Learn2Analyze (L2A)

An Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' (Instructional Designers and e-Trainers) Competences in Educational Data Analytics

Erasmus+ Program

Knowledge Alliances (Key Action 2)

AGREEMENT NUMBER: 2017 - 2733 / 001 – 001

PROJECT NUMBER: 588067-EPP-1-2017-1-EL-EPPKA2-KA

R9. Implementation Report for Learn2Analyze MOOC Pilot Phase A

Public

Disclaimer:

*The **Learn2Analyze project results** are developed with co-funding by the European Commission through the **Erasmus+ Program** of the European Union (Cooperation for innovation and the exchange of good practices - **Knowledge Alliances**, Agreement n. 2017-2733 / 001-001, Project No 588067-EPP-1-2017-1-EL-EPPKA2-KA). The European Commission's support for the production of this publication does not constitute an endorsement of the contents, which reflects the views only of the authors, and the Commission will not be held responsible for any use which may be made of the information contained therein.*

Learn2Analyse Consortium

UNIVERSITY OF PIRAEUS
RESEARCH CENTER

UNIVERSITY OF MANNHEIM

NTNU
Norwegian University of Science and Technology

imc

LATTANZIO
LEARNING

Enovation
Your eLearning Partner

Curtin University

Contact

Professor Demetrios Sampson, Learn2Analyse Project Co-ordinator

Department of Digital Systems, University of Piraeus,
80, Karaoli and Dimitriou Street, Piraeus, 18534 / Greece
Phone: +30-210-4142766
E-mail: sampson@unipi.gr

Executive Summary

The scope of **Result 9** (*Implementation Report for Learn2Analyze MOOC Pilot Phase A*) is to present an overview of the delivery of the Learn2Analyze MOOC for Phase A including textual, tabular and chart depictions of different indicators such as number of participants, demographics, success rates etc. The educational data presented in this report are derived both through the data collected in the MOOC platform as well as through the pre- and post-course questionnaire-based surveys (described in detail in Result 13) with the participants of the first implementation of the L2A MOOC which were conducted from the 3rd of September 2019 – when the enrolment process started - through 14th of January 2020 when the L2A MOOC Phase A ended.

Table of Contents

List of Figures

List of Tables

1. Introduction

1.1 Scope

The scope of this report is to present an overview of the delivery of the Learn2Analyze MOOC for Phase A including textual, tabular and chart depictions of different indicators such as number of participants, demographics, success rates etc. clearly outlined in the Result #13 (Learn2Analyze MOOC Evaluation and Recommendations).

The educational data presented in this report are derived both through the data collected in the MOOC platform as well as through the pre- and post-course questionnaire-based surveys (described in detail under Result #13) with the participants of the first implementation of the L2A MOOC which were conducted from the 3rd of September 2019 – when the enrolment process started - through 14th of January 2020 when the L2A MOOC Phase A ended.

1.2 Background

Learn2Analyze (L2A) (http://learn2analyze.eu) is an Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' Competences in Educational Data Literacy, co-funded by the European Commission through the Erasmus+ Program of the European Union. The key objectives of the Learn2Analyze (L2A) initiative are (i) to develop comprehensive proposal for an Educational Data Literacy Competence Framework for instructional designers and e-trainers of online and blended learning courses, and (ii) to design, develop and offer a competence-based Professional Development MOOC for cultivating these competences.

Regarding objective (i), the L2A EDL CF was produced and evaluated in Result 2, Result 3, and Result 4. Based on those outcomes, and regarding objective (ii), the initial version of the L2A MOOC was built and consisted of 8 modules combining EDL theory (Modules 2-4) and practice with EDL tools in 3 widely used Course Management Systems, namely, Moodle, the Exact Suite and the IMC Learning Suite (Modules 5-7) following a self-directed MOOC educational design. The content (i.e., syllabus and learning materials) and set-up of the L2A MOOC Phase A are available in Results 5a, 6a, and 7a.

1.3 Synopsis of the Learn2Analyze MOOC Pilot Phase A

Learn2Analyze MOOC started on October 21st, 2019 and was open until January 15th, 2020. During this time frame, **1920** users enrolled from **85** countries. Of these, **1147** participants distributed in **75** countries answered the pre-course survey and started the MOOC, while **244** passed the final assessment and **235** of them answered the post-course survey to receive their certificate of achievement.

<div align="center">

Passed the Final Assessment = 21.27%

Received the Certificate of Achievement = 20.45%

</div>

We consider that a participant has **completed the course** when s/he has received the certificate of achievement (i.e succeeded the final assessment and submitted both pre- and post-course surveys).

<div align="center">

Completion Rate = 20.45%

</div>

The majority of participants that started the MOOC came from Europe (86%), mainly from Greece (n=492), Germany (n=220) and Italy (n=110). Most participants (68.87%, n=790) reported that they work in K12 and Higher Education, while fewer (16.83%, n=193) came from Industry/Business, and less from large enterprises (8.98%, n=103) or from SMEs (7.85%, n=90). Only few reported self-employed (5.32, n=61) or not-employed (3.92%, n=45). In particular, 36.53% (n=419) of participants were School Teachers, 29.38% (n=337) were eLearning Professionals, and 11.6% (n=133) were Higher Education Students, with (on average) around 10 years of experience in their professional role, and 7.5 years of experience in online teaching and learning.

With regards to the level of competence advancement that participants attained, the initial EDL competence level for all dimensions was approximately 2=Advanced beginner while the achieved EDL competence level was approximately 3=Competent. Thus, **completing the course resulted to one-level advancement of competences** for each EDL competence dimension.

Considering the Learning Experience from the course attendance, participants rated high their agreement to statements related to the ***instructional design of the course*** (learning objectives clearly stated, variety of content types, and relevance of the assessments with the LOs), and the ***content*** (relevant educational materials, current up-to-date information, graphics). Comprehensive content and instructional videos scored relatively high in modules 2-5 and relatively low in modules 6-7. Further readings, learning activities and assessment tasks scored relatively low in all modules.

Regarding enrolled participants' engagement, overall **2970 posts** were published to the several forum discussions, while forums in Modules 1, 2 and 4 seem to be more active than in other modules.

2. Key Performance Indicators for Enrolled Participants Profile

The consortium has defined a number of indicators to monitor the progress of the core project activities for the implementation of the pilot Phase A. These indicators also support the assessment of the quality of the project outcomes from a quantitative perspective.

Table 1 WP4 KPIs

WP#	WP PI	
WP4	**PI4.1:** Number of MOOC Participants Involved in Phase A	During L2A MOOC Phase A, **1920** users enrolled from **85** countries. Out of these, **1147** participants answered the pre-course survey and started the MOOC. These participants were distributed in **75** countries. We consider that an enrolled user has "started the MOOC" only if (s)he submits the Pre-course survey to unlock Modules 2-8.
	PI4.2: Number of MOOC participants successfully completed the MOOC during Phase A	During Phase A, **235** participants successfully completed the L2A MOOC and received their certificate of achievement. **Completion Rate = 20.45%**

		Age diversity:
	PI4.5: Diversity in demographics of participants Involved in Phase A	Half of the participants were between 18 and 41 years old, while 75% fell between 18 and 49. The age of participants follows the normal distribution with mean value 40.68 and standard deviation 10.51.
		Gender diversity:
		Although approximately 2.61% of the participants chose not to respond to the question related to their gender, the participants were almost evenly split in terms of gender with 41.67% male and 55.72% female.
		Geographical distribution:
		Although the participants are distributed in 75 countries around the world, the majority (86%) comes from Europe, mainly from Greece (n=492), Germany (n=220) and Italy (n=110), which are the core Learn2Analyse partners' countries.
	PI4.5: Diversity in competence profiles of participants Involved in Phase A	**Educational background:**
		Out of the 1147 participants, 52.30% (n=600) hold a Master's Degree while 16.70% (n=192) hold a Doctoral Degree.
		English proficiency:
		69% reported high (n=360) and very high level (n=431) in English proficiency.
		Comfort with technology:
		84.13% reported comfort (n=414) and much comfort (n=551) with technology.
		Previous experience with MOOCs:
		30.60% (n=351) reported that they have never enrolled in a MOOC before and 41.85% (n=480) that they have never completed a MOOC before.
		Initial EDL competence level:
		The initial EDL competence level for all six dimensions is approximately 2 corresponding to an Advanced beginner.
		The initial level of EDL competences in all dimensions does not differ significantly between School Teachers and Higher Education Students. On the other hand, eLearning Professionals reported higher initial EDL competence level in Data Collection (D1), Data Application (D5) and Data Ethics (D6), while there is no significant difference in initial EDL competence level in Data Management (D2), Data Analysis (D3) and Data Comprehension and Interpretation (D4) between these three targeted groups.
	PI4.7: Diversity in professional	**Current job sector:**
		68.87% (n=790) of the participants reported that they work in

| | experience of participants Involved in Phase A | K12 and Higher Education while 16.83% (n=193) come from the Industry/Business, with 8.98% (n=103) from Large enterprises (> 100 employees) and 7.85% (n=90) from SMEs. Only 5.32% (n=61) reported "Self-employed" and 3.92% (n=45) reported "Not-employed".

Professional role:

29.38% (n=337) of the participants describe themselves as eLearning Professionals, while 11.60% n=133 are Higher Education Students and 36.53% (n=419) are School Teachers.

Years of experience in professional role:

Participants reported on average 9.99 years of experience in professional role. More particularly 43.50% (n=499) of the participants reported 1-5 years of experience in their professional role, 17% (n=195) reported 6-10 years, 27.46% (n=315) reported 11-20 years and 12.03% (n=138) reported more than 20 years of experience.

Years involved in digital teaching and learning:

Participants reported on average 7.44 years of experience in online teaching and learning. More particularly 53.18% (n=610) of the participants reported 1-5 years involved in Digital T & L, 24.15% (n=277) reported 6-10 years, 18.66% (n=214) reported 11-20 years and 4.01% (n=46) reported more than 20 years. |

3. Overview of L2A MOOC Participants Profile

This section presents the overall participants' profile that enrolled to the MOOC as derived from the answers of the 1147 participants that answered the pre-course survey, as well as EDL competence advancement for the participants that completed the course.

3.1 Enrolled users

Table 2 Enrolements

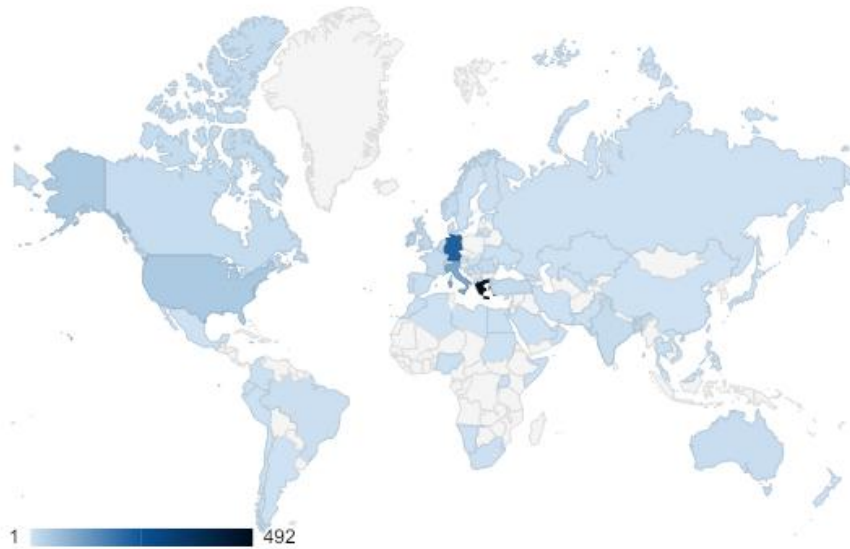| Enrolled users	frequency	percent
Started the MOOC: Enrolled users that submitted the pre-course survey	1147	59.74
Enrolled in the MOOC but never accessed Module 1	565	29.42
Started Module 1 but dropped without Pre-course	208	10.84
Total Enrolments	**1920**	**100**

3.2 Participants' geographical distribution

Figure 1 Participants' geographical distribution

Table 3 Geographical distribution

Continent	frequency	percent
Europe	987	86.0
North & South America	73	6.4
Asia-Pacific	54	4.7
Africa	33	2.9
Total	**1147**	**100**

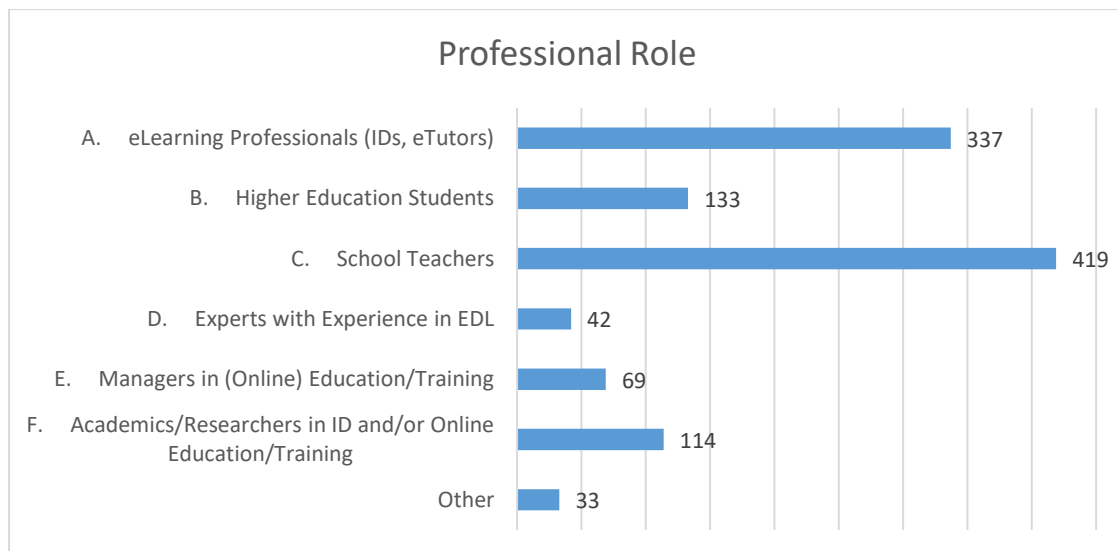## 3.3 Distribution of participants per professional role

Figure 2 Distribution of participants per professional role

3.4 EDL competence advancements of participants who completed the course
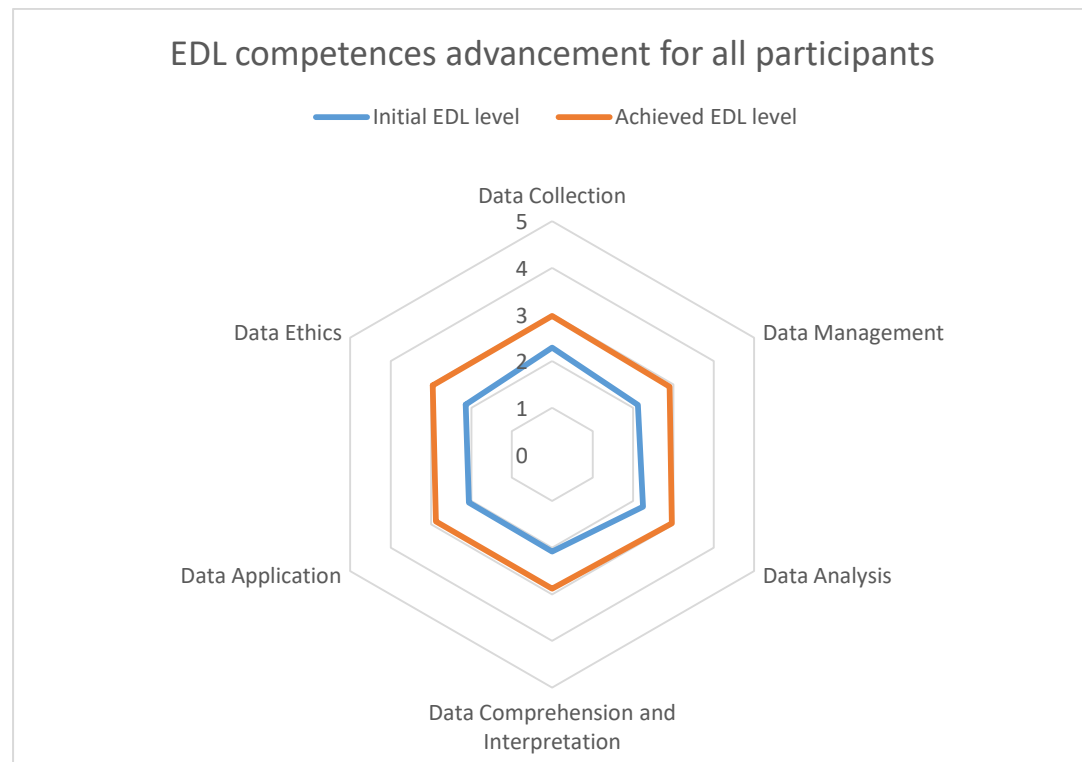
Figure 3 Perceived EDL competences advancement

In the pre-course survey, participants self-evaluated their perceived initial EDL competence level, from Novice (1) to Expert (5), and the initial EDL competence level for all dimensions was approximately 2=*Advanced beginner*.

After the completion of the course, participants were requested to provide again their perceived current EDL competence level for each EDL statement and each EDL dimension. The concluding EDL competence level for all dimensions was approximately 3=*Competent*, thus, completing the course resulted to one-level advancement of competences for each EDL dimension

4. Key Performance Indicators for Enrolled Participants Engagement

The consortium has defined a number of indicators to monitor the progress of the core project activities for the implementation of the pilot Phase A. These indicators also support the assessment of the quality of the project outcomes from a quantitative perspective.

.

Table 4 WP5 KPIs

L2A Phase A	
Summary of Enrolled participants engagement	**Collected data**
PI5.1: Number of recommendations for improvements collected from MOOC participants (per module, in total)	In the Post-course survey 205 participants in total, reported recommendations for improvements, mainly related to: the course content (76 comments), the quizzes and the type of the final assessment (40 comments), the workload (31 comments), the discussion forums (24 comments), the platform functionality (18 comments), the multilevel structure of the course (16 comments)
PI5.3: Participants' level of educational objectives attainment (per module, in total)	**EDL competence level advancement:** The initial EDL competence level for all dimensions, as reported in the pre-course survey, was on average of level 2 corresponding to an Advanced beginner level. The achieved EDL competence level for all dimensions, as reported in the post-course survey, is approximately of level 3 corresponding to the Competent level. Thus, the completion of the course resulted in one-level advancement of the competences for each EDL competence dimension.
PI5.4: Participants level of engagement with MOOC learning material (access patterns, timeframe and frequency) (per module, in total)	During the L2A MOOC Phase A, 1920 users enrolled, 1321 started Module 1 and 1147 submitted the pre-course survey and unlocked the MOOC content. The table below depicts the level of engagement with MOOC learning material during Phase A.

Table 5 Level of engagement

Progress	Mod 1	Mod 2	Mod 3	Mod 4	Mod 5	Mod 6	Mod 7	Mod 8
LEVEL1 (< 20%)	568	339	129	94	80	68	73	49
LEVEL2 (20% - 40%)	50	68	18	12	20	9	2	8
LEVEL3 (40% - 60%)	37	34	11	3	6	4	1	6
LEVEL4 (60% - 80%)	179	36	10	9	6	8	8	99
LEVEL5 (> 80%)	487	357	306	270	240	215	206	133
Grand Total	**1321**	**834**	**474**	**388**	**352**	**304**	**290**	**295**

PI5.5a: Participants level of engagement with MOOC individual learning activities (access patterns, timeframe and frequency) (per module, in total)	During L2A MOOC Phase A learning activities where in the form of collaborative learning activities, i.e. questions in the forum discussions (see Participants level of engagement with MOOC collaborative learning activities), polls and quizzes.

Quiz learning activities

The table below shows the number of quiz activities per module, the number of questions per quiz and the number of answers collected.

Table 6 Participation in quiz learning activities

	Quiz activity	no of questions	no of answers	participants	Average participation for quiz learning activities' per module
Module 2	2.1.6.1 Topic 1 Quiz	3	1482	494	440
	2.1.6.1 Topic 1 Quiz	2	865	433	
	2.3.6.1 Topic 3 Quiz	3	1182	394	
Module 5	5.1.5 - Site Level Reporting Quiz	3	1396	465	307
	5.2.4 - Course Level Reporting Quiz	5	1311	262	
	5.3.3 - User Level Reporting Quiz	5	1266	253	
	5.4.5 - 3rd Party Reporting Tools in Moodle Quiz	5	1230	246	
Module 6	6.1.1.6 Fill in the blanks: e-learning Formats	1	214	214	212
	6.1.3.9 Quiz: Understanding reports and taking decisions	4	900	225	
	6.2.1.3-5 - Evaluation Models	3	639	213	
	6.3.1.8 - Drag & Drop: Match activities and learning types	1	208	208	
	6.3.1.9 - Quiz : tracking non formal learning	3	624	208	
	6.3.2.6 - Quiz: eXact Delivery Portal	1	208	208	
	6.3.3.7 - Quiz: eXact Delivery Portal Tracking capabilities	3	630	210	
Module 7	7.3.3.3 - Quiz: Course Learning History	3	609	203	202
	7.3.3.5 - Quiz: Select the best tutor view for your task	1	203	203	

7.3.4.3 - Quiz: Working with the report "Test questions per user"	2	398	199	

Polls

During the L2A MOOC Phase A 45135 poll interactions where reported in a total of 131 poll questions.

PI5.5b: Participants level of engagement with MOOC collaborative learning activities (access patterns, number of contributions, Social Network Analysis) (per module, in total)	**Table 7** shows the distribution of the collaborative activities per module, while Table 8 depicts the participation in the collaborative learning activities per module.

Table 7 Number of collaborative activities per module

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8
1	18	10	10	5	7	7	1

Table 8 Participation in collaborative activities per module

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8	Total
415	1509	206	414	0	106	294	26	2970

PI5.6: Participants level of engagement with MOOC learning assessment activities (access patterns, timeframe and frequency) (per module, in total)	During the L2A MOOC Phase A, all assessment activities where located in Module 8. From the 1147 participants that submitted the pre-course survey and unlocked the MOOC content, 295 reached module 8 and 235 passed the final assessment and received the Certification of Achievement.

5. Overview of Enrolled Participants Engagement & Learning Experience

This section present chart depictions of different indicators of the participants' engagement and learning experience, as derived from the analytics of the platform of the MOOC as well as through answers of the 235 participants that answered the post-course survey.

5.1 Participants level of engagement with MOOC learning material per module
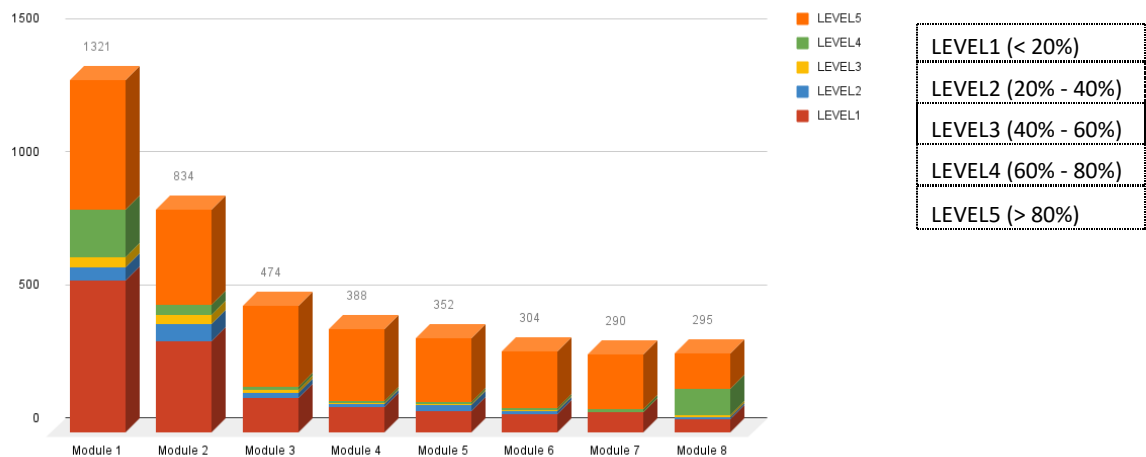

Figure 4 Participants' level of engagement with MOOC learning material per module

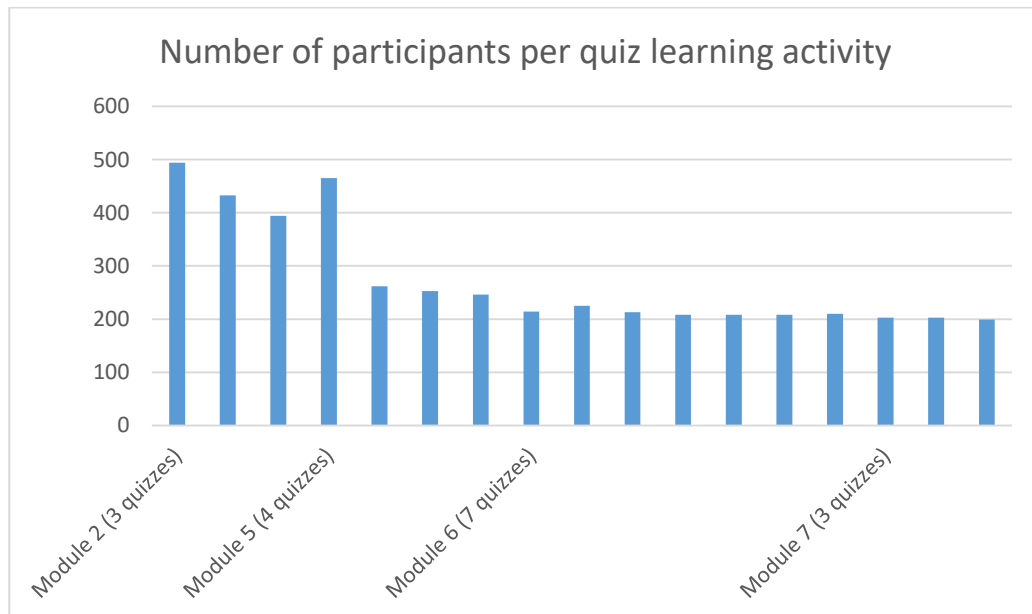## 5.2 Participation in quiz learning activities per module

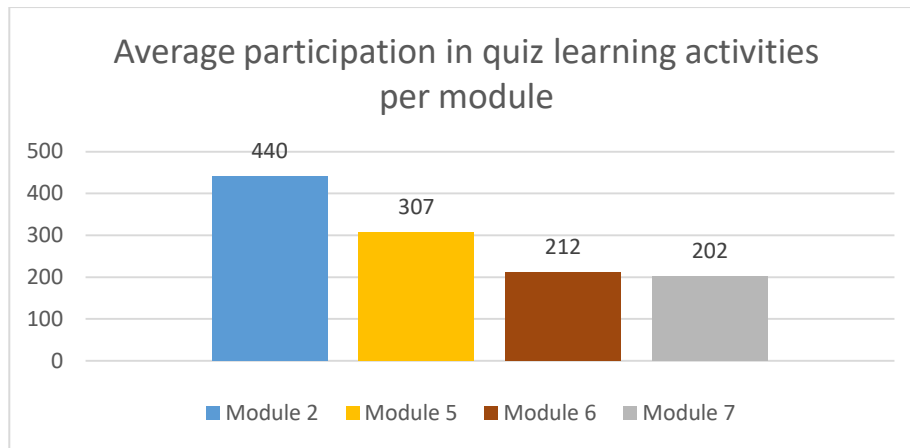**Figure 5** Participation in micro-quizzes

Figure 6 Average participation in quiz learning activities per module

5.3 Forum participation

Level of engagement in collaborative learning activities (forum participation and workshops) per module (platform data) are shown in figure below:
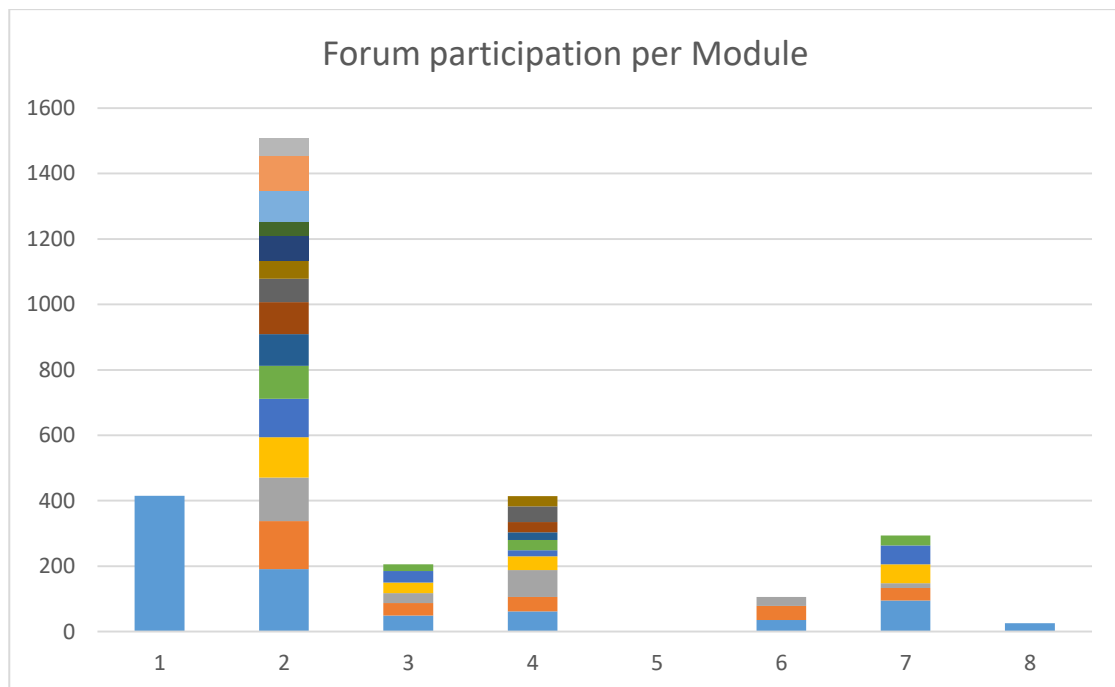

Figure 7 Level of engagement in collaborative learning activities

Different colors indicate the different collaborative learning activities (forum discussions and workshops)

5.4 Learning experience per module

Learning experience in each module of the course, based on users' rating from 1 to 5 (1=Strongly Disagree, 2=Disagree, 3=Neither agree nor disagree, 4= Agree, 5=Strongly agree) to 11 statements of the post-course survey.
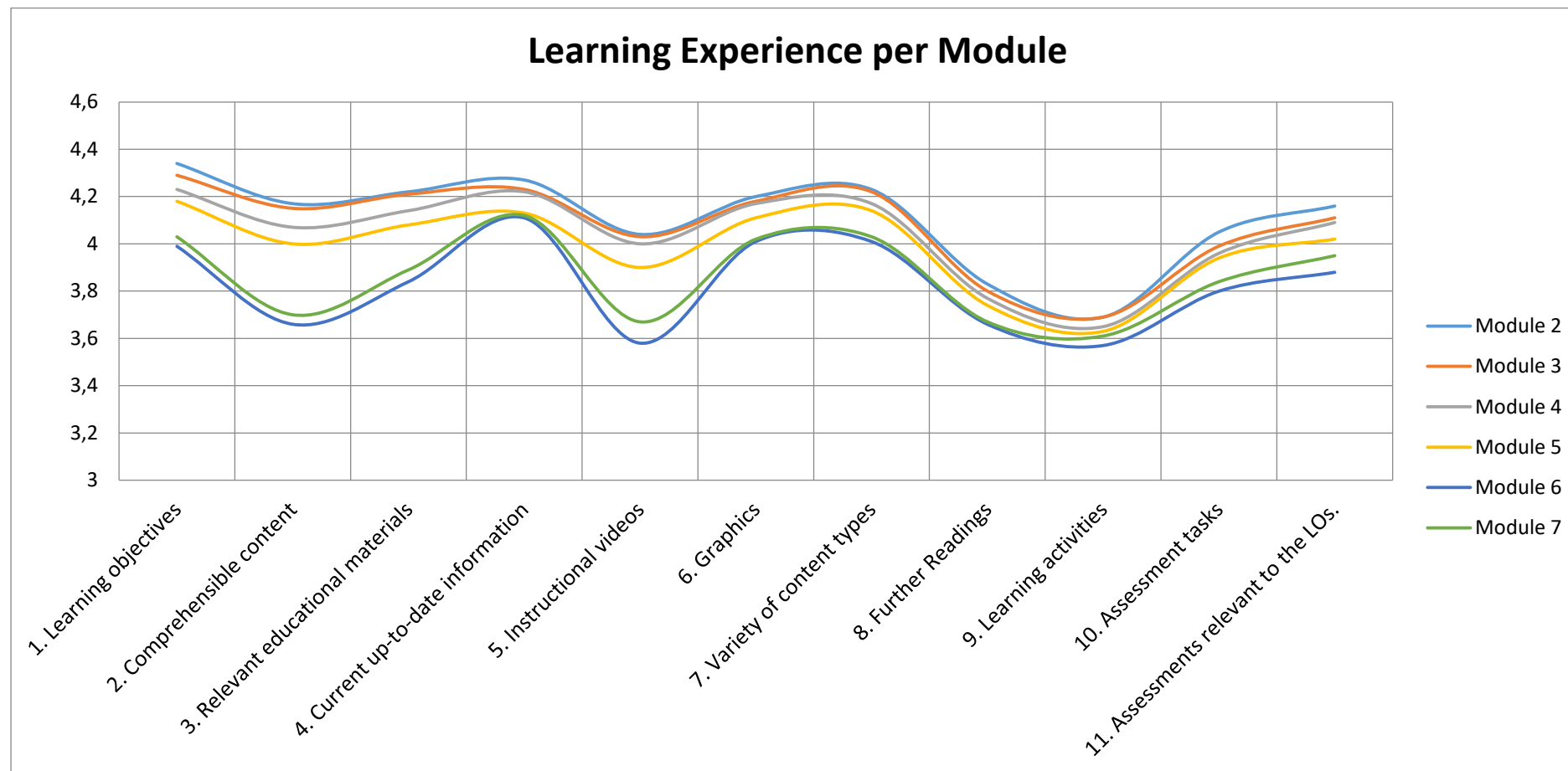

Figure 8 Learning experience per module