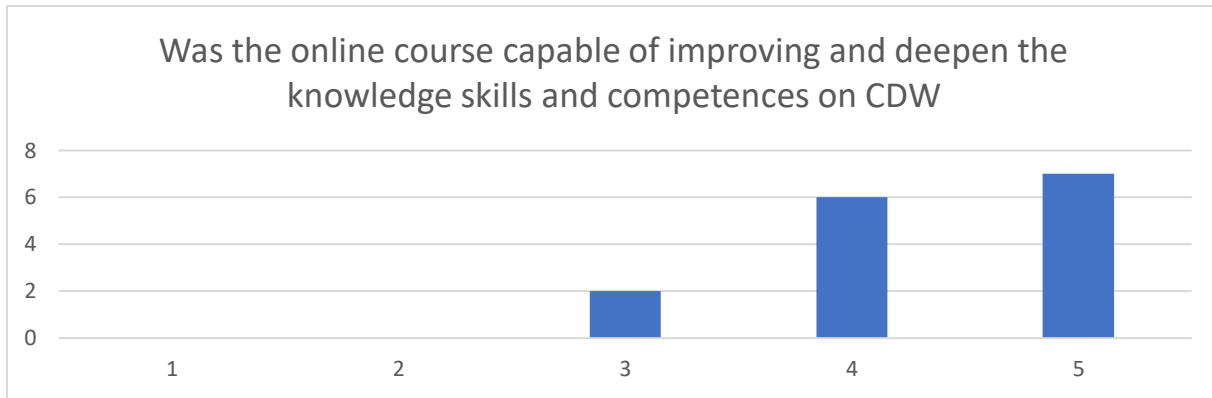
**What overall rating would you give this course?**



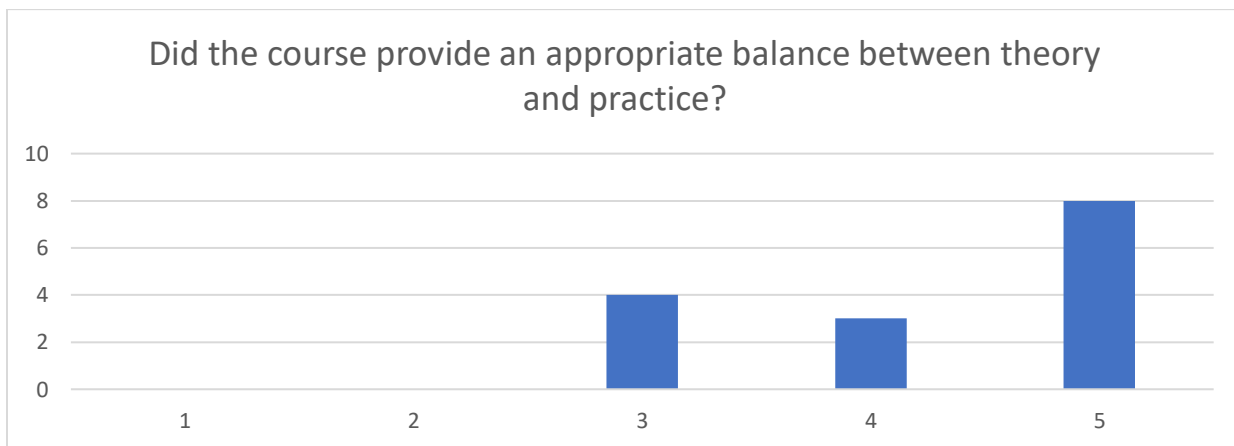
**Did the online course cover the content you were expecting?**



**Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?**

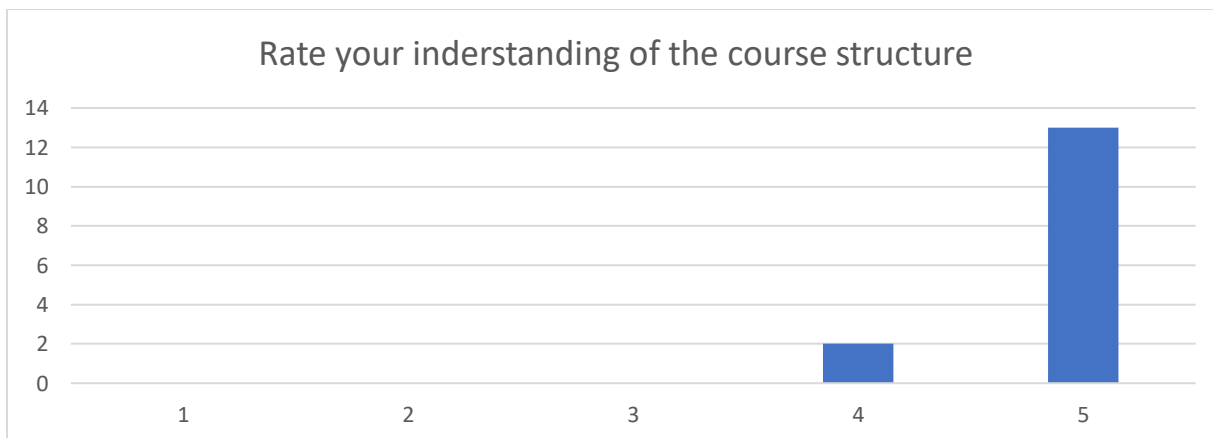


**Did the course provide an appropriate balance between theory and practice?**

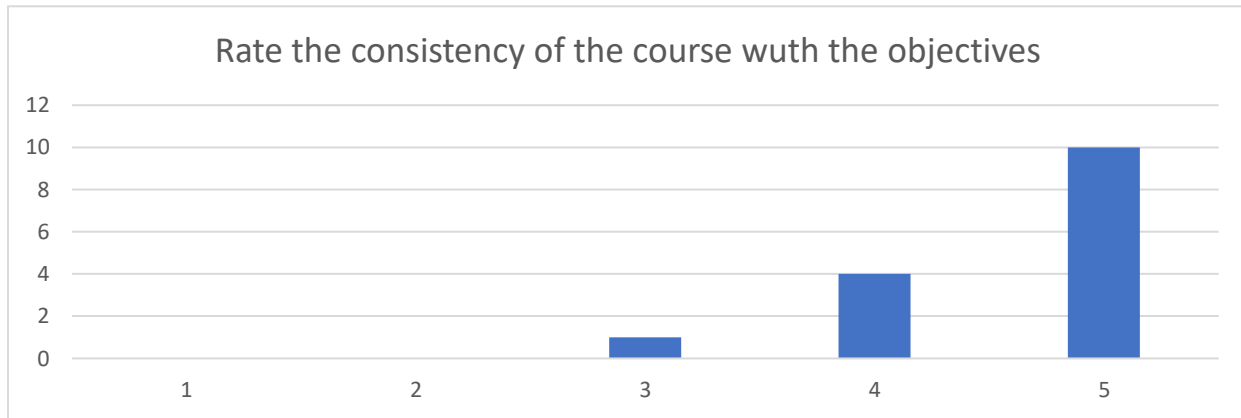


***B. Course Structure and Content***

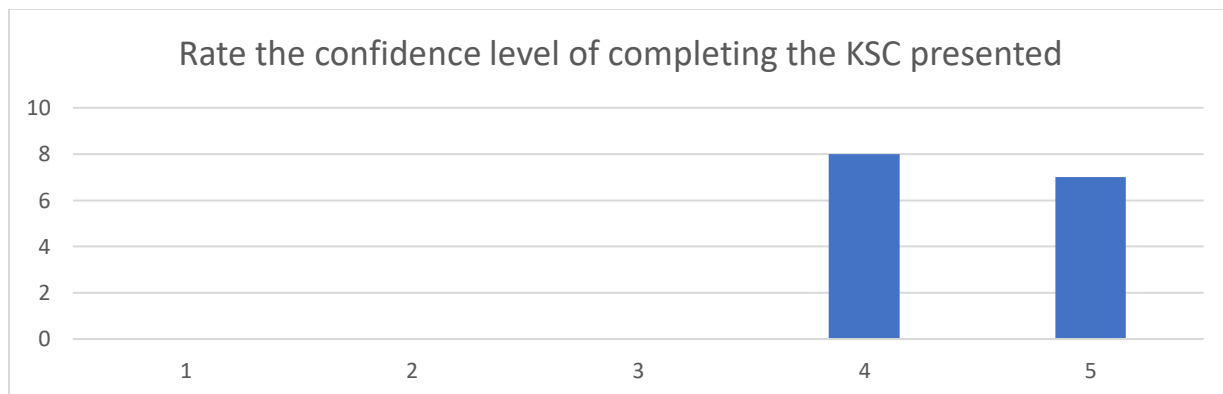
**Rate your understanding of the course structure.**



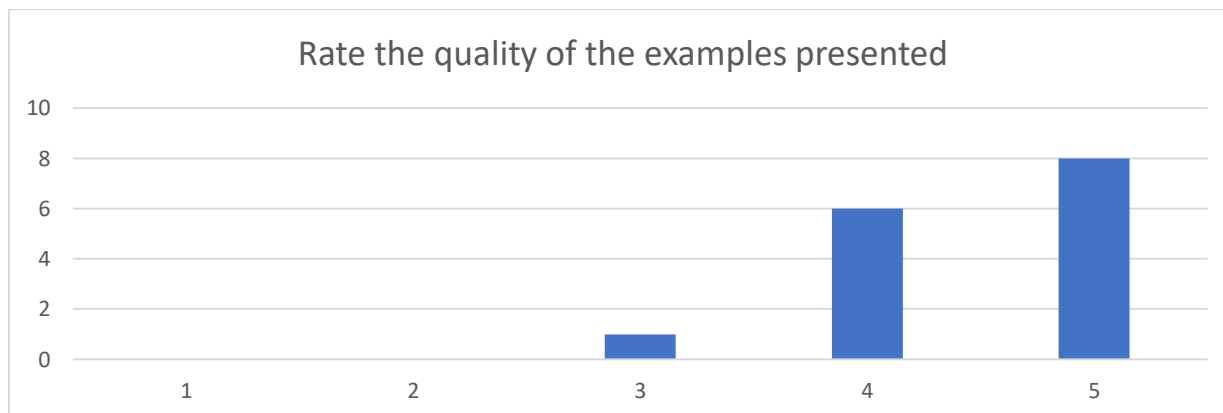
**Rate the consistency of the course content with the objectives.**



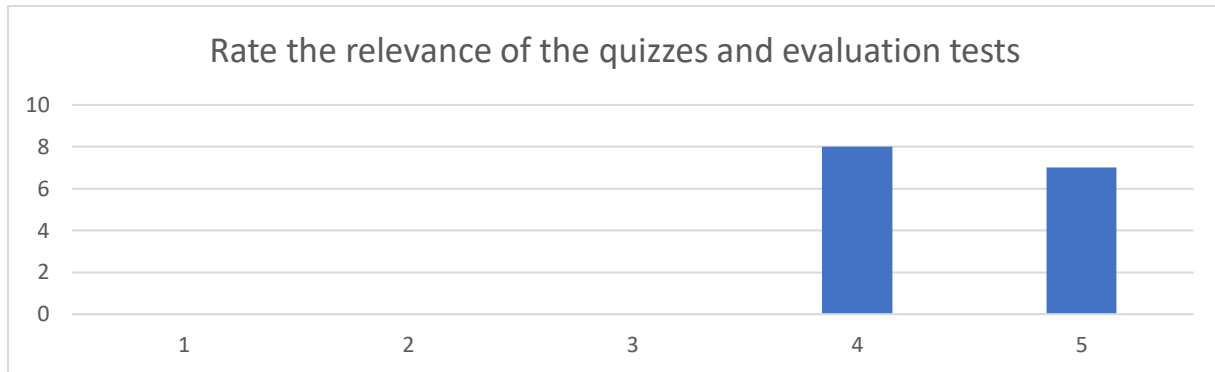
**Rate your confidence level for completing the knowledge/ skills/attitudes presented.**



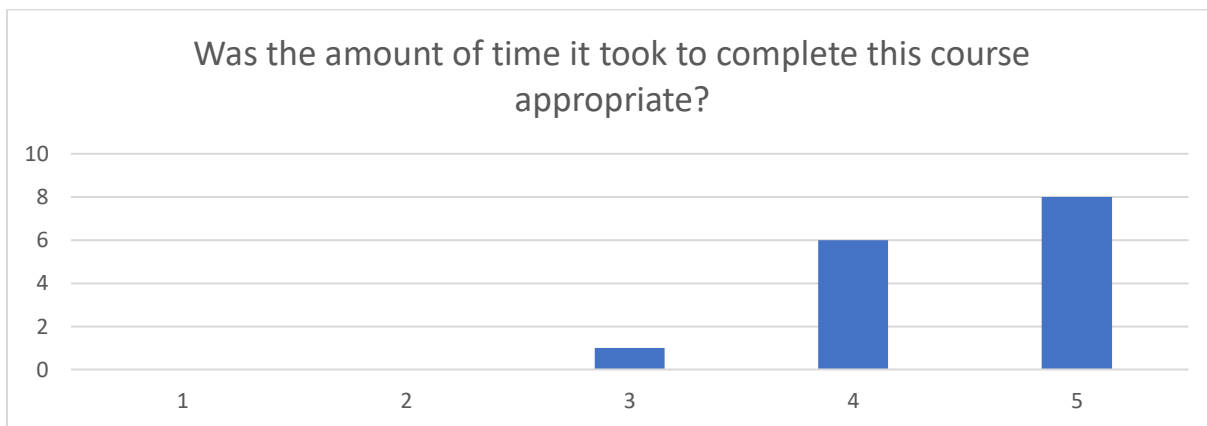
**Rate the quality of the examples presented in the e-learning**



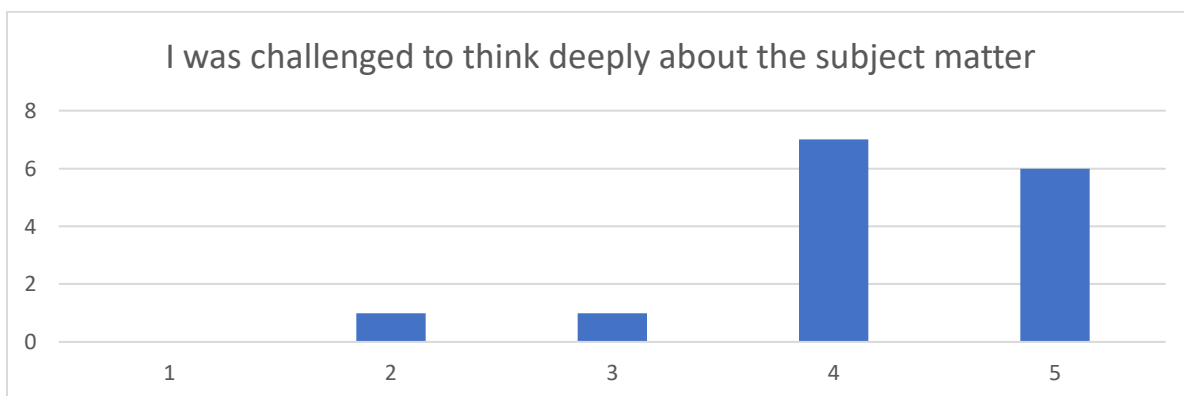
**Rate the relevance of quizzes, and evaluation tests.**



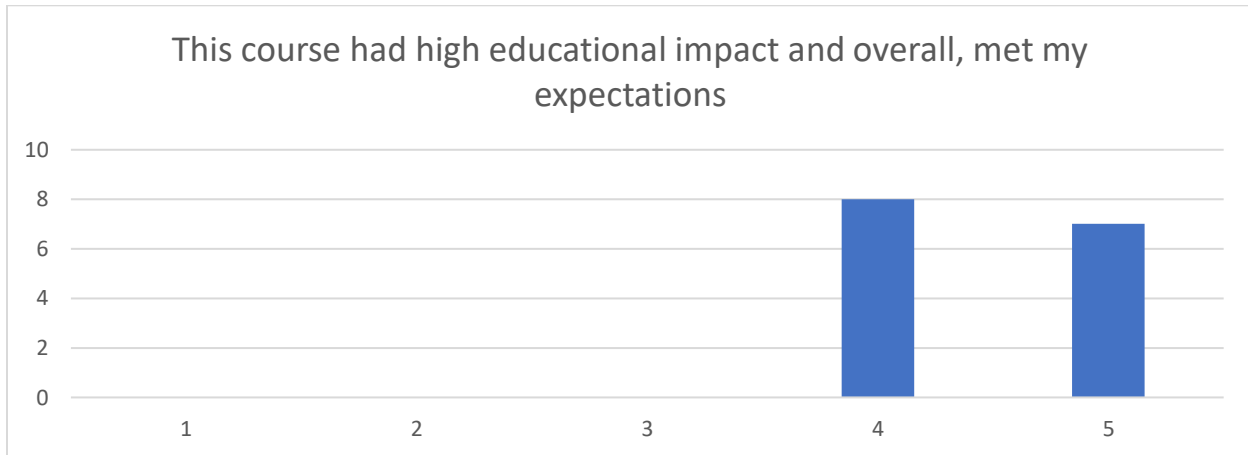
**Was the amount of time it took to complete this course appropriate?**



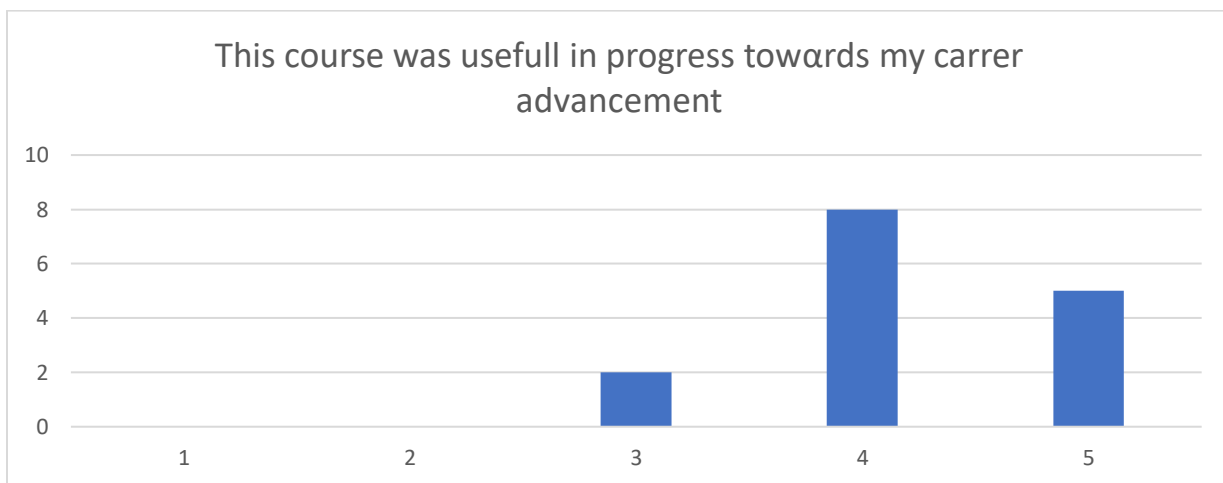
**I was challenged to think deeply about the topic**



**This course had a high educational impact and, overall, met my expectations.**

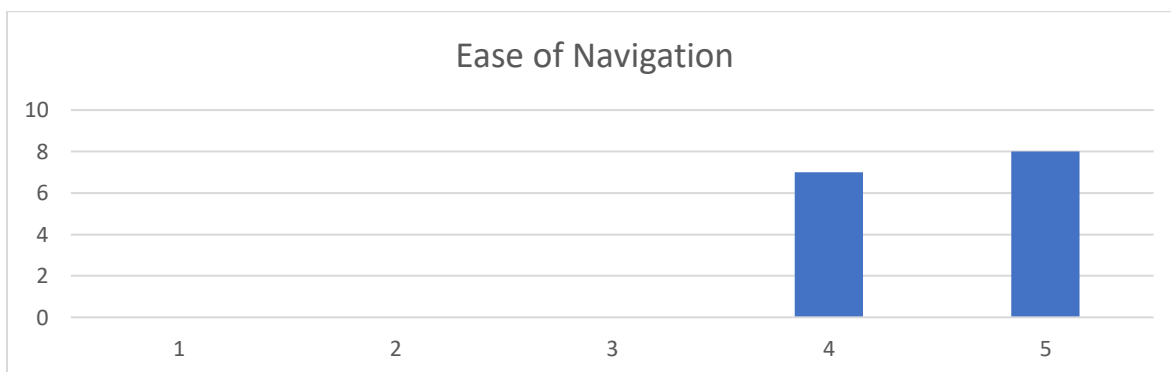


**This course was useful in progress towards my career advancement in the CD Waste sector**

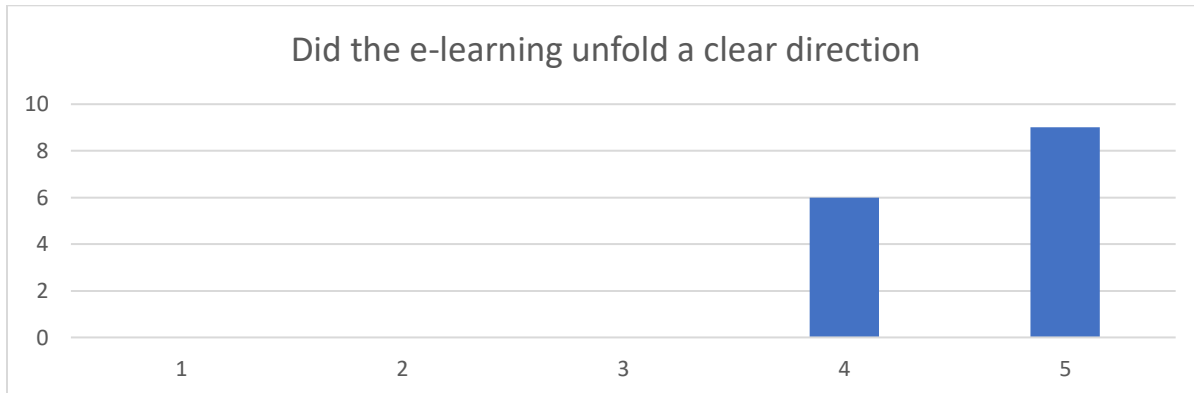


### *D.E-Learning Navigation*

**Rate the ease of navigation.**



**Did e-learning unfold in a clear direction?**



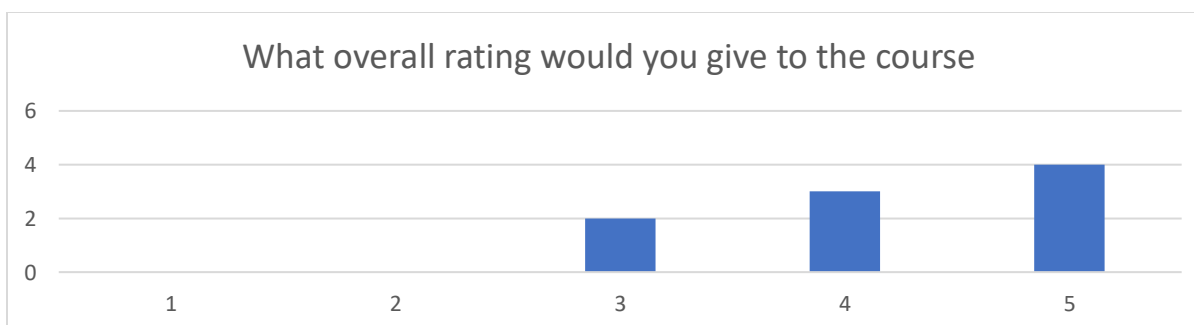
**Did you understand where you had to click to move forward?**



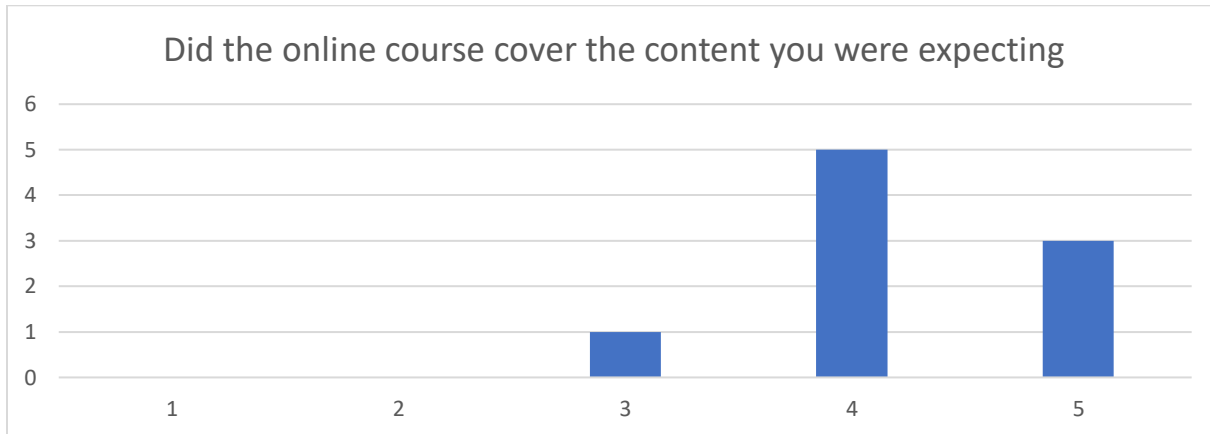
## Results from the online course in PORTUGAL

### A. CD Waste-Manage VET Online Course Expectations

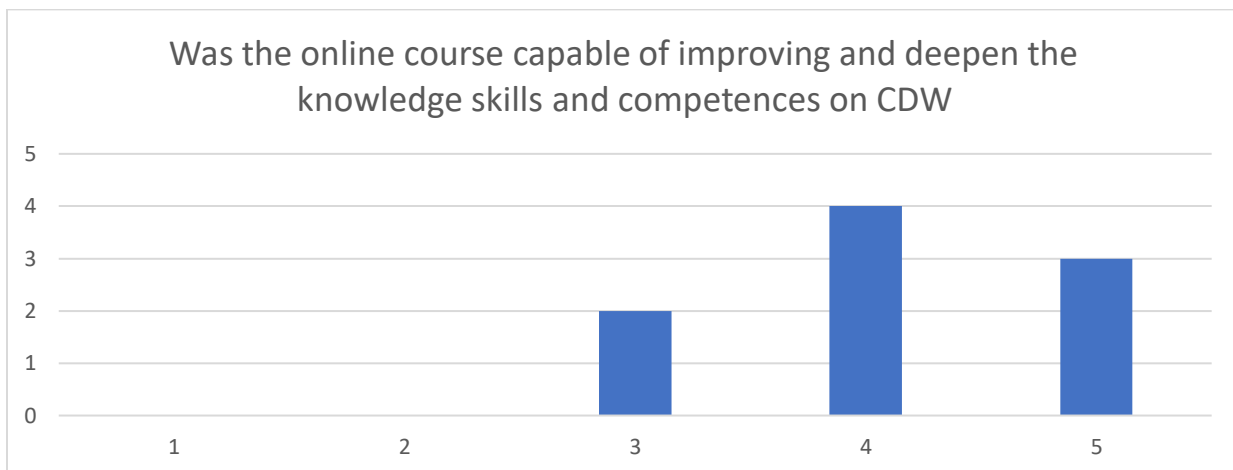
**What overall rating would you give this course?**



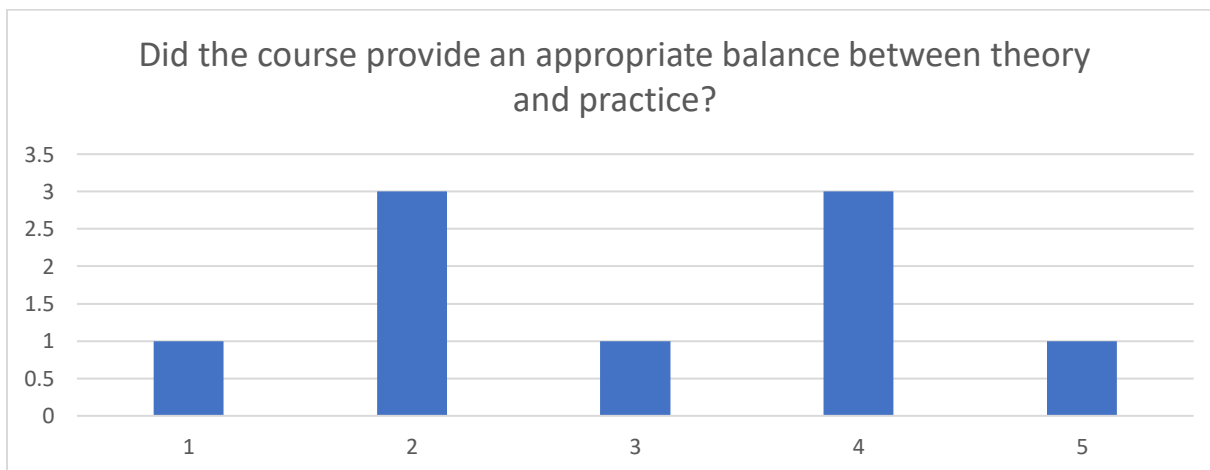
**Did the online course cover the content you were expecting?**



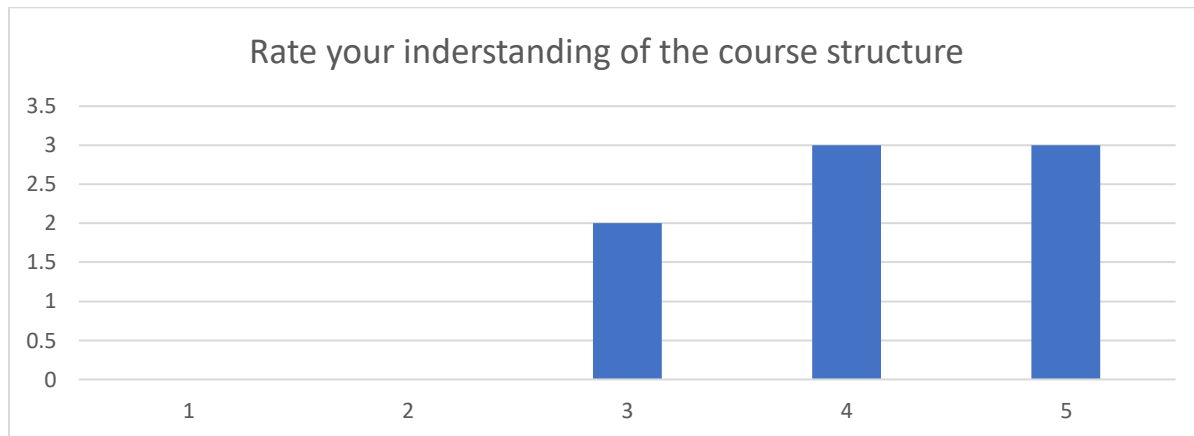
**Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?**



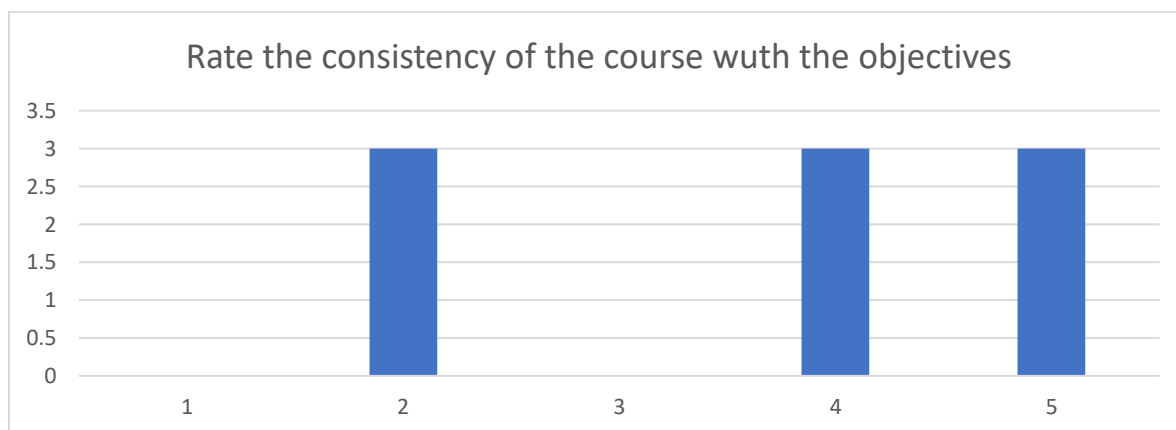
**Did the course provide an appropriate balance between theory and practice?**



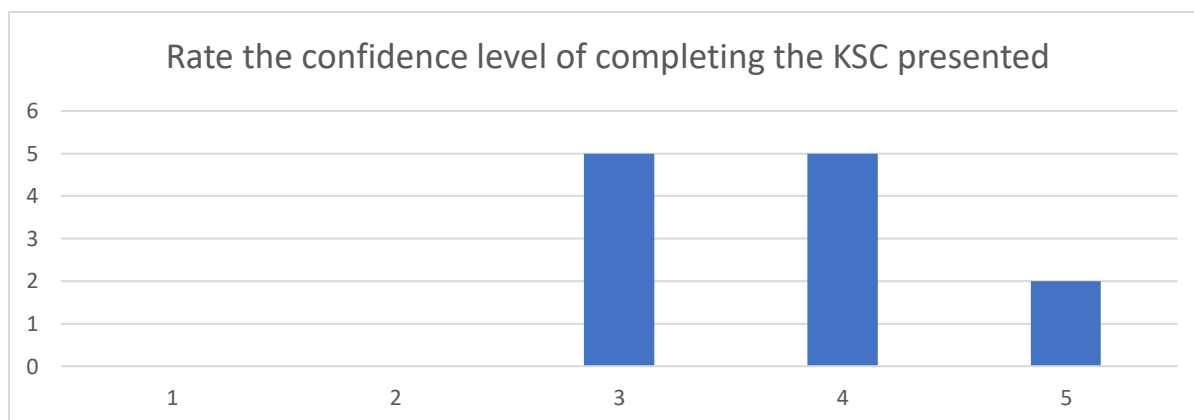
**Rate your understanding of the course structure.**



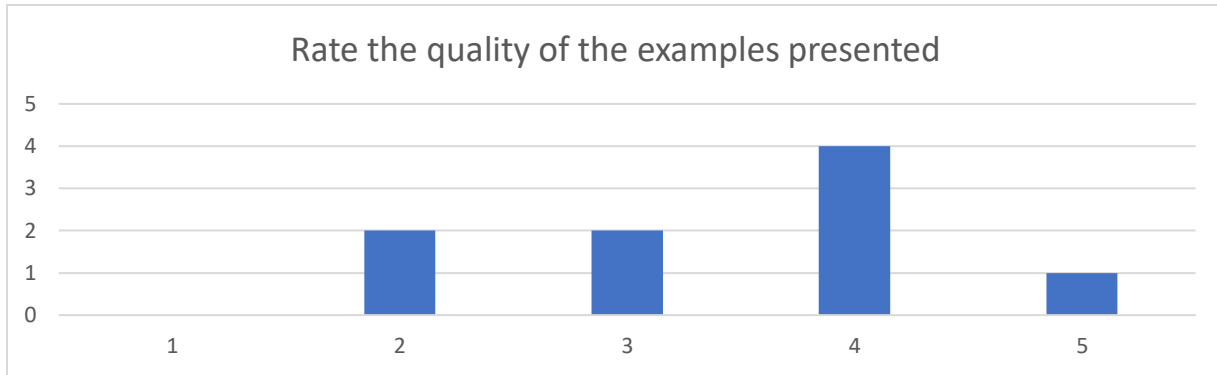
**Rate the consistency of the course content with the objectives.**



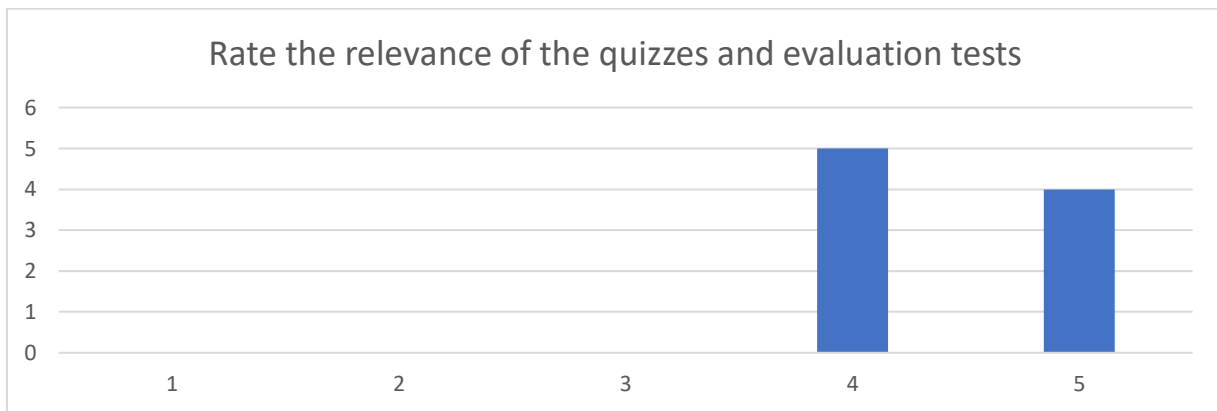
**Rate your confidence level for completing the knowledge/ skills/attitudes presented**



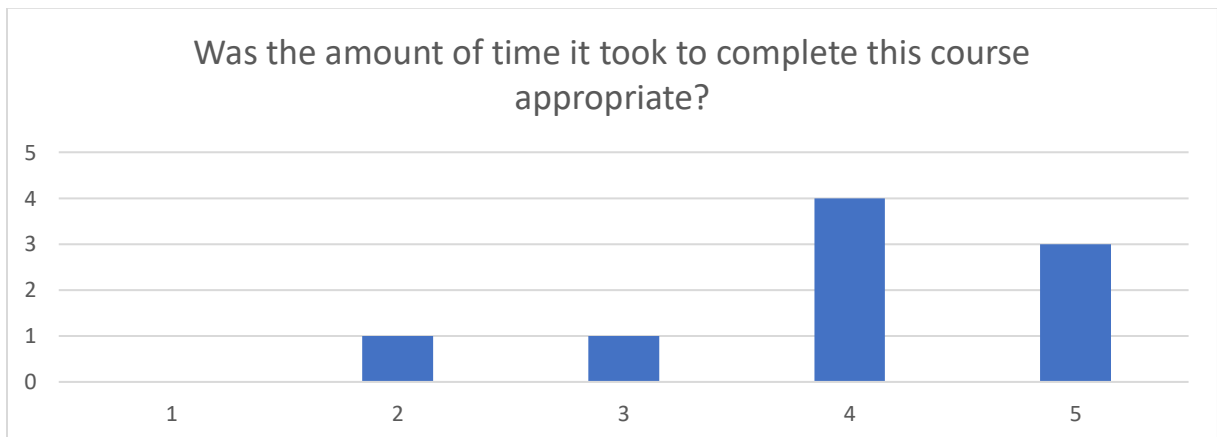
**Rate the quality of the examples presented in the e-learning**



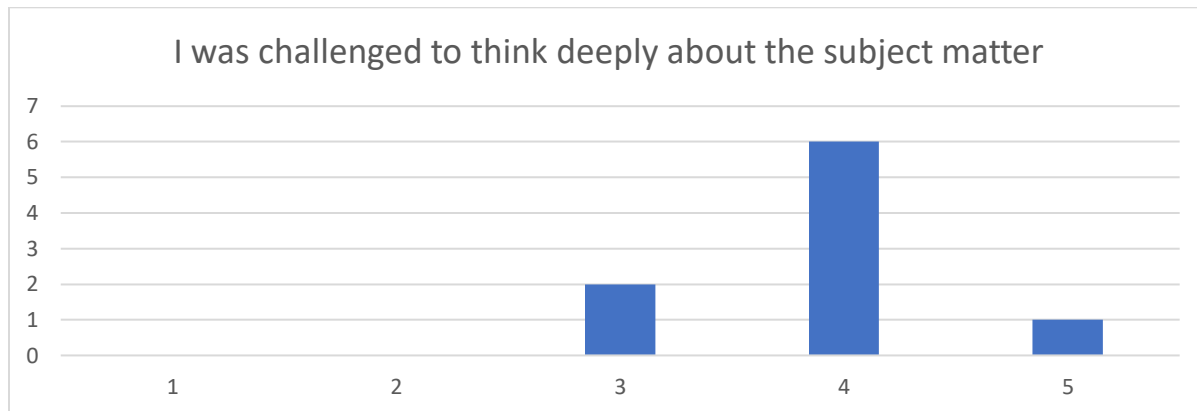
**Rate the relevance of quizzes, and evaluation tests.**



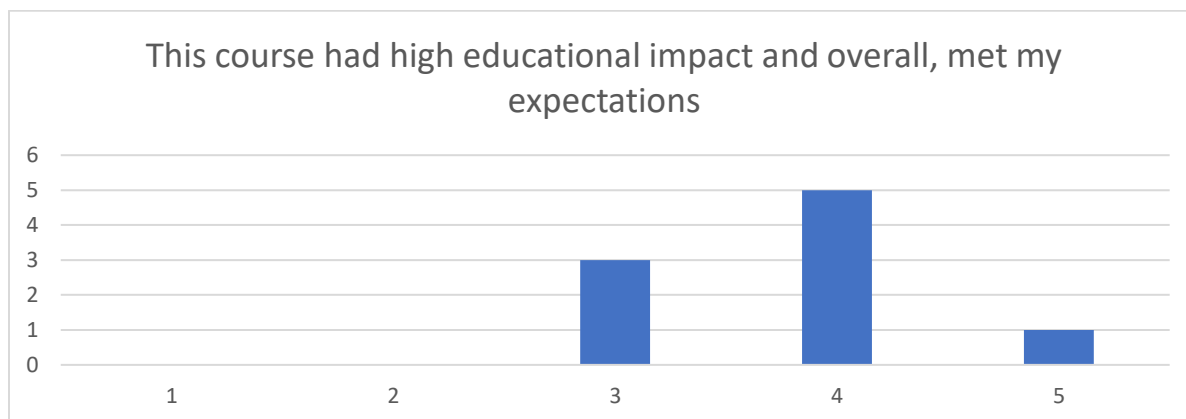
**Was the amount of time it took to complete this course appropriate?**



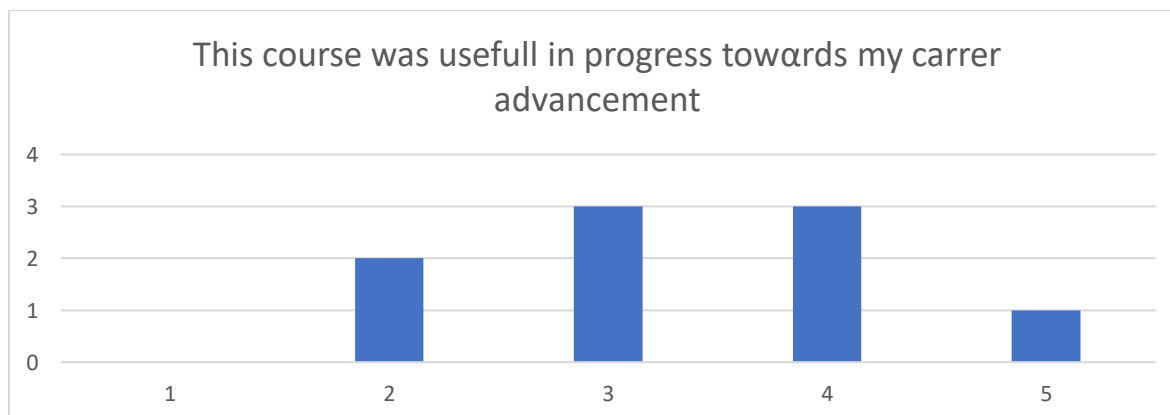
**I was challenged to think deeply about the topic**



**This course had a high educational impact and, overall, met my expectations.**

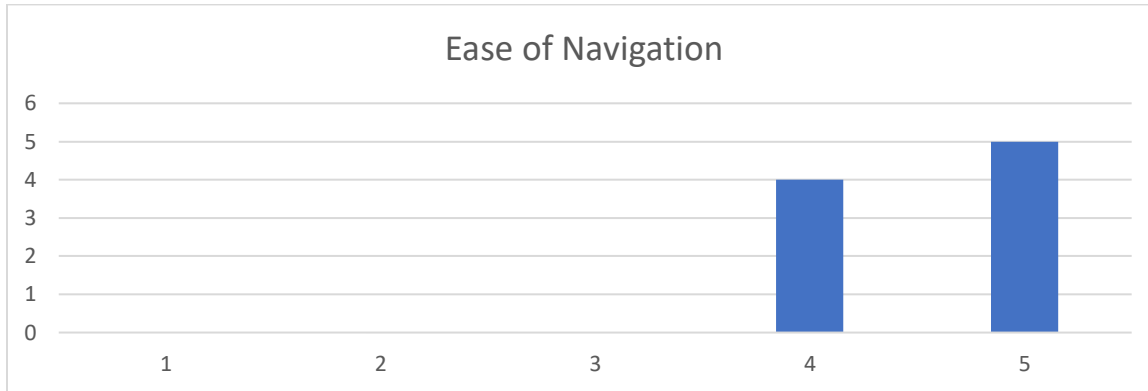


**This course was useful in progress towards my career advancement in the CD Waste sector**

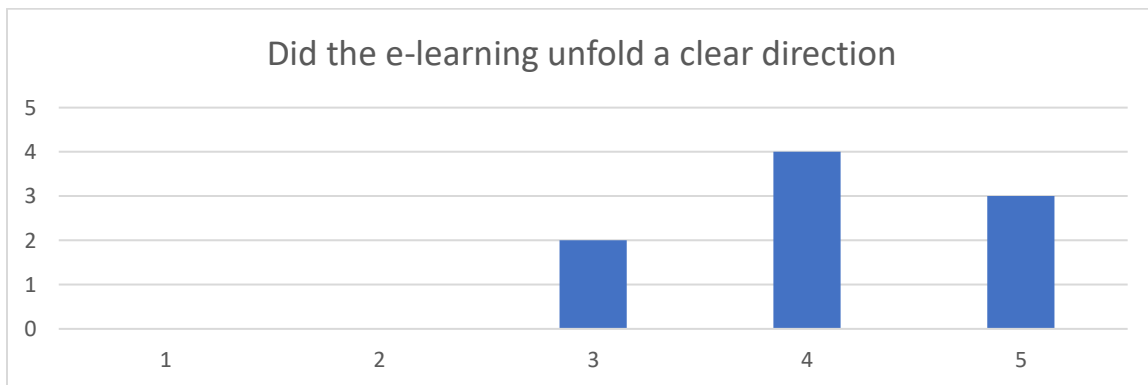


### E-Learning Navigation

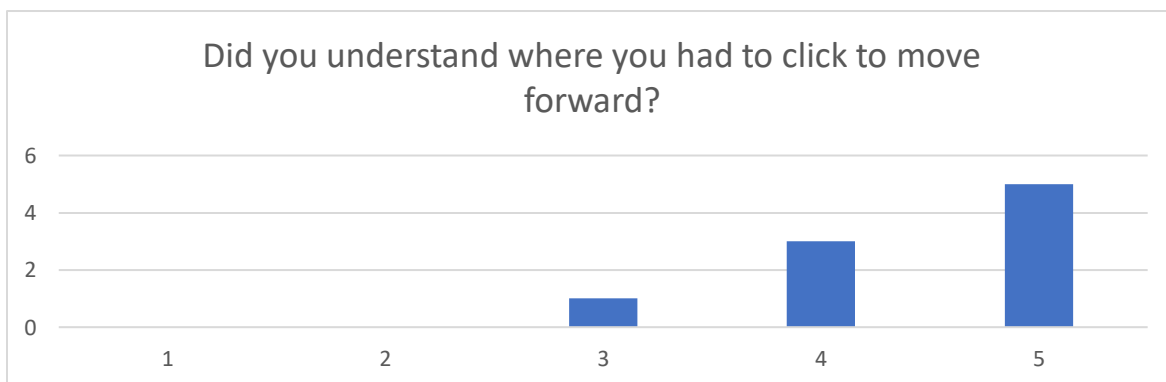
Rate the ease of navigation.



Did e-learning unfold in a clear direction



Did you understand where you had to click to move forward?



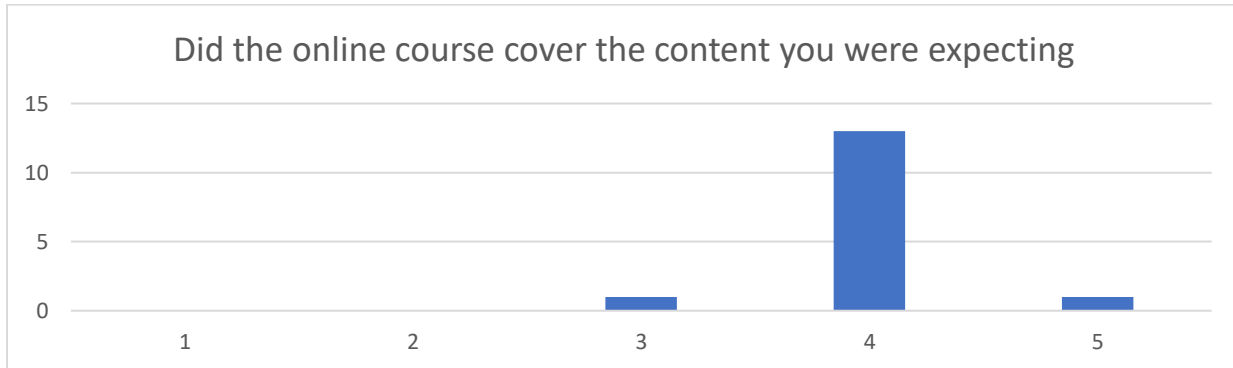
### Results from the online course in SPAIN

#### A.CD Waste-Manage VET Online Course Expectations

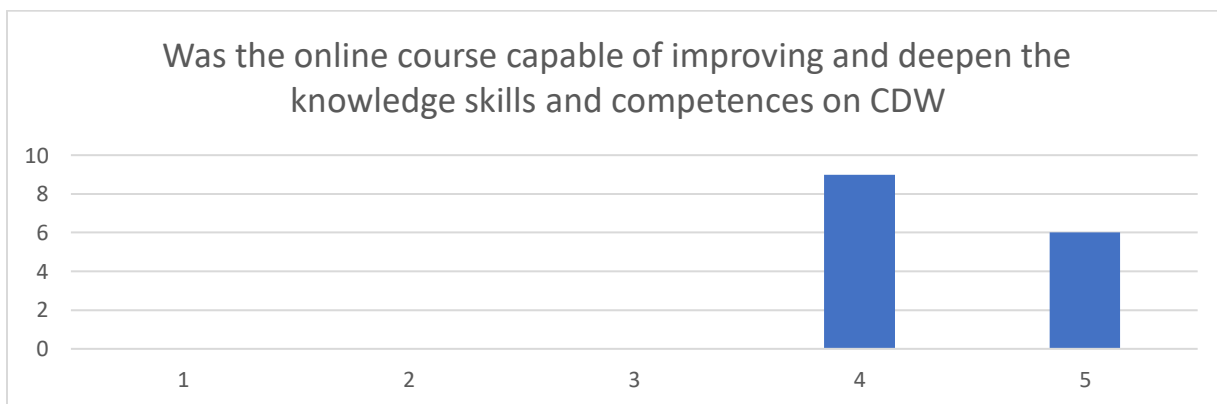
**What overall rating would you give this course?**



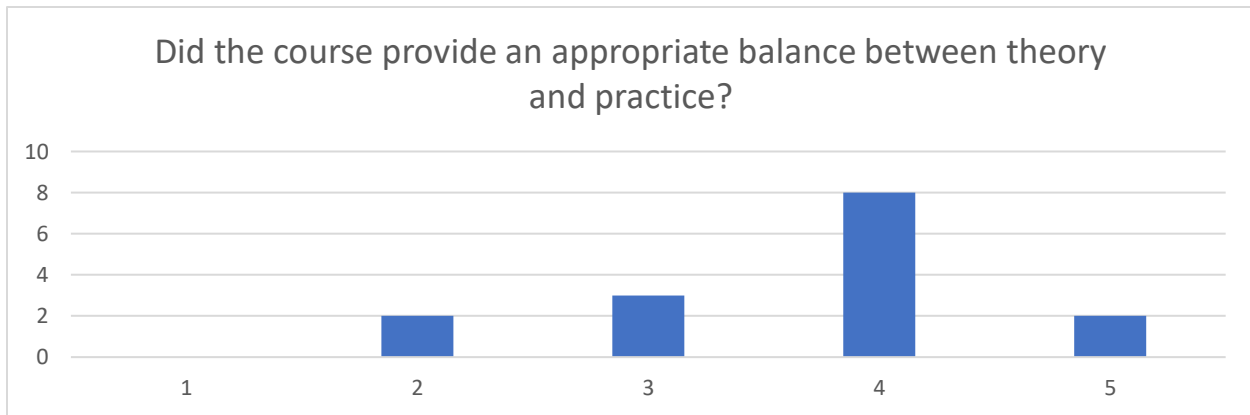
**Did the online course cover the content you were expecting?**



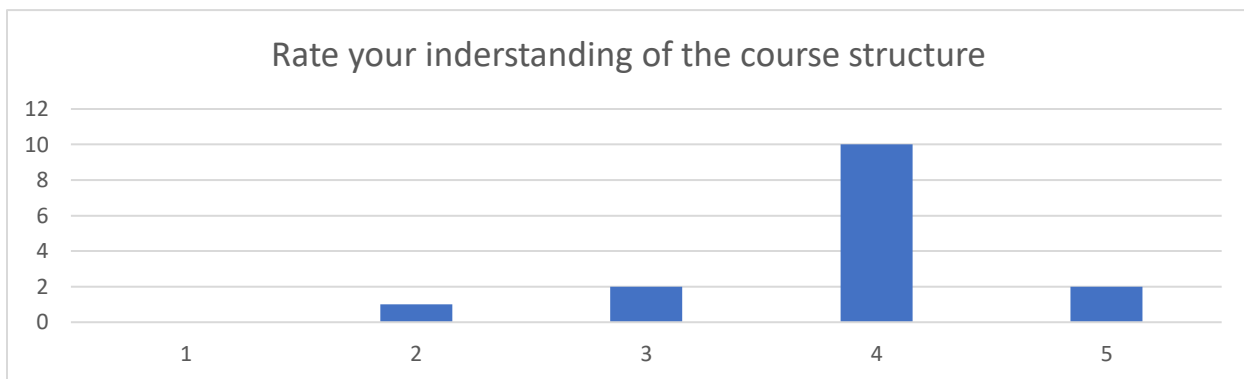
**Was the online course capable of improving and deepening knowledge, skills and competences on CDW management?**



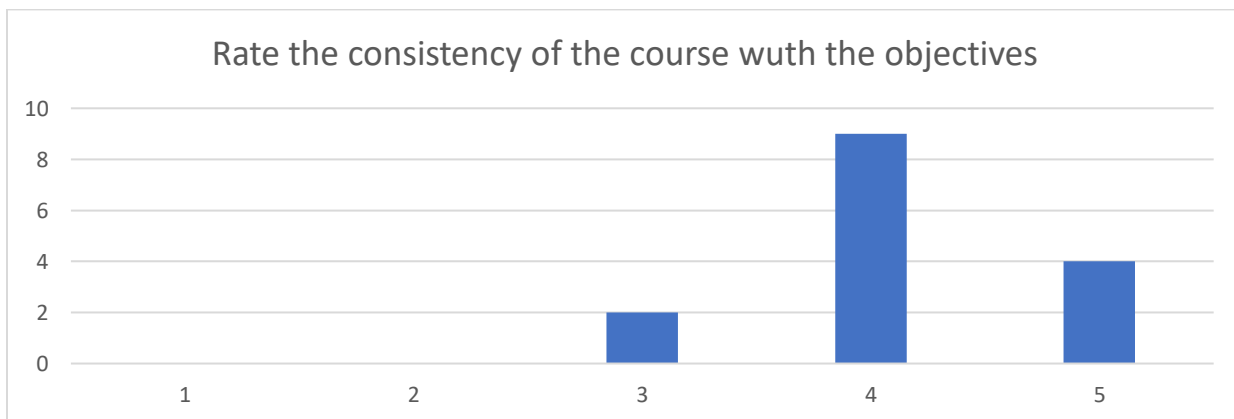
**Did the course provide an appropriate balance between theory and practice?**



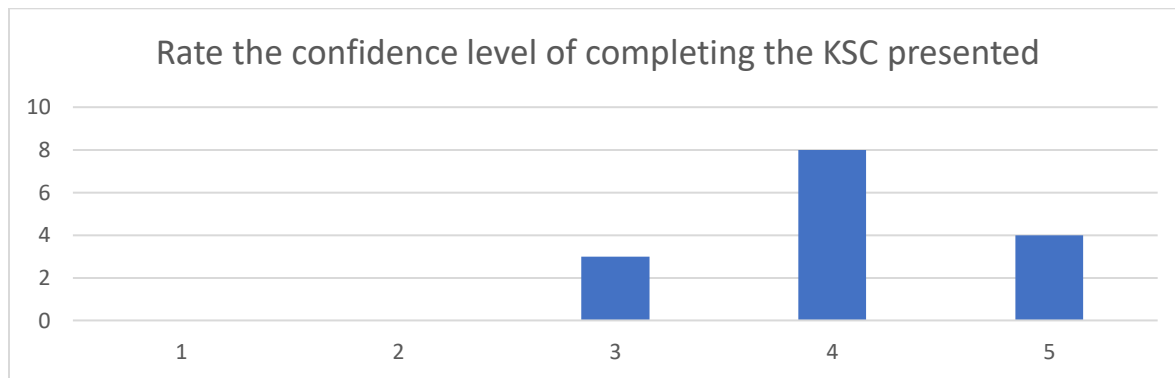
**Rate your understanding of the course structure.**



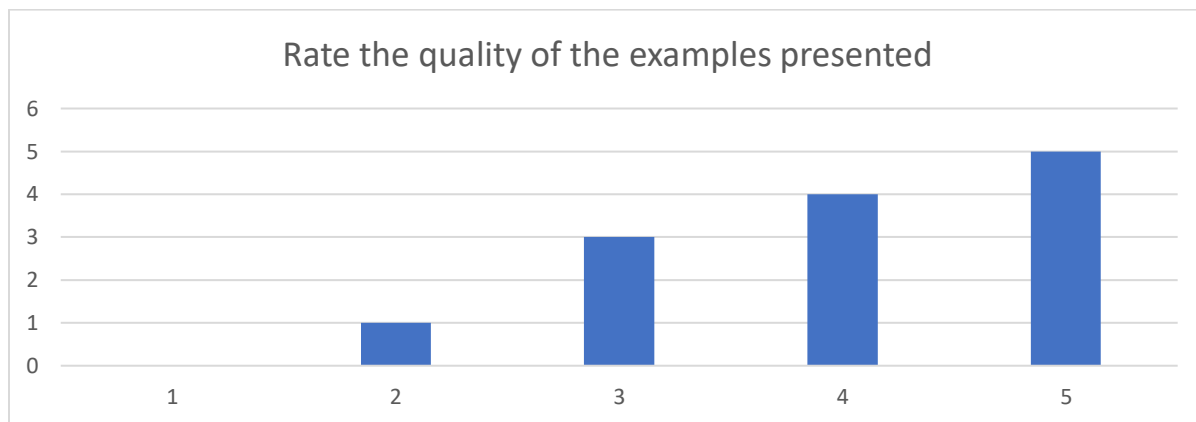
**Rate the consistency of the course content with the objectives.**



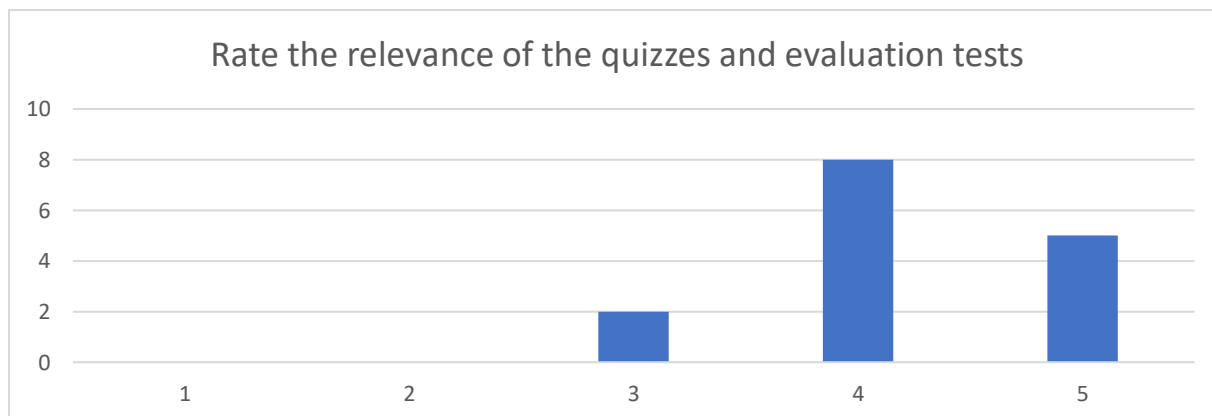
**Rate your confidence level for completing the knowledge/ skills/attitudes presented**



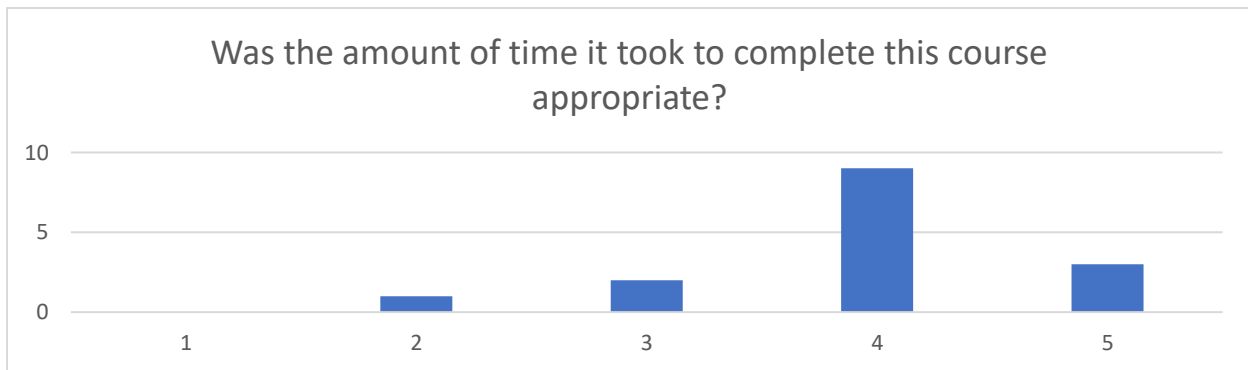
**Rate the quality of the examples presented in the e-learning**



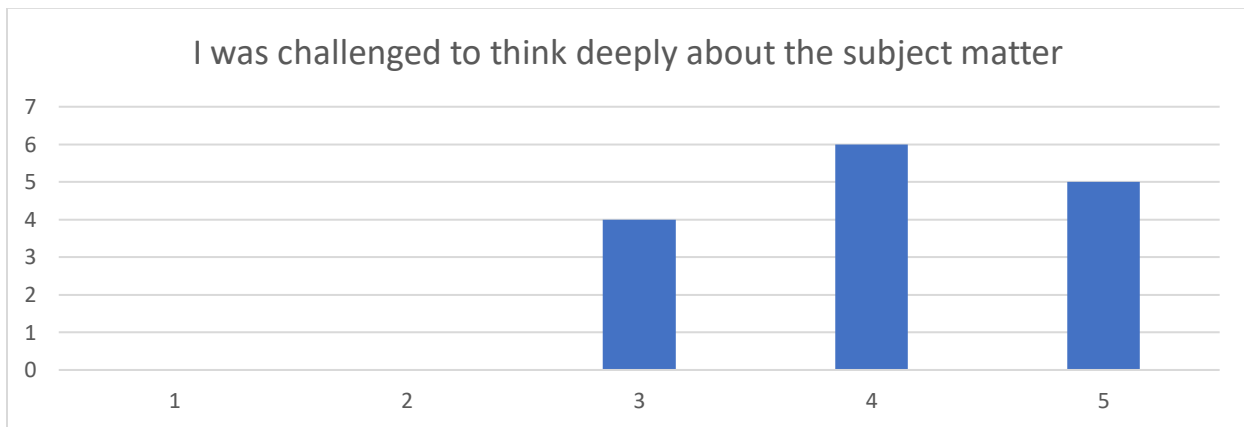
**Rate the relevance of quizzes, and evaluation tests.**



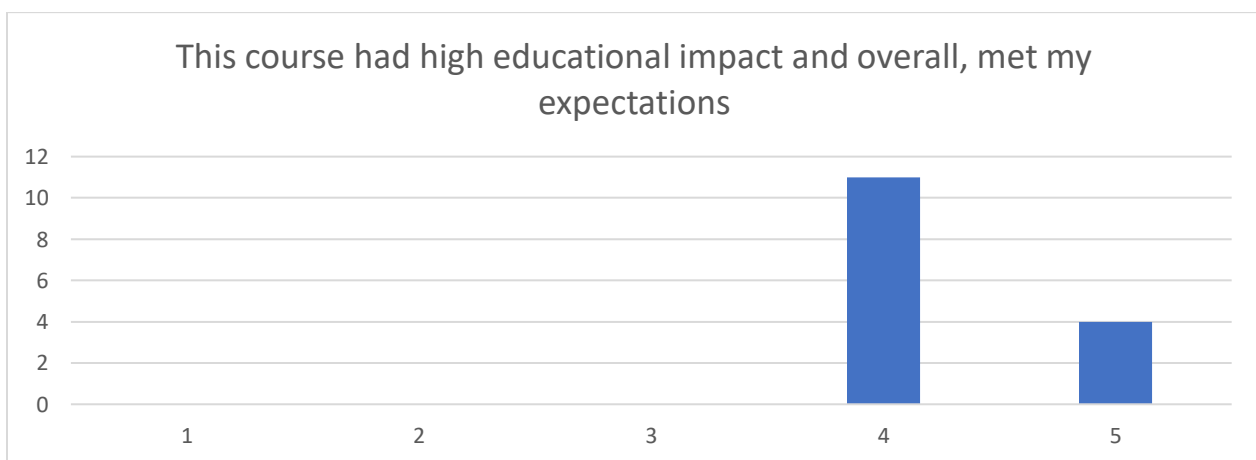
**Was the amount of time it took to complete the course appropriate?**



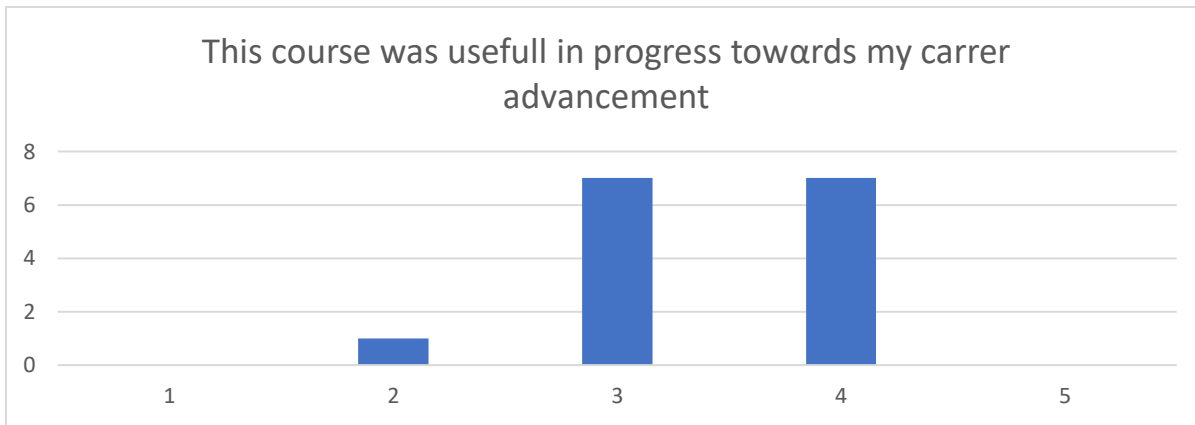
**I was challenged to think deeply about the topic.**



**This course had a high educational impact and, overall, met my expectations.**



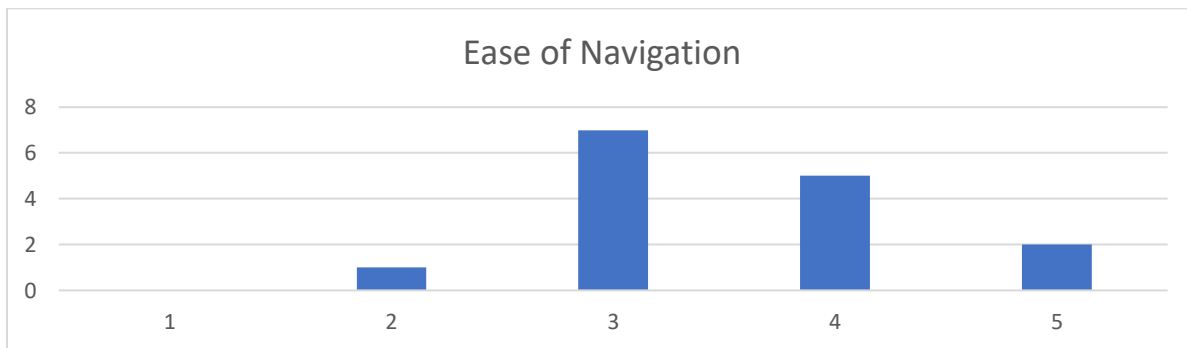
**This course was useful in progress towards my career advancement in the CD Waste sector**



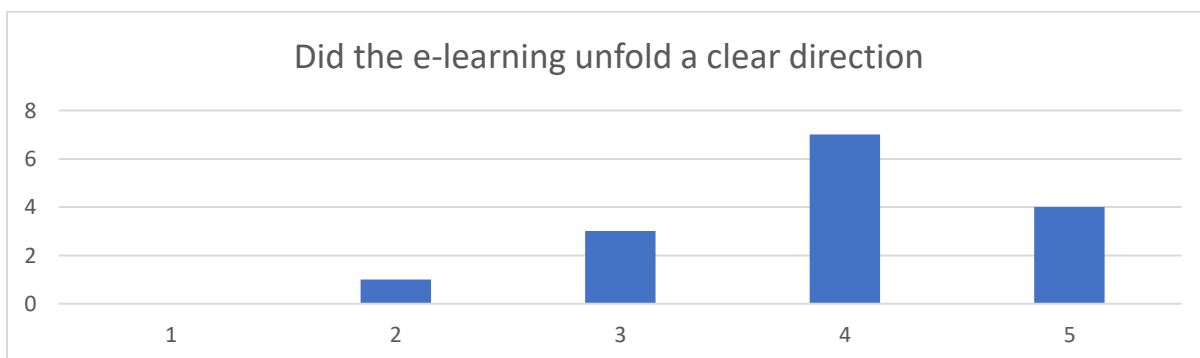
E.E-

**Learning Navigation**

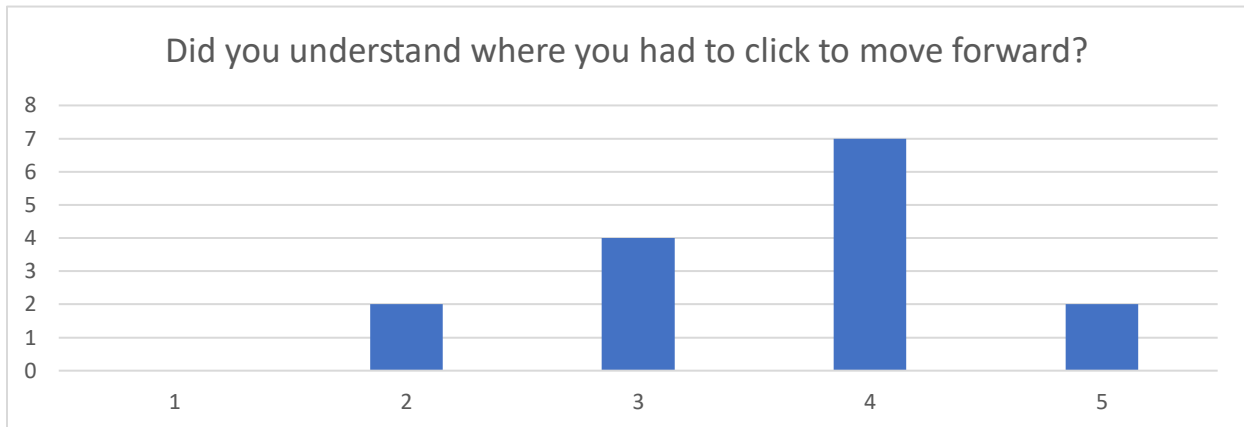
**Rate the ease of navigation**



**Did e-learning unfold in a clear direction?**



**Did you understand where you had to click to move forward?**



## ANNEX D.

### Compiled Statistical Analysis

#### Scale used:

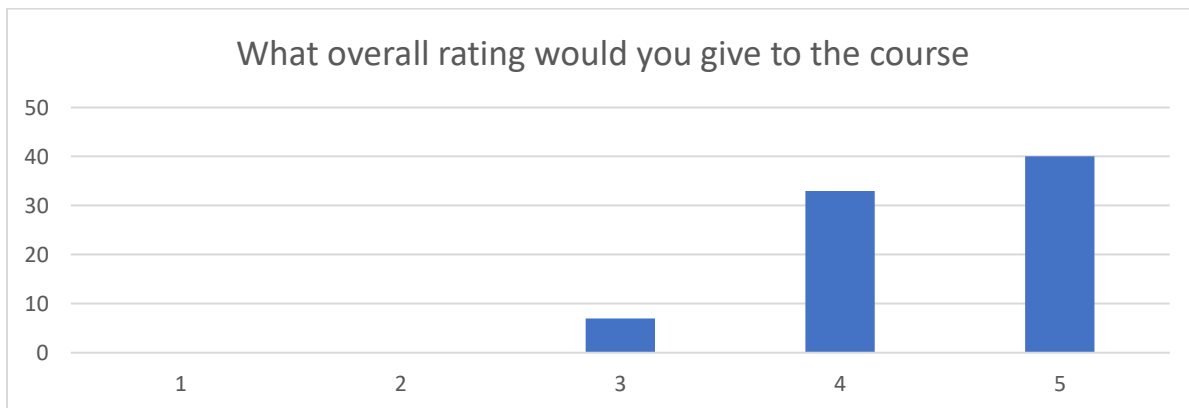
- 1 = Not at all /not at all satisfactory
- 2 = A little /a little satisfactory
- 3 = Somewhat it covered/somewhat satisfactory
- 4 = Covered quite a bit / quite satisfactory
- 5 = Greatly covered/ excellent

#### QUESTIONS/ANSWERS

##### *A.CD Waste-Manage VET Online Course Expectations*

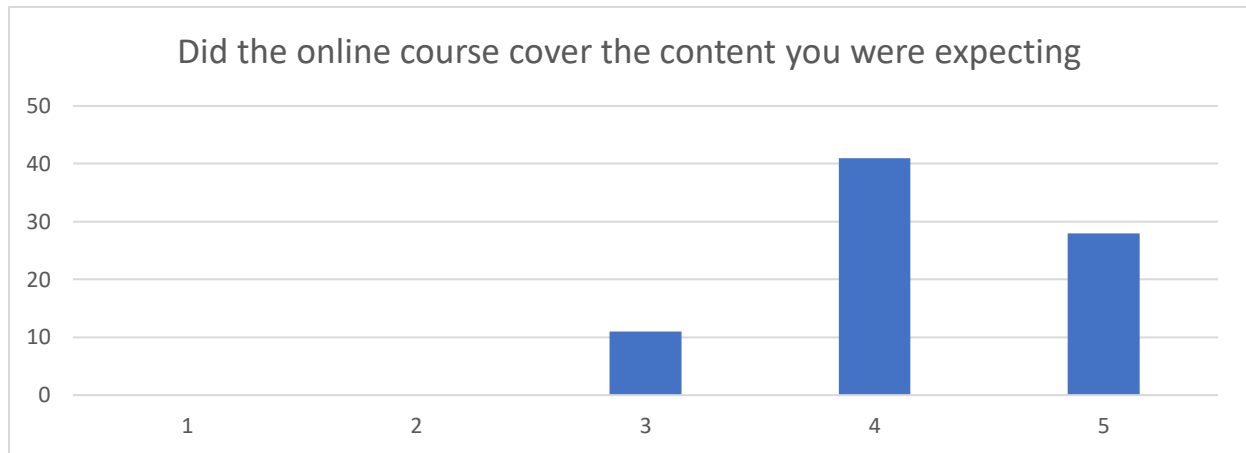
##### **1.What overall rating would you give this course?**

From a total of 80 answers 40 declared that they would rate the course as excellent; 33 as quite satisfactory and 7 as somewhat satisfactory.



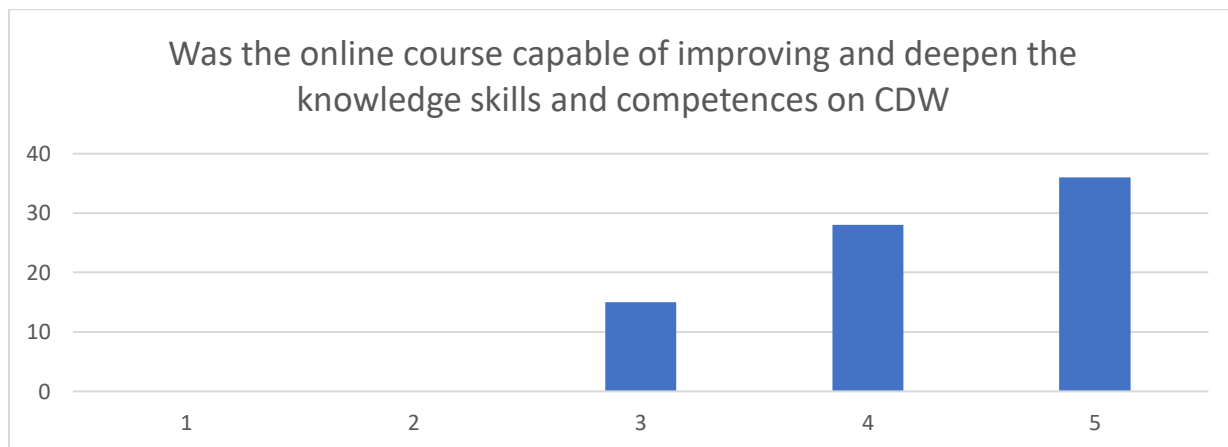
##### **2.Did the online course cover the content you were expecting?**

From total 80 answers 28 declared that the online course greatly covered the content they were expecting; 41 covered quite a bit and 11 answered that somewhat it covered.



### 3. Was the online course capable of improving and deepening the knowledge, skills and competences on CDW management?

From the total of 80 answers 36 declared that the online course greatly helped them improving and deepening their knowledge; 29 pointed out that the course helped quite a bit in the direction of improving their knowledge skills and competences while 15 answered that somewhat it helped them.



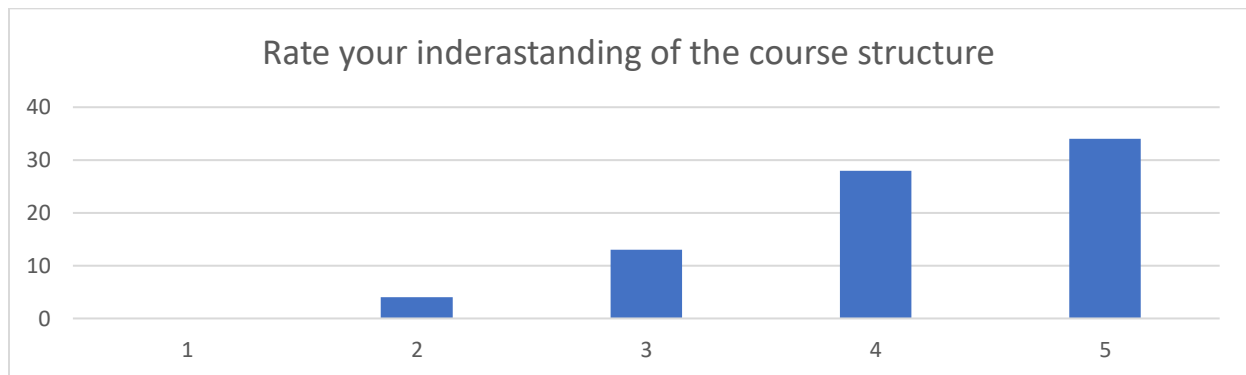
### 4. Did the course provide an appropriate balance between theory and practice?

From 73 total answers; 24 answered that the training course provided a great balance between theory and practice; 25 answered that it provided quite a bit; 13 declared that it somewhat provided; 9 mentioned that it provided a little while only 2 mentioned that it did not provide at all.

## B. Course Structure and Content

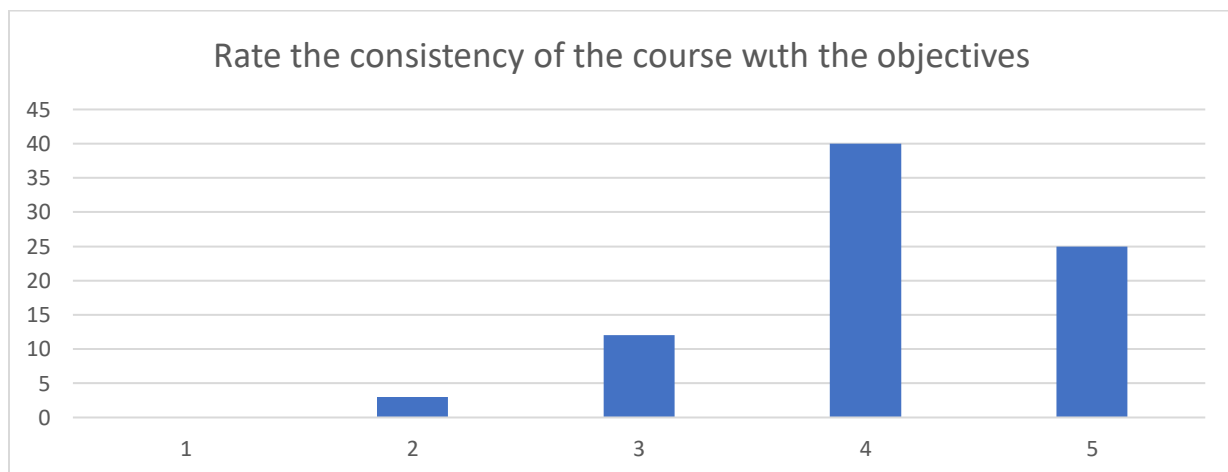
### 5. Rate your understanding of the course structure.

From the 80 answers 34 trainees mentioned that they were **greatly satisfied** with the understating of the course content; 29 quite a bit; 13 somewhat they were satisfied and only 4 were a little satisfied.



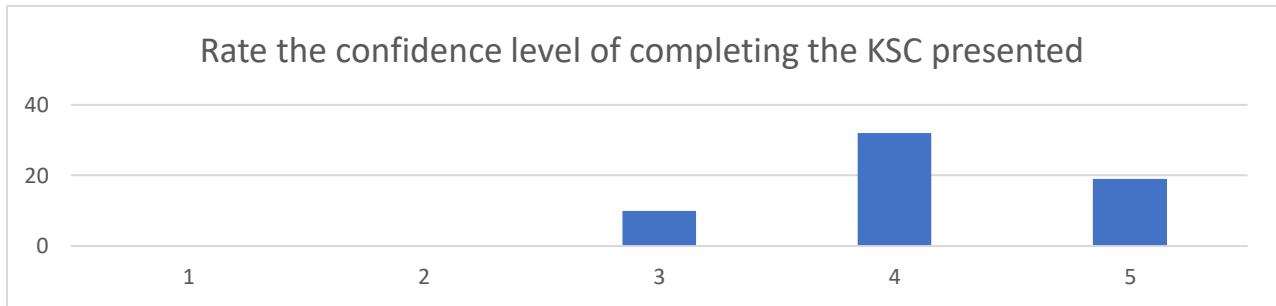
### 6. Rate the consistency of the course content with the objectives.

From the 80 answers 25 trainees mentioned that they were greatly satisfied with the consistency of the course with the objectives; 40 were quite a bit; 12 somewhat they were satisfied and only 3 were a little satisfied.



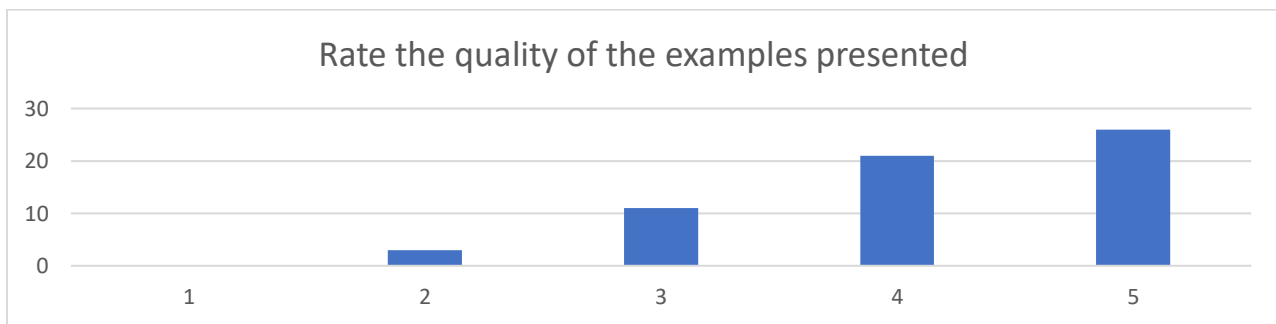
### 7. Rate your confidence level for completing the knowledge/ skills/attitudes presented.

From the **61 answers** received 19 trainees mentioned that they were greatly confident with the completion of the KSA presented; 32 were quite a bit; and 10 somewhat they



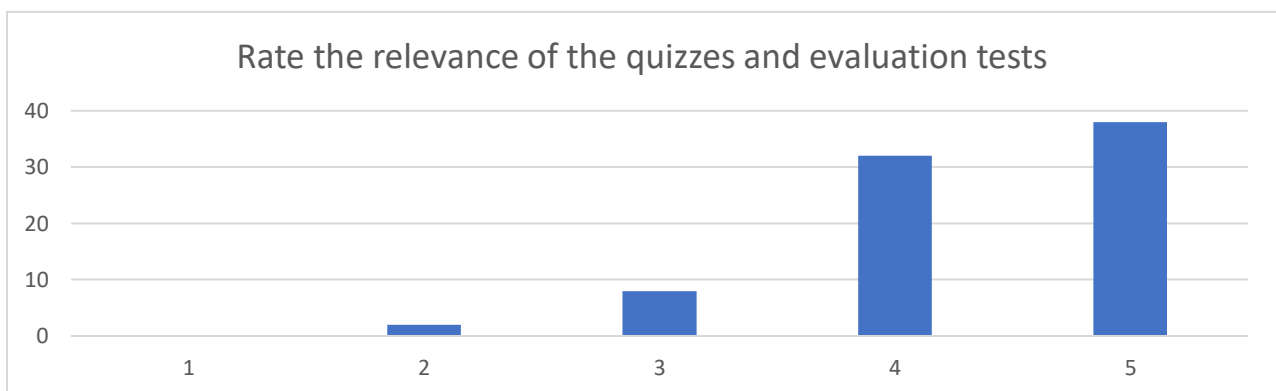
**8. Rate the quality of the examples presented in the e-learning.**

From 61 answers received from the trainees; 26 mentioned that they were greatly satisfied with the examples presented; 21 were quite a bit; 11 they were somewhat satisfied; and 3 they were little satisfied.



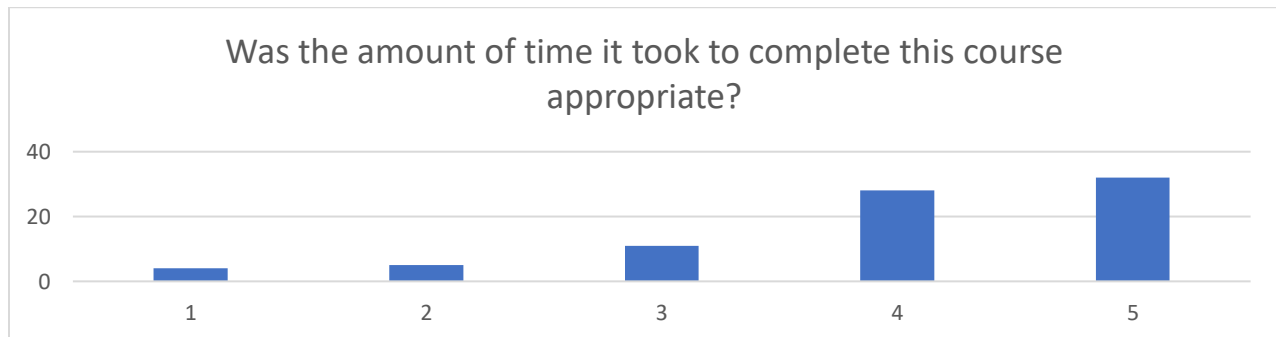
**9. Rate the relevance of quizzes, and evaluation tests.**

From the 80 answers received, 38 trainees were greatly satisfied with the quizzes and with the evaluation tests received; 32 were quite satisfied; 8 were somewhat satisfied and 2 were a little satisfied.



### 10. Was the amount of time it took to complete this course appropriate?

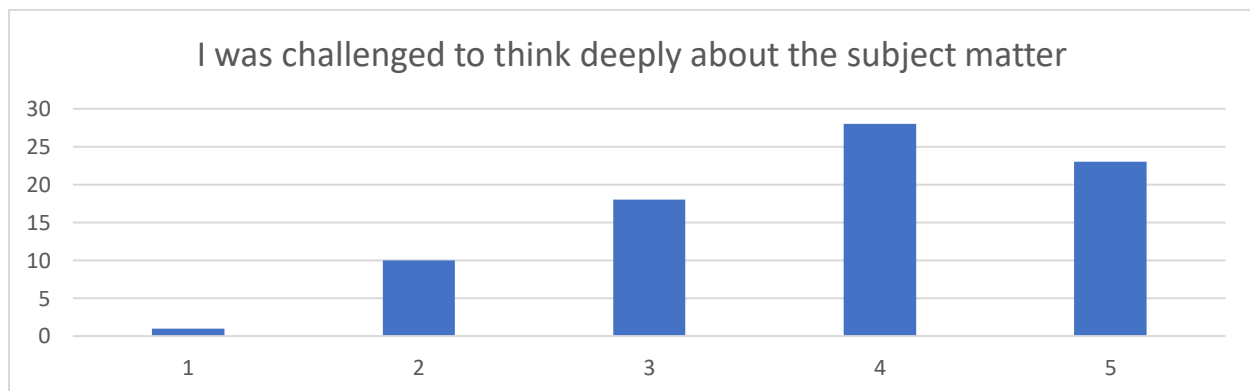
From the 80 answers received, 32 trainees were greatly satisfied with the time management of the course 28 were quite satisfied; 11 were somewhat satisfied; 5 were not so satisfied and 4 were not at all satisfied.



### C. Student Course learning outcomes

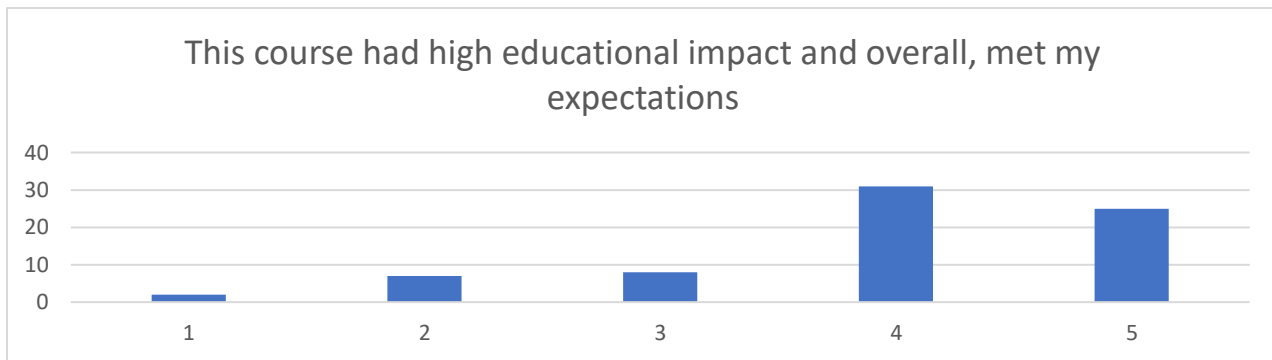
#### 11. I was challenged to think deeply about the subject matter.

From the 80 answers received, 23 trainees were greatly challenged to think deeply about the subject matter; 28 were challenged quite a bit; 18 were somewhat challenged; 10 were challenged a little while only 1 was not at all challenged.



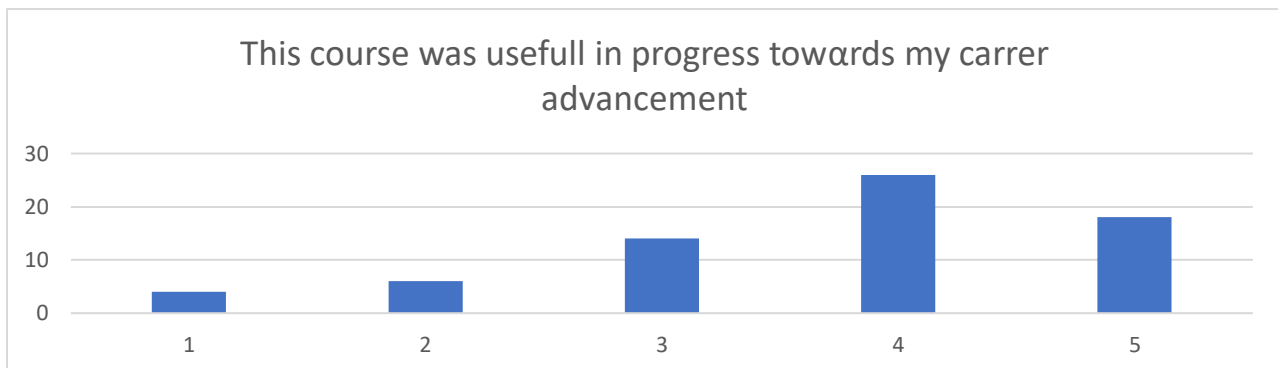
#### 12. This course had high educational impact and overall, met my expectations

From the 73 answers received, 25 trainees the training course had a great educational impact and overall met their expectations; 31 trainees mentioned that they were quite satisfied with the educational impact; 8 they were somewhat satisfied; 7 a little satisfied and 2 were not at all satisfied.



### 13. This course was useful in progress towards my career advancement in the CD Waste sector

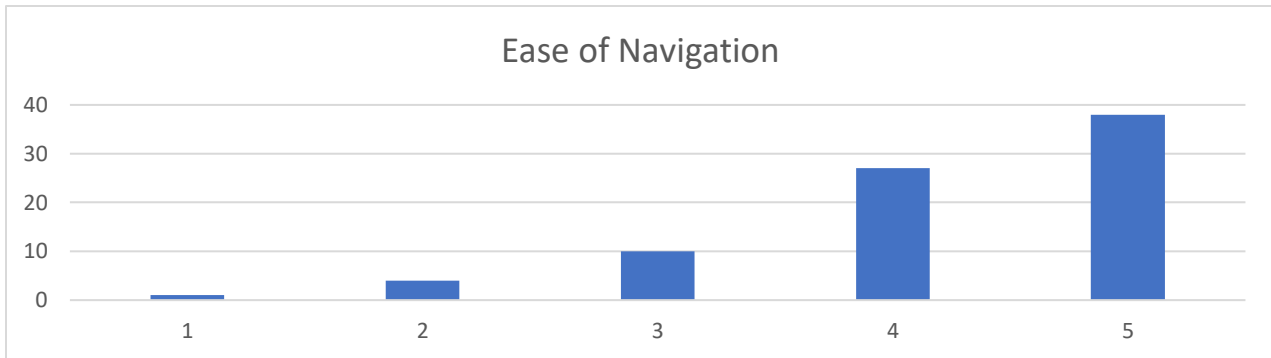
From the 68 answers received, 18 trainees declared that the training course was useful in progress towards their career advancement; 26 that it was quite useful; 14 that it was somewhat useful; 6 a little useful while 4 declared that it was not at all useful towards their career advancement in the CD Waste sector.



## E. E-Learning Navigation

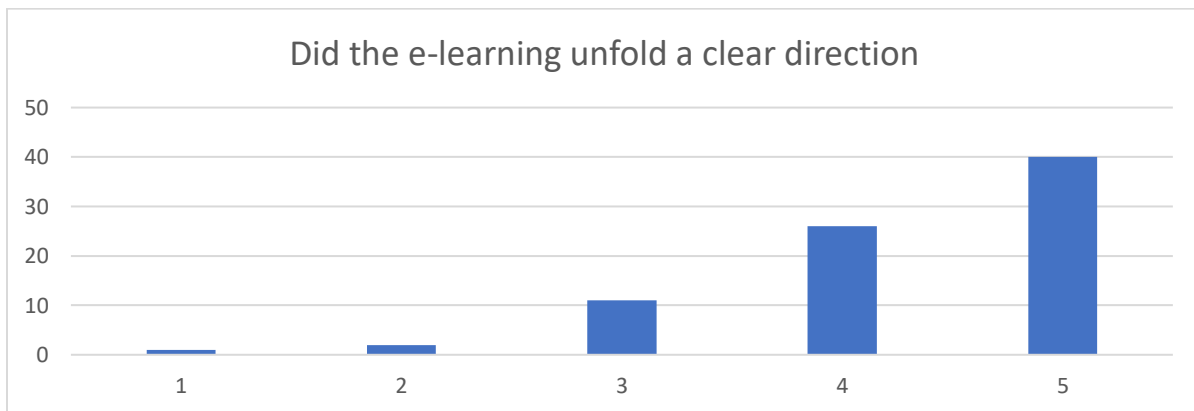
### 14. Rate the ease of navigation.

From 80 answers 38 declared that were great satisfied with the ease of navigation; 27 that were quite satisfied; 10 that were satisfied; 4 not so satisfied and 1 not at all satisfied with the ease of navigation.



**15. Did the e-learning unfold in a clear direction?**

From the 80 answers 40 declared that the e-learning unfold a really clear direction; 26 that it quite unfold; 11 that it somewhat unfold; 2 that it unfold a little and 1 that it did not unfold any direction.



**16. Did you understand where you had to click to move forward?**

From the 80 answers 44 declared that they understood where they had to click to move forward to a great extent; 22 that they understood quite a bit; 10 that they somewhat understood and 4 that they understood a little

