Learn2Analyze (L2A)

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

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R12. Learn2Analyze MOOC Evaluation Plan

Disclaimer:

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Executive Summary

This document defines the evaluation plan of the Learn2Analyze MOOC version 1 (as it is developed in Results 5a, 6a, 7a) and its pilot run in phase A (October-December 2019, Result 8, 9). It describes the goals of the evaluation, the implementation actions, the instruments to be used and the data to be collected.

The scope of the Learn2Analyze MOOC Version 1 Evaluation plan (Result #12a) is to obtain insights from the pilot phase A which will inform the design and development of the Learn2Analyze MOOC version 2 (Results 5b, 6b, 7b), prior to the Pilot phase B (Result 10).

The core goals of the evaluation are:

- to create the L2A MOOC participants' profile both in terms of general demographics as well as professional identity and educational data literacy competence background.

- to evaluate the participants' learning experiences from the L2A MOOC in relation to content, activities, workload, support, platform.

- to evaluate participants' achieved learning outcomes in relation to their entry level educational data literacy competence background.

Table of Content

1. Introduction & Scope

This document defines the evaluation plan of the Learn2Analyze MOOC version 1 (as it is developed in Results 5a, 6a, 7a) and its pilot run in phase A (October-December 2019, Result 8, 9). It describes the goals of the evaluation, the implementation actions, the instruments to be used and the data to be collected.

The scope of the Learn2Analyze MOOC Version 1 Evaluation plan (Result #12a) is to obtain insights from the pilot phase A which will inform the design and development of the Learn2Analyze MOOC version 2 (Results 5b, 6b, 7b), prior to the Pilot phase B (Result 10).

The core goals of the evaluation are:

- to create the L2A MOOC participants' profile both in terms of general demographics as well as professional identity and educational data literacy competence background.

- to evaluate the participants' learning experiences from the L2A MOOC in relation to content, activities, workload, support, platform.

- to evaluate participants' achieved learning outcomes in relation to their entry level educational data literacy competence background.

Next, we present the core objective, the instruments for data collection and the method of data analysis for each goal.

2. Background & Environment Scan Review

Massive Open Online Courses (MOOCs) are currently a core trend in online education and training (Liyanagunawardena, Adams, & Williams, 2013). Commonly identified issues with the effectiveness of MOOCs are course completion, participation, motivation and retention issues (Egloffstein, Ebner, & Ifenthaler, 2019). The continuous improvement of the quality of MOOCs so that the MOOC participants can get the best possible learning outcomes still remains an open issue. To this end, several good practices for the evaluation of MOOCs have been documented in the literature (Alturkistani, Majeed, Car, & Brindley, 2018).

In this section, we provide a brief environment scan review with regard to the evaluation of MOOCs, divided into three areas, according to the anticipated goals of our evaluation plan, namely:

(i) MOOC participants' profile capturing,

(ii) evaluation of participants' learning experiences in MOOCs, and

(iii) evaluation of participants achieved learning outcomes in MOOCs,

using questionnaire-based surveys.

2.1 MOOC participants' profile capturing

Our first goal focuses on methods for collecting information for the MOOC participants, towards creating the MOOC learners' profile. We aim at exploring and better understanding the MOOC participants' cohort, so as to better understand their experiences with the MOOC. In relation to their performance, the findings can help us identify and interpret patterns and potential issues, such as the underperformance of different subgroups of students with different characteristics (Hennis, Topolovec, Poquet, Vries, 2016).

To this end, we are interested in collecting data on demographic characteristics, motives, and background knowledge on the subject matter, using questionnaire-based surveys (registration and pre-course survey). The data[1] will be analyzed to provide insights into "*who the learners are*" and "*why they enroll in the course*" and it will be correlated with learning experience data and achieved learning outcomes collected through a post-course survey. Our target is to leverage the outcomes for improving the educational design of the MOOC and thus to better meet the learning needs of our MOOC participants in future editions.

The collection and analysis of MOOC participants' characteristics is addressed in the majority of research literature on MOOCs (Bayeck, 2016; Kizilcec, Piech, & Schneider, 2013), mainly targeting to improve the design of the MOOCs and hence their quality. Veletsianos and Shepherdson (2016) identify MOOC learners' demographics, perceptions, preferences and motivation as some of the topics that prevailed across systematic analysis of the empirical MOOC literature published in 2013-2015. As further emphasized, researchers have favored a quantitative approach to MOOC research, preferring the collection of data via surveys and automated methods (Veletsianos & Shepherdson 2016). The collection of learners' self-report features through questionnaire-based surveys, upon enrolling in the MOOC, is also highly recommended in the "*Practical guide for MOOC tutoring and design*" (Castrillo, Martin-Monje, Vázquez-Cano, 2018). In order to capture the profile of the participants, a set of common variables/items are considered/included in most surveys, such as sociodemographic characteristics (gender, age, geographical location, employment status), academic and professional background, previous experience with MOOCs, motivations and expectations (Gil-Jaurena, Callejo-Gallego, & Agudo, 2017). Most MOOC providers use these findings to understand their learners (Ho et al., 2015) since

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[1] Personal data will be treated as per GDPR.

MOOCs are openly accessible by a wide variety of enrolled participants with diverse demographics, motivations, and backgrounds.

Although there are some studies claiming that MOOCs' participants represent a quite homogeneous population (Shrader, Wu, Owens, & Ana, 2016), the common understanding is that MOOCs are appealing for a diverse mix of participants in terms of cultural and educational background, country of origin, employment status, motivations and learning experiences (Bayeck, 2016; Dillahunt, Chen, & Teasley, 2014; Guo & Reinecke 2014; Hennis, Skrypnyk, De Vries, 2015; Woodgate, Macleod, Scott, & Haywood, 2015).

As per Christensen et al., (2013) "*the student population tends to be young, well educated, and employed, with a majority from developed countries*." On the other hand, Ho et al., (2015) emphasizes that the "*characterization of MOOC participants as a group of college-educated men in their late 20s misrepresents substantial variation, especially across different kinds of courses*". With regards to gender literature reports that there is a predominance of male learners in MOOCs (Hennis, Topolovec, Poquet, Vries, 2016), although in the last years there is an increase in female participation (Ho et al., 2015). When it comes to age, as reported by Hennis, Topolovec, Poquet, and Vries (2016), younger students seem more oriented towards receiving a certificate while older students are more work-motivated, keen to acquire new competences which are certified, thus leading them in better performance.
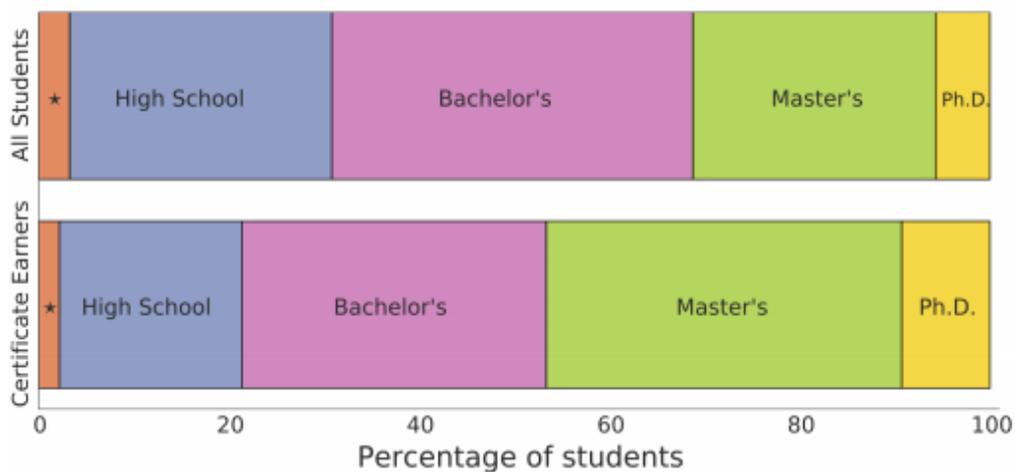
Figure 1. MOOC students' education levels (Guo & Reinecke, 2014)

Guo and Reinecke (2014) performed data analysis on the activities of 140,546 students in four edX MOOCs. Figure 1 shows the distributions of self-reported education levels (top) for all students and certificate earners (bottom) in all four courses; (*) represents an elementary or junior high school graduate. As depicted, certificate earners tend to have more years of education than the general student population.

Research studies show that the combination of learners' profiles with behavior within the MOOC can reveal engagement patterns and possibly predict performance. Demographic factors are considered to influence performance (Tempelaar, Rienties, & Giesbers, 2015) and have been used to address multiple research issues ranging from fundamental questions on socioeconomic status and MOOC enrollment (Hansen & Reich, 2015) to differences in how MOOC participants navigate through MOOCs (Guo & Reinecke, 2014). As emphasized by Hood and Littlejohn (2016), "*successful learning in MOOCs is learner driven and learner determined*".

With regards to motives, studies report a much wider range of MOOC participants' motivations for learning compared to conventional courses (Hood & Littlejohn, 2016). According to Hood and Littlejohn (2016) "*motivation determines how a person engages with a learning opportunity both cognitively and behaviorally, and therefore, is a mediating factor in relation to other quality measures.*" Many research studies and surveys reflect the diversity of possible intentions of MOOC participants beyond earning a certificate of completion (Hood & Littlejohn, 2016; Shrader, Wu, Owens, & Ana, 2016). These MOOC populations tend to redefine the MOOC experience to fit their needs (Shrader, Wu, Owens, & Ana, 2016). Koller, Ng, Do, and Chen (2013) also consider that retention metrics in MOOCs must be defined and interpreted in accordance to the learner's goals. In Egloffstein and Schwerer (2019), initial learning objectives and actual achievement are systematically compared for a large sample of participants in enterprise MOOCs.

To measure MOOC learner motivation, there are several scales incorporated mainly in pre-course questionnaire based-surveys (Wang & Baker, 2018). The 8-item short Grit Scale, which measures the "*perseverance and passion for long-term goals*" (Duckworth & Quinn, 2009), has been used to assess learners' consistency of interests and perseverance of efforts (Wang & Baker, 2018). As per Wang and Baker (2018) findings, the grit scale "*can predict course completion independently from intention to complete and with comparable strength*". The 8-item short Grit Scale is used by many MOOC providers like www.edX.org for example in the course "PennX: BDE1x "Big Data and Education".

PALS (Patterns of Adaptive Learning Survey) scale is also a well-known and widely used survey measure of goals (Anderman, Urdan, & Roeser, 2005). The Motivated Strategies for Learning Questionnaire (MSLQ) has proven to be a reliable and useful self-report instrument (Duncan & Mckeachie, 2010). The MSLQ when adapted for MOOC learners usually consists of 18 MSLQ motivation assertions and 12 MSLQ assertions about usual learning strategies (Alario-Hoyos, Estévez-Ayres, Pérez-Sanagustín, & Delgado-Kloos, 2017). The motivation assertions are grouped in three categories: IGO (Intrinsic Goal Orientation), TV (Task Value), and SELP (Self-Efficacy for Learning and Performance) and they are used to identify their motivation to participate in the MOOC and their preferences on materials and assignments.

Assertions about usual learning strategies which give hints about learners' strengths and weaknesses when facing MOOCs regarding organizational aspects are grouped into two categories: CT (Critical Thinking) and TSE (Time and Study Environment) (Alario-Hoyos et al., 2017). For our L2A MOOC participants' profile capturing, we decided to incorporate the Grit scale in our pre-course questionnaire as described in Section 3 and Appendix A3.

2.2 Evaluation of participants' learning experiences in MOOCs

The evaluation of the participants' learning experiences in a MOOC is a very wide topic and there are several different perspectives documented in the literature. There is a rich body of literature for the indicators for evaluating learners' experience in Online Courses in general. For example, Ulf-Daniel Ehlers (2004) describes a learner-focused quality concept that consists of thirty dimensions including interaction, information transparency (i.e. clearly stated learning goals), communication, course structure, multimedia, background material, support of learning, feedback.
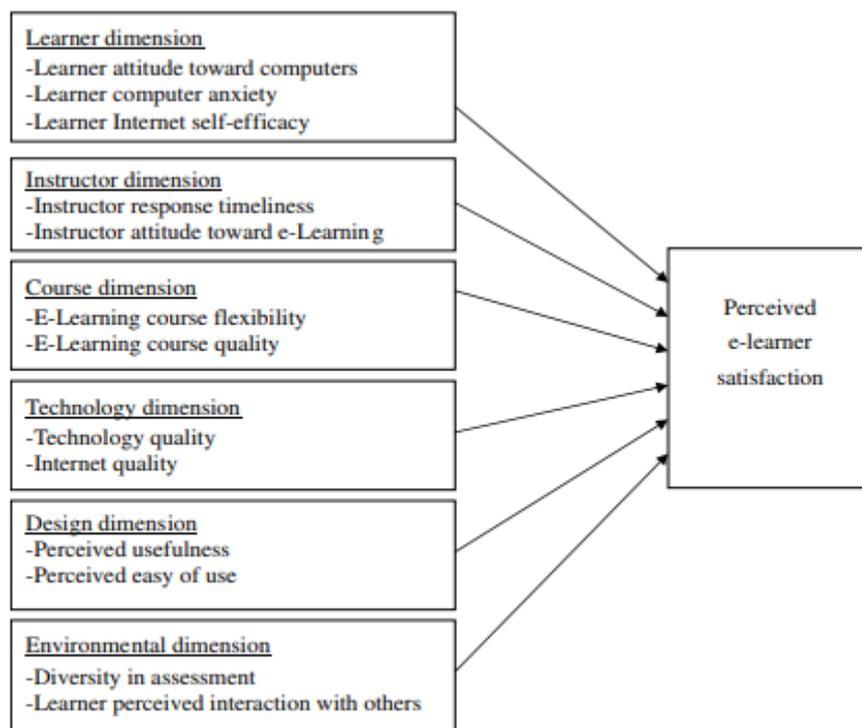
Figure 2. Six dimensions of e-Learning from learners' perspective (Sun et al., 2008)

Sun et al. (2008) have condensed six dimensions of e-Learning from learners' perspective that would result in learner's satisfaction. These dimensions are: learners, instructors, courses, technology, design, and environment. Jung (2011) recognizes seven dimensions in evaluating the e-learning quality: Interaction, Staff Support, Institutional Quality Assurance

Mechanism, Institutional Credibility, Learner Support, Information and Publicity and Learning Tasks.

However it is questionable if those indicators are suitable for MOOCs, due to the unique features of those online courses (Gamage, Fernando & Perera, 2015). Perris (2015) evaluated the "MOOC on MOOCs" using six dimensions in the online post-course survey, including content, assessment activities, interaction (between participants or between participants and instructor), instructional design (method of course delivery), connectivity (Internet access to course) and course platform. Rienties and Toetenel (2016) reported that the number of assignments, the duration of the course, and the workload had a strong and significant impact on overall learners' satisfaction: learners who were more satisfied with the quality of teaching materials, assessment strategies and workload were more satisfied with the overall learning experience. Furthermore, long-term goals of learners (i.e., qualifications and relevance of modules with learners' professional careers) were important predictors for learner satisfaction, in particular at post-graduate level. Gil-Jaurena et al. (2017) examined 17 MOOCs offered in the Spanish National University of Distance Education (UNED) and collected information from a sample of more than 24,000 learners (initial survey) and 2,003 learners (final survey). In their work the dimensions regarding the learning experience include: reasons for enrolling, course expectations, overall level of satisfaction, satisfaction with the platform, satisfaction with the length of the course, satisfaction with the content (videos, complementary material, tests, self-assessments, activities of peers), support from the facilitator, support from peers, future expectations. Egloffstein at al. (2019) have conducted a multi-perspective evaluation of Mannheim Business School's initial MOOC (MBSx:VBM). The learner-oriented evaluation focused on contextual and motivational variables. Participant characteristics along with the learners' initial motives were examined in the pre-course survey, while learners' perceptions of the course design and the instructional elements were examined in the post-course survey.

Along with the research literature, best practices regarding MOOC evaluation were examined. There are several MOOC platforms offering online courses. Thus, we have studied the survey instruments used for the registration, the pre-course and the post-course survey, in the most widespread and prevalent platforms, in terms of the number of courses and enrolments. To this end, *PennX: BDE1x "Big Data and Education"* and *MichiganX: PLAx "Practical Learning Analytics"* from http://www.edx.org/ were used to form the learners' satisfaction questionnaire to measure the learning experience through the L2A MOOC. Furthermore, the manual for post-evaluation from Ellen Taylor-Powell and Marcus Renner (2009) was also taken into consideration. The manual is organized according to five types of information that can be gained at the end of an educational event: participant reactions, teaching and facilitation, outcomes, future programming, participant background.

Based on the above best practices' environment scan, we decided to focus the evaluation of participants' learning experience in the L2A MOOC on the content, the learning activities and the workload per module, as well as, on the overall learning experience concerning the difficulty level, the workload spread, and the platform usability. Along with the evaluation of the learning experience, the participants will answer questions concerning the overall perceived satisfaction from the MOOC.

2.3 Evaluate participants' achieved learning outcomes in MOOCs

Typically, registration in MOOCs is free and, in the majority of cases, without any pre-requisite qualifications or knowledge. The reasons that one chooses to attend a MOOC may be his interest in the specific subject, the desire to acquire new knowledge or update his or her previous professional development, as discussed in section 2.1. As a result, dropout rates in MOOCs are much higher than those of the traditional courses. Many of those initially enrolled in a MOOC do not intent to complete the MOOC, so counting them on the dropout rate can be misleading (Hone & El Said, 2016; Egloffstein & Schwerer, 2019). Studies report that less than 7% of the enrolled participants in a MOOC will complete it with a certificate (Jordan, 2014). As Khalil and Ebner (2014) argue, numerous studies deal with how to avoid high attrition rates and why students drop out or fail. Daradoumis et al. (2013) emphasize that measuring the quality of a MOOC only from the dropout rates might not represent the reality and suggests analyzing further each participant's objectives to evaluate the MOOC's effectiveness. Christian Stracke (2017) proposes the completion of individual goals and intentions by the MOOC learner as a more appropriate quality indicator for evaluating the quality of MOOCs than the traditional drop-out rates. Egloffstein and Schwerer (2019) compare participants' intended learning objectives and actual achievements in Enterprise MOOCs at openSAP to extract more reliable and realistic performance indicators. Wilkowski, Deutsch, and Russell (2014), identified prior experience of participants who registered for the "Mapping with Google" MOOC, using pre-course survey and measured students' self-reported goal achievement on a post-course survey.

In order to measure potential success in L2A MOOC, instead of concentrating only to simple data such as *certification* and *dropouts*, we will also consider self-assessment reporting by the L2A MOOC participants on whether the course contributed to the *advancement of their educational data literacy competence level* as self-perceived. Thus, the starting competence level for every statement of the L2A Educational Data Literacy Competence Profile will be measured using a pre-course questionnaire. After the L2A MOOC completion, participants will be asked to self-assess their learning accomplishment evaluating their

current competence level as an indicator of the achieved progress. The levels we used, so that the participants can self-assess their competence, are based on the Dreyfus model of skill acquisition (Dreyfus, 2004), which is widely implemented "*to provide a means of assessing and supporting progress in the development of skills or competencies*" (Lester, 2005).

3. Overview of the L2A MOOC Version 1 Course Design and Implementation

The Learn2Analyze MOOC version 1 aims to support the development of the basic competences for Educational Data Analytics for Online and Blended teaching and learning. The learning outcomes of this MOOC cover the set of competences described by the Learn2Analyze Educational Data Literacy competence framework, available at www.learn2analyze.eu.

The primary targeted groups of the Learn2Analyze MOOC are:
- e-Learning Professionals, in particular Instructional Designers, Instructors / Tutors and Managers of online and blended learning courses,
- Higher Education Students,
- University and School Teachers interested to further develop their Educational Data Literacy, as well as
- Academics, Researchers and Professionals involved in Educational Data Literacy and Educational Data Analytics.

Nevertheless, the Learn2Analyze MOOC will be open to all audiences free of charge and there will be no formal prerequisites, except for a reasonable knowledge of the English language.

Following the xMOOC-model, the Learn2Analyze MOOC content is organised into six self-contained modules: Educational Data, Learning Analytics, Teaching Analytics, Educational Data Analytics with Moodle, Educational Data Analytics with eXact Suite, Educational Data Analytics with IMC Learning Suite, plus an Orientation and a Concluding module.

The anticipated course duration is 8 weeks with an estimated time commitment of 8 hours on average per week. The Learn2Analyze MOOC promotes self-directed learning with video pages, HTML (Text & Graphics) pages and activities (polls, forums). The individual learning progress will be monitored with automated -assessment quizzes at the end of each module as well as at the end of the MOOC. Participants earn a free-of-charge certificate upon successful completion of the entire MOOC.

4. Evaluation Plan Design

4.1 Objectives

In order to carry out a comprehensive evaluation of the L2A MOOC (version 1), the following guiding questions have been identified:

- What is the demographic profile and educational/professional background of the participants in the Learn2Analyze MOOC?
- What are the motivations and expectations of the participants undertaking the Learn2Analyze MOOC and to which level are they met?
- What is the participants' background competence in Educational Data Literacy per EDL-CP statement?
- What are the participants' learning experiences with regard to course design, content, course activities, assessment, interaction with other participants and/or instructor, platform usability and workload?
- Were participants able to improve their Educational Data Literacy competences, and to what extent?

To answer to these questions, the goals of the evaluation plan for the Learn2Analyze MOOC have been established as follows:

- to create the L2A MOOC participants' profile both in terms of general demographics as well as professional identity and educational data literacy competence background.
- to evaluate the participants' learning experiences from the L2A MOOC with respect to content, activities, workload, support, platform.
- to evaluate participants' achieved learning outcomes in relation to their entry level educational data literacy competence background.

4.2 Procedure

1.	@ IMC's MOOC Platform: Course Registration and Enrolment Module 1 including a prompt and a link to the Pre-Course Survey @ Google Drive
2.	@ Google Drive Pre-Course Survey Consent Form If the participant agrees to participate 2.1 he/she answers the Pre-Course Survey Questionnaire and submits the form @Google Drive.

	2.2 After the submission of the Pre-Course Survey, the participant will receive an email with the "verification code", which verifies his/her participation to the Pre-Course Survey. This code will be used in STEP 4 If he/she does not agree to participate 2.3 he/she continues to the L2A MOOC @ IMC's MOOC Platform

3.	@ IMC's MOOC Platform
	
	3.1 The participant completes the 8 weeks L2A MOOC
	
	3.2 The participant takes the Final Assessment Quiz.
	
	    If the score is below 60%
	
	        he/she can retake the Final Assessment Quiz
	
	    If the score in the Final Assessment Quiz is over 60% then
	
	        A prompt and a link to the Post-Course survey @ Google Drive is revealed.

4.	@Google Drive
	
	The participant is asked for the verification code from the Pre-Course Survey as a ticket to enter the Post-course survey.
	
	If the participant provides the right verification code then:
	
	    4.1 the Post-Course Survey Consent Form appears and he/she is asked for his consent for the participation.
	
	    If the participant agrees to participate:
	
	        4.1.1 he/she answers the Pre-Course Survey Questionnaire and submits the form.
	
	        4.1.2 After submitting the Post-Course Survey the participant will automatically receive by email (from Google Drive) the Certificate of Completion.
	
	If the participant does not have the verification code then he/she is prompt to follow the link to the Pre-Course Survey and complete the Pre-Course Survey.

To earn a Certificate of Completion, the participant must:
- score at least 60% in the final assessment quiz, and
- participate in both Pre and Post-Course Surveys.

4.3 Instruments

Instruments used for data collection and analysis

The instruments that will be used for the implementation of the process are:

1. Two **consent forms**, one for each one of the two questionnaires (pre-course survey questionnaire and post-course survey questionnaire) seeking for L2A MOOC participants' permission for participation in these surveys and assuring them of the

confidentiality of their responses. The consent forms include all the information needed (title of the survey, purpose and procedure, legal basis for processing the personal and sensitive data, potential benefits, potential risk or discomforts, storage of data, information about the data transfer outside the European Union, right to withdraw, rights of research participants, participant concerns and reporting, conflict of Interest, compensation, confidentiality, how will results be used, debriefing and dissemination of results) for the Learn2Analyze MOOC participants to consent or not in the respective survey. The consent forms follow the guidelines of the General Data Protection Regulation (EU) 679/2016 ('GDPR') the main data protection legal framework in EU directly applicable to all Member States, repealing the current Data Protection Directive 95/46/EC as of 25 May 2018 [Appendix A.2, A.4].

2. The **Pre-course Survey Questionnaire** in a web form to collect the Learn2Analyze MOOC participants' replies in relation to their demographics, the educational/professional background, as well as the participants' motives for enrolling in the Learn2Analyze (L2A) MOOC, to create the participants' profile. The questionnaire consists of 5 sections and needs approximately 20 minutes to be filled in. The first section includes information about the Learn2Analyze project, as well as the consent form for participating to the survey. The second section includes a set of questions about demographics and general background e.g., Age, Gender, Nationality, Country of Residence, Educational Background, Professional Identity, Professional Experience, English proficiency, Comfort with technology and Previous Experience on MOOCs. The third section includes a set of questions about the participants' motives for enrolling in the Learn2Analyze MOOC. The fourth section includes a set of questions on participants' existing competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each competence dimension of the Learn2Analyze EDL Competence framework. The final section is asking for the participant's email address so that he can receive a verification code that proves he/she has participated in the Pre-Course Survey. [Appendix A.3].

3. The **Post-course Survey Questionnaire** in a web form to collect the Learn2Analyze MOOC participants' replies in relation to participants' satisfaction, learning experiences, and course impact. The questionnaire consists of 6 sections and needs approximately 20 minutes to be filled in. The first section includes information about the Learn2Analyze project, as well as a field asking for the verification code, as a proof that the participant has already completed the Pre-Course Survey. The second section includes the consent form for participating to the survey. The third section includes a set of questions on participants' level of satisfaction and learning experience per module of the Learn2Analyze MOOC. The fourth section includes a set of questions on participants' overall level of satisfaction and learning experience after attending the Learn2Analyze MOOC. The fifth section includes a set of questions on learners' competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each

competence dimension of the Learn2Analyze EDL Competence framework, after attending the Learn2Analyze MOOC. The final section is asking for the name and the email address of the participant in order to send him/her a personalized *Certificate of Completion*. [Appendix A.5].

Privacy and ethical issues

In the consent forms, privacy and ethical issues are treated according to the guidelines of the General Data Protection Regulation (EU) 679/2016 (GDPR)[2]. To this end participants are informed, in clear and plain language, about:

- the **name** of the consortium that is processing their personal data (including the contact details);
- the **purposes** for which the consortium will use their personal data;
- the categories of **personal data** concerned;
- the **length of time** for which their data will be stored;
- their **basic rights** in the field of data protection (for example, the right to have their data removed, right to access personal data);
- the right to **withdraw** their consent at any time;
- the right to lodge a complaint with a **Data Protection Authority** (DPA);
- whether their personal data will be **transferred** outside the EU;
- other companies/organisations that will **receive** their data;
- the **legal basis** for processing their personal data;

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[2] http://eur-lex.europa.eu/eli/reg/2016/679/oj

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Appendix A.1: Invitation for the Learn2Analyze MOOC Evaluation

Title of Survey: Evaluation of the Learn2Analyze MOOC

Dear Participant,

You are invited to participate in this survey as you have registered for the online course administered by Learn2Analyze Consortium. Your responses to this survey will help us to evaluate the Learn2Analyze MOOC and improve it in future versions. Your participation will involve completing two questionnaires: one at the beginning of the course (Pre-Course Survey) and one at the end (Post-Course Survey).

In the Pre-Course Survey you will be asked to provide answers to a series of questions related to your demographics and general background, your motives for enrolling in the Learn2Analyze (L2A) MOOC and your existing competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each competence dimension of the Learn2Analyze EDL Competence framework.

Although the Pre-course Survey participation will be available to complete throughout the course run, it is highly recommended, for the purposes of the validity of our research, to be completed before the beginning of the course.

In the Post-Course Survey you will be asked questions about your level of satisfaction and learning experience per module, as well as the overall learning experience of the Learn2Analyze (L2A) MOOC. Finally you will report on your achieved competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each competence dimension of the Learn2Analyze EDL Competence framework, after attending the Learn2Analyze (L2A) MOOC.

To obtain your L2A Certificate of Completion it is necessary to complete both surveys (see *Course Certificate*). Each survey is expected to take approximately 20 minutes to complete. Upon completion of the pre-course survey you will receive a verification code. You will be asked to fill in this code to start the post-course survey.

We greatly appreciate your willingness to share your time by participating. Your responses to these surveys will help us to improve the quality of the learning experience and to better our course offerings.

On behalf of the Learn2Analyze Consortium, we express our sincere thanks for your participation in our survey acknowledging that your insights on the questions in this survey will prove invaluable.

Course Certificate

To earn a Certificate of Completion, you must:

- score at least 60% in the final assessment quiz, and

- participate in both Pre and Post-Course Surveys.

STEP 1: The Pre-Course Survey is available in Module 1. As it is a requirement for the Certificate of Completion, we kindly request for your participation. Although the Pre-course Survey participation will be available to complete throughout the course run, it is highly recommended, for the purposes of the validity of our research, to be completed before the beginning of the course. After the submission of the Pre-Course Survey, you will receive a "verification code" which verifies your participation. Keep this code as you will use it in STEP 3.

STEP 2: For the next 8 weeks, you run through the course content and activities, and finally take the final assessment quiz (you must score at least 60% to pass).

STEP 3: The Post-Course Survey will be available in Module 8 after the successful completion of the final assessment quiz. It is a requirement for the Certificate of Completion. To start the Post-Course Survey you will need a "ticket". The ticket is the verification code you have received in your email after the submission of the Pre-Course Survey.

STEP 4: After submitting the Post-Course Survey you will receive your personalised Certificate of Completion by email.
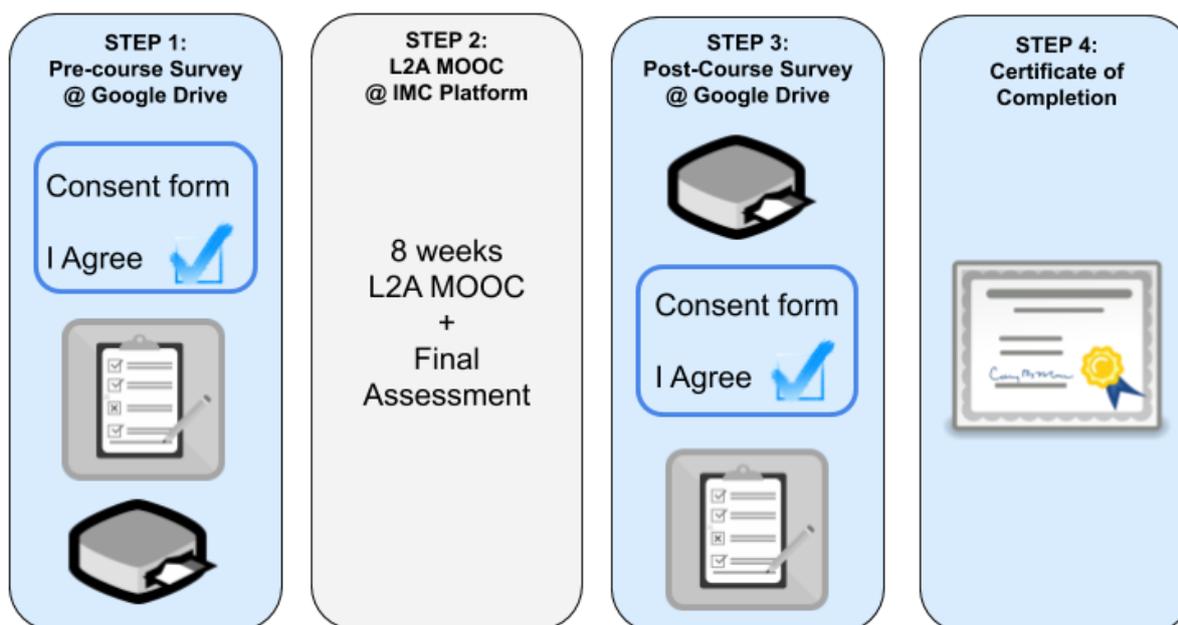
Appendix A.2: Learn2Analyze MOOC Pre-course survey Consent Form

Learn2Analyze MOOC Pre-course survey Consent Form

The Learn2Analyze (L2A) is an Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' (Instructional Designers and e-Trainers) Competences in Educational Data Analytics. Learn2Analyze (L2A) is an action co-funded 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).

You are invited to participate in this survey because you have registered for a MOOC administered by Learn2Analyze Consortium. Your responses to this survey will help us to evaluate the Learn2Analyze MOOC and improve it in future versions.

Submit the form and you will receive a "verification code" which verifies your participation in the Learn2Analyze MOOC Pre-course survey. Keep this code, as you will use it later as a ticket to participate in the Learn2Analyze MOOC Post-course survey, in order to earn a free certificate of completion from the Learn2Analyze MOOC.

* Required

Consent form to Participate in Web-based Survey

Title of Survey: Learn2Analyze MOOC Registration Questionnaire
You are invited to participate in this survey because you have registered for a MOOC administered by Learn2Analyze Consortium. Your responses to this survey will help us to evaluate the Learn2Analyze MOOC and improve it in future versions. You will be asked to provide answers to a series of questions related to your demographics and general background, your motives for enrolling in the Learn2Analyze Massive Online Open Course (MOOC) course and your existing competence level per Educational Data Literacy (EDL) Competence Profile (CP) Statement of the Learn2Analyze EDL Competence framework.

Purpose and Procedure:
The Learn2Analyze (L2A) is an Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' (Instructional Designers and e-Trainers) Competences in Educational Data Analytics. Learn2Analyze (L2A) is an action co-funded 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).

More information about the project is available at www.learn2analyze.eu.

Please note:
1. The survey will be carried out from 15/09/2019 to 31/12/2019.
2. Before you proceed to the survey questions, you will be asked to indicate your consent for the collection and processing of your personal data for the purposes of the survey.
3. Should you decide you do not wish to further participate, you may leave the survey at any time, just by exiting your browser.

4. The Pre-Course Survey consists of 5 sections and needs approximately 20 minutes to be completed.

5. The first section includes the consent form for participating to the survey.

6. The second section includes a set of questions about demographics and general background.

7. The third section includes a set of questions on your motives for enrolling in the Learn2Analyze (L2A) MOOC.

8. The fourth section includes a set of questions on your existing competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each competence dimension of the Learn2Analyze EDL Competence framework.

9. In the final section you will be asked for your email address in order to receive a verification code needed for the participation in the Learn2Analyze MOOC Post-course survey, after the completion of the course.

Legal basis for processing the personal and sensitive data:

Personal Data:

In connection with this research, the Learn2Analyze Consortium's collection and processing of the following Personal Data is lawful based on consent (Article 6.1(a), GDPR):

☐ Name, Email Address

☐ Education Information

Sensitive Data:

In connection with this research, the Learn2Analyze Consortium's collection and processing of the following Sensitive Data is lawful based on consent (Article 9.2(a), GDPR):

☐ Gender

Potential Benefits:

There are no direct benefits for participating in the survey. The survey results will help us evaluate the L2A MOOC and improve its future versions.

Potential Risk or Discomforts:

We do not perceive of any risk or discomfort in the completion of the survey.

Storage of Data:

The survey is completed in a Google Docs form and stored in a secure Google Drive folder under the e-mail l2a.r12.survey@gmail.com, for the time required by the purposes described in this document, for maximum 2 years.

Data transfer outside the European Union:

We may share some of the data collected with services located outside the European Union, in particular through the aforementioned Google services.

Right to Withdraw:

Your participation in this survey is voluntary. You are under no obligation to complete the survey and you can withdraw from the survey prior to submitting it. If you do not want to participate simply stop participating or close the browser window. You can simply exit the Web Browser without saving your responses, and they will not be recorded.

Rights of research participants:

You have the right to request access to, a copy of, rectification, restriction in the use of, or erasure of your information in accordance with all applicable laws, contacting the lead Learn2Analyze researcher for this survey in l2a.r12.survey@gmail.com. The erasure of your information shall be subject to the Learn2Analyze Consortium's need to retain certain information pursuant to any other identified lawful basis.

If the Learn2Analyze Consortium's use of your information is pursuant to your consent, you have the right to withdraw consent without affecting the lawfulness of the Learn2Analyze Consortium's use of the information prior to receipt of your request.

If you think your data protection rights have been breached you have the right to lodge a complaint with your national Data Protection Authority (DPA).

Participant Concerns and Reporting:

If you have any questions concerning the survey or experience any discomfort related to the survey, please contact the lead Learn2Analyze researcher for this survey in l2a.r12.survey@gmail.com

Conflict of Interest:

We do not perceive any conflicts of interest in the development of this survey.

Compensation:

There is no compensation for participants in this survey.

Confidentiality:

The only people processing your input will be the researcher(s) involved in the Learn2Analyze project. The researcher(s) undertake to keep any information provided herein confidential, not to let it out of our possession and to report on the findings from the perspective of the entire participating group and not from the perspective of an individual. Please note that confidentiality cannot be guaranteed while data are in transit over the Internet.

How will results be used:

The results of the survey will be used for evaluating the L2A MOOC. The results from the survey may be used for research study, for scholarly purposes only and might be presented in conferences, published in journals or articles for educational purposes.

By indicating consent to participate in this survey you also indicate consent for the possible secondary use of this data at a later date if we decide to undertake a further longitudinal study for the enhancement of the Learn2Analyze MOOC.

Debriefing and Dissemination of Results:

The final report will be made publicly available through the official website of the project www.learn2analyze.eu.

On behalf of the Learn2Analyze Consortium, we would like to sincerely thank you for your participation in our survey acknowledging that your insights on the questions in this survey will prove invaluable.

Selecting "I Agree" below indicates that:

You have read the above information;
You voluntarily agree to participate in this survey;
You understand the procedures described above;
You give consent for the use of your Personal Data for the purposes outlined in this notice;
You give consent for the use of your Sensitive Data for the purposes outlined in this notice;
You are at least 18 years of age.

Do you consent? *

- I AGREE

Appendix A.3: Pre-course Survey Questionnaire

1. Demographics & General Background

Q1*. What is your year of birth? *[2], [9], [11], [12]*
- ○ Please enter:

Q2*. What is your gender? *[1], [9], [11], [12]*
- ○ Female
- ○ Male
- ○ I prefer not to answer
- ○ Other

Q3*. Please specify your country or region of residence. *[1], [8], [9]*

The countries will be in alphabetical order for someone to choose from a dropdown menu.

Q4*. What is the highest level of education you have completed? *[1], [2], [5], [8], [11], [12]*
- ○ High School Diploma (or equivalent)
- ○ Associate degree / technical diploma - occupational / technical / vocational program
- ○ Associate degree - academic program
- ○ Bachelor's degree (e.g., BSc, BA, AB, BS, BPS)
- ○ Master's Degree (e.g., MA, MS, MSc, MEng, MEd, MSW, MBA)
- ○ Professional School Degree (e.g., JD, MD, DDS, DVM, LLB)
- ○ Doctoral Degree (e.g., PhD, EdD)
- ○ Other. Please specify: (fill-in-blank)

Q5*. What is your current job sector? *[12]*
- ○ Self-employed
- ○ Large (>100 people) for-profit company
- ○ Small (<100 people) for-profit company
- ○ Large (>100 people) non-profit
- ○ Small (<100 people) non-profit
- ○ K-12 Education
- ○ College
- ○ University
- ○ Governmental Education Agency
- ○ Other Governmental Agency
- ○ Not-employed
- ○ Other. Please specify: (fill-in-blank)

Q6*. What is your professional role? (Select all that apply) *[9]*
- ❑ Higher Education Students
- ❑ Professional Instructional Designer of Online and/or Blended Courses
- ❑ (e-) Tutor of Online and or Blended Courses
- ❑ School Teacher in K-12 Education

- ❑ Professional involved in supporting Teaching & Learning in Higher Education and/or Professional involved in supporting Professional Development
- ❑ Professional involved in supporting Educational Data in Higher Education and/or Professional Development
- ❑ Manager in a Higher Education Institute
- ❑ Manager in a Professional Development Service Provider
- ❑ Manager in an e-Learning Service Provider
- ❑ Manager in a Governmental Education Policy Making Institute
- ❑ Academic involved in teaching Higher Education Courses on Digital Learning and/or Learning Technologies
- ❑ Academic involved in teaching Higher Education Courses specifically for Instructional Designers and/or (e-) Tutors
- ❑ Academic involved in teaching Higher Education Courses specifically for Educational Data Literacy
- ❑ Researcher in Digital Learning and/or Learning Technologies
- ❑ Researcher in Instructional Design of Online and/or Blended Courses
- ❑ Researcher in Educational Data Literacy
- ❑ Other. Please specify: (fill-in-blank)

Q7*. How many years are you involved in this role? *[8], [9]*
- ○ 1-5
- ○ 6-10
- ○ 11-20
- ○ 21+

Q8*. How many years are you involved in the field of Digital Teaching and Learning? *[1], [8], [9]*
- ○ 1-5
- ○ 6-10
- ○ 11-20
- ○ 21+

Q9*. On a scale from 1 (low) to 5 (high), please rate the following: *[11]*

- ○ Your English proficiency
  (Low)   1   2   3   4   5 (High)

- ○ Your comfort with Technology
  (Low)   1   2   3   4   5 (High)

Q10*. Please respond to the following, about your previous experience with MOOCs: *[5], [8], [11]*

- ○ In how many MOOCs have you enrolled?
  None   1   2-4   5-10   >10

- ○ How many MOOCs have you completed successfully?

None   1   2-4   5-10   >10

2. Motives for enrolling in the L2A MOOC

Q1*. Which of the following best describes your goal in taking this course? Please select one of the following *[1], [6], [12]*

- ○ Planning to follow the course schedule and complete all activities to earn a certificate of completion
- ○ Auditing, but intend to follow the course schedule
- ○ Auditing, but do not intend to follow the course schedule
- ○ Just checking what this course is about
- ○ Bookmaking it as a learning resource
- ○ Interested in a small subset of course topics
- ○ General curiosity
- ○ Other - Please specify

Q2*. Can you tell us why you have enrolled in this course? Please select the number [1..5] that best describes what you think. (N/A=Not Applicable)

1. Participating in this course is relevant for my personal development**.** *[1], [2], [5], [11], [13]*
   Not At All True   1   2   3   4   5   Very True   N/A

2. *Participating in this course will extend my current knowledge of the topic. [2], [11] [12]*
   Not At All True   1   2   3   4   5   Very True   N/A

3. I will use this course to obtain a job-relevant qualification. *[5]*
   Not At All True   1   2   3   4   5   Very True   N/A

4. *I think the L2A certificate is beneficial for my CV and future job applications. [5]*
   Not At All True   1   2   3   4   5   Very True   N/A

5. *The subject of the course is relevant to my academic field of study. [2], [12]*
   Not At All True   1   2   3   4   5   Very True   N/A

6. The subject of the course is relevant to my college/university class. *[2], [12]*
   Not At All True   1   2   3   4   5   Very True

7. I have been advised or ordered to take part in this course. *[5]*
   Not At All True   1   2   3   4   5   Very True   N/A

8. I have enrolled in this course out of general curiosity. [5]
    Not At All True   1   2   3   4   5   Very True   N/A

Q3*. How confident are you in your ability to learn the material in this course? [10], [11]

- Not confident at all
- A little confident
- Moderately confident
- Very confident
- Extremely confident

Q4*. How would you rate your possibility of finishing this course according to the anticipated time commitment as defined in the syllabus? Please select a number on a scale of 1 to 5, with 1 being least likely and 5 being most likely. [12]

    Least Likely   1   2   3   4   5   Most likely

Q5*. How many hours per week do you plan to spend studying on this course? [11]

- less than 3 hours
- 3-4 hours
- 5-6 hours
- 7-8 hours
- more than 8 hours

Q6*. How would you describe yourself?

1. New ideas and projects sometimes distract me from previous ones. [4], [12]
    1 Very Much like me   2 Mostly like me   3 Somewhat like me
    4 Not much like me   5 Not like me at all

2. Setbacks don't discourage me. [4], [12]
    1 Very Much like me   2 Mostly like me   3 Somewhat like me
    4 Not much like me   5 Not like me at all

3. I have been obsessed with a certain idea or project for a short time but later lost interest. [4], [12]
    1 Very Much like me   2 Mostly like me   3 Somewhat like me
    4 Not much like me   5 Not like me at all

4. I am a hard worker. [4], [12]
    1 Very Much like me   2 Mostly like me   3 Somewhat like me
    4 Not much like me   5 Not like me at all

5. I often set a goal but later choose to pursue a different one. [4], [12]

1 Very Much like me   2 Mostly like me   3 Somewhat like me
4 Not much like me   5 Not like me at all

6. I have difficulty maintaining my focus on projects that take more than a few months to complete. *[4], [12]*
   1 Very Much like me   2 Mostly like me   3 Somewhat like me
   4 Not much like me   5 Not like me at all

7. *I finish whatever I begin.* *[4], [12]*
   1 Very Much like me   2 Mostly like me   3 Somewhat like me
   4 Not much like me   5 Not like me at all

8. *I am diligent.* *[4], [12]*
   1 Very Much like me   2 Mostly like me   3 Somewhat like me
   4 Not much like me   5 Not like me at all

3. Existing Competence Level per L2A EDL-CP Statement

Please rate your initial competence level for each statement of the L2A Educational Data Literacy Competence Dimensions addressed in this course. *[3], [11]*

Dimension	Statement	Level of competence
1. Data Collection	1.1 Obtain, access and gather the appropriate data and/or data sources	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	1.2 Apply data limitations and quality measures (e.g., validity, reliability, biases in the data, difficulty in collection, accuracy, completeness)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
2. Data Management	2.1 Apply data processing and handling methods (i.e., methods for cleaning and changing data to make it more organized – e.g., duplication, data structuring)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	2.2 Apply data description (i.e., metadata)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert

	2.3 Apply data curation processes (i.e., to ensure that data is reliably retrievable for future reuse, and to determine what data is worth saving and for how long)	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
	2.4 Apply the technologies to preserve data (i.e., store, persist, maintain, backup data), e.g., storage mediums/services, tools, mechanisms	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
3. Data Analysis	3.1 Apply data analysis and modelling methods (e.g. application of descriptive statistics, exploratory data analysis, data mining).	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
	3.2 Apply data presentation methods (e.g., pictorial visualisation of the data by using graphs, charts, maps and other data forms like textual or tabular representations)	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
4. Data Comprehension & Interpretation	4.1 Interpret data properties (e.g., measurement error, outliers, discrepancies within data, key take-away points, data dependencies)	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
	4.2 Interpret statistics commonly used with educational data (e.g., randomness, central tendencies, mean, standard deviation, significance)	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
	4.3 Interpret insights from data analysis (e.g., explanations of patterns, identification of hypotheses, connection of multiple observations, underlying trends)	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
	4.4 Elicit potential implications/links of the data analysis insights to instruction	○ ○ ○ ○ ○	Novice Advanced beginner Competent Proficient Expert
5. Data Application	5.1 Use data analysis results to make decisions to revise instruction	○ ○	Novice Advanced beginner

		○ Competent
		○ Proficient
		○ Expert
	5.2 Evaluate the data-driven revision of instruction	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
6. Data Ethics	6.1 Use the informed consent	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
	6.2 Protect individuals' data privacy, confidentiality, integrity and security	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
	6.3 Apply authorship, ownership, data access (governance), re-negotiation and data-sharing	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert

4. Thank you for your participation

Submit the form and get the Learn2Analyze MOOC Pre-course survey verification code, which verifies your participation. Keep this code as you will need it later as a ticket, in order to participate in the Learn2Analyze MOOC Post-course survey, after the completion of the course.

Please provide your email address to get an email with the Learn2Analyze MOOC Pre-course survey verification code.

What is your Email address?

_____

Appendix A.4 : Learn2Analyze MOOC Post-course survey Consent Form

Learn2Analyze MOOC Post-course survey Consent Form

The Learn2Analyze (L2A) is an Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' (Instructional Designers and e-Trainers) Competences in Educational Data Analytics.

You are invited to participate in this survey because you have registered for the online course administered by Learn2Analyze Consortium. Your responses to this survey will help us to evaluate the Learn2Analyze MOOC and improve it in future versions.

Submit the form and get the Learn2Analyze MOOC certificate of participation.

To participate in Learn2Analyze MOOC Post-course survey Questionnaire you must first complete the Learn2Analyze MOOC Pre-course survey and submit the verification code.

* If you have completed the Learn2Analyze MOOC Pre-course survey, please provide the verification code you have received by email.

                                                    * Required

Consent form to Participate in Web-based Survey

Title of Survey: Learn2Analyze MOOC Post-course survey Questionnaire

You are invited to participate in this survey because you have registered for an online course administered by Learn2Analyze Consortium. Your responses to this survey will help us to evaluate the **Learn2Analyze MOOC** and improve it in future versions. You will be asked to provide answers to a series of questions related to your learning experience and your competence level per Educational Data Literacy (EDL) Competence Profile (CP) Statement of the Learn2Analyze EDL Competence framework, after attending the course.

Purpose and Procedure:
The Learn2Analyze (L2A) is an Academia-Industry Knowledge Alliance for enhancing Online Training Professionals' (Instructional Designers and e-Trainers) Competences in Educational Data Analytics. L2A is an action co-funded 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).

More information about the project is available at www.learn2analyze.eu.

Please note:
1. The survey will be carried out from 15/09/2019 to 31/12/2019.
2. Before you proceed to the survey questions, you will be asked to indicate your consent for the collection and processing of your personal data for the purposes of the survey.
3. Should you decide you do not wish to further participate, you may leave the survey at any time, just by exiting your browser.

4. The questionnaire consists of 6 sections and needs approximately 20 minutes to be completed.

5. In the first section you will be asked for the verification code from the pre-course survey, to make sure that you have already completed this questionnaire.

6. The second section includes the consent form for participating to the survey.

7. The third section includes a set of questions on your level of satisfaction and learning experience per module of the Learn2Analyze (L2A) MOOC.

8. The fourth section includes a set of questions on your overall level of satisfaction and learning experience after attending the Learn2Analyze (L2A) MOOC.

9. The fifth section includes a set of questions on your competence level per "Educational Data Literacy (EDL) Competence Profile (CP) Statement" for each competence dimension of the Learn2Analyze EDL Competence framework, after attending the Learn2Analyze (L2A) MOOC.

10. In the final section you will be asked for your name and email address in order to receive a personalized Certificate of Completion of the L2A MOOC.

Legal basis for processing the personal and sensitive data:

Personal Data:

In connection with this research, the Learn2Analyze Consortium's collection and processing of the following Personal Data is lawful based on consent (Article 6.1(a), GDPR):

□ Name, Email Address

□ Education Information

Sensitive Data:

In connection with this research, the Learn2Analyze Consortium's collection and processing of the following Sensitive Data is lawful based on consent (Article 9.2(a), GDPR):

□ Gender

Potential Benefits:

There are no direct benefits for participating in the survey. The survey results will help us evaluate the L2A MOOC and improve its future versions.

Potential Risk or Discomforts:

We do not perceive of any risk or discomfort in the completion of the survey.

Storage of Data:

The survey is completed in a Google Docs form and stored in a secure Google Drive folder under the e-mail l2a.r12.survey@gmail.com, for the time required by the purposes described in this document, for maximum 2 years.

Data transfer outside the European Union:

We may share some of the data collected with services located outside the European Union, in particular through the aforementioned Google services.

Right to Withdraw:

Your participation in this survey is voluntary. You are under no obligation to complete the survey and you can withdraw from the survey prior to submitting it. If you do not want to

participate simply stop participating or close the browser window. You can simply exit the Web Browser without saving your responses, and they will not be recorded.

Rights of research participants:
You have the right to request access to, a copy of, rectification, restriction in the use of, or erasure of your information in accordance with all applicable laws, contacting the lead Learn2Analyze researcher for this survey in l2a.r12.survey@gmail.com. The erasure of your information shall be subject to the Learn2Analyze Consortium's need to retain certain information pursuant to any other identified lawful basis.

If the Learn2Analyze Consortium's use of your information is pursuant to your consent, you have the right to withdraw consent without affecting the lawfulness of the Learn2Analyze Consortium's use of the information prior to receipt of your request.

If you think your data protection rights have been breached you have the right to lodge a complaint with your national Data Protection Authority (DPA).

Participant Concerns and Reporting:
If you have any questions concerning the survey or experience any discomfort related to the survey, please contact the lead Learn2Analyze researcher for this survey in l2a.r12.survey@gmail.com

Conflict of Interest:
We do not perceive any conflicts of interest in the development of this survey.

Compensation:
There is no compensation for participants in this survey.

Confidentiality:
The only people processing your input will be the researcher(s) involved in the Learn2Analyze project. The researcher(s) undertake to keep any information provided herein confidential, not to let it out of our possession and to report on the findings from the perspective of the entire participating group and not from the perspective of an individual. Please note that confidentiality cannot be guaranteed while data are in transit over the Internet.

How will results be used:
The results of the survey will be used for evaluating the L2A MOOC. The results from the survey may be used for research study, for scholarly purposes only and might be presented in conferences, published in journals or articles for educational purposes.
By indicating consent to participate in this survey you also indicate consent for the possible secondary use of this data at a later date if we decide to undertake a further longitudinal study for the enhancement of the Learn2Analyze MOOC.

Debriefing and Dissemination of Results:
The final report will be made publicly available through the official website of the project www.learn2analyze.eu.

On behalf of the Learn2Analyze Consortium, we would like to sincerely thank you for your participation in our survey acknowledging that your insights on the questions in this survey will prove invaluable.

Selecting "I Agree" below indicates that:
You have read the above information;
You voluntarily agree to participate in this survey;
You understand the procedures described above;
You give consent for the use of your Personal Data for the purposes outlined in this notice;
You give consent for the use of your Sensitive Data for the purposes outlined in this notice;
You are at least 18 years of age.

Do you consent? *

- I AGREE

Appendix A.5: Post-course Survey Questionnaire

1. Learning experience per module

Please rate [1..5] your agreement to the following statements:
Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree

Q1*. Learning objectives per module were clearly stated. *[1], [5], [7]*

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q2*. The content per module was presented in a comprehensible manner. *[2], [3], [5], [10]*

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q3. The educational materials and content per module were relevant and addressed the topic identified in the title. *[1], [2], [10]*

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q4*. The educational materials and content per module were based on current up-to-date information. *[1], [2], [10]*

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q5*. The instructional videos per module supported my learning and added value to the course content. *[2], [5], [6]*

MODULES	Strongly Disagree	2	3	4	Strongly Agree

	1				5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q6*. The graphics per module supported my learning and added value to the course content. *[2], [5], [6]*

	Strongly Disagree				Strongly Agree
MODULES	1	2	3	4	5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q7*. There was a good variety of content types (i.e., written notes, videos, graphics, etc.). *[2]*

	Strongly Disagree				Strongly Agree
MODULES	1	2	3	4	5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o

MODULES	1	2	3	4	5
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q8*. Further Readings per module were relevant and supported my learning. [1], [2], [5], [6]

MODULES	Strongly Disagree				Strongly Agree
	1	2	3	4	5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q9*. Learning activities (Polls, Discussions and Workshops) used in the module were effective and helped me construct explanations/solutions. [2], [3], [8], [9]

MODULES	Strongly Disagree				Strongly Agree
	1	2	3	4	5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning	o	o	o	o	o

Analytics with eXact Suite

Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q10*. Self-Assessment tasks used per module challenged my thinking and supported my learning. [5]

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q11*. The assessments per module were relevant to the learning objectives. [1], [2], [6]

MODULES	Strongly Disagree 1	2	3	4	Strongly Agree 5
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q12*. How many hours per week did you spend on each module? [8]

MODULES	< 3h	3 - 4h	5 - 6h	7 - 8h	> 8h

MODULES					
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o	o
Module 3 Learning Analytics	o	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o	o

Q13*. How many posts did you contribute to discussion forums per module? *[7]*

MODULES	none	1 – 2 posts	3 – 4 posts	> 5 posts
Module 2 Online and Blended Teaching and Learning supported by Educational Data	o	o	o	o
Module 3 Learning Analytics	o	o	o	o
Module 4 Teaching Analytics	o	o	o	o
Module 5 Applying Teaching & Learning Analytics with Moodle	o	o	o	o
Module 6 Applying Teaching & Learning Analytics with eXact Suite	o	o	o	o
Module 7 Applying Teaching & Learning Analytics with IMC Learning Suite	o	o	o	o

2. Overall learning experience

Please rate [1..5] your agreement to the following statements:
Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree

Q14*. The MOOC platform was easy to use. *[5]*

Strongly Disagree 1 2 3 4 5 Strongly Agree

Q15*. The overall visual design of the MOOC was appealing. *[1]*

Strongly Disagree 1 2 3 4 5 Strongly Agree

Q16*. The MOOC environment was well structured, topics and subtopics were logically arranged in a predictable pattern. *[1], [5], [10]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q17*. The learning path was easy to navigate. *[2]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q18*. MOOC objectives and learning goals were clearly stated. *[1], [5], [7]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q19*. The workload was reasonably spread. *[5]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q20*. The workload was in line with my expectations. *[2], [6], [8]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q21*. The MOOC difficulty was in line with my expectations at the start of the MOOC. *[2], [6]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q22*. The difficulty level of assessments was appropriate for the MOOC. *[1], [2]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q23*. The level of interaction with peer learners was adequate. *[5]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q24*. The discussion forums were an effective tool for collaborating with other learners. *[2], [9]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q25*. Help and support provided on the MOOC platform were adequate. *[5]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q26*. I can apply the knowledge created in this MOOC to my work or other related activities. *[8]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q27*. I was motivated to work through the MOOC. *[5]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q28*. I feel like I achieved my personal goals for this MOOC. *[3], [5], [6]*

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q29*. I enjoyed the MOOC. [5], [9]

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q30*. It is very likely to revisit the MOOC materials in the future. [6]

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q31*. It is very likely to recommend this MOOC e.g. to a colleague or friend. [6]

Strongly Disagree   1   2   3   4   5   Strongly Agree

Q32*. What did you enjoy most about your MOOC experience? [7], [8]

Q33*. What did you like least about taking part in the MOOC? [7], [8]

----

3. Achieved Competence Level per L2A EDL-CP Statement:

Please rate your current competence level for each statement of the L2A Educational Data Literacy Competence Dimensions after attending this course. [4]

Dimension	Statement	Level of competence
1. Data Collection	1.1 Obtain, access and gather the appropriate data and/or data sources	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	1.2 Apply data limitations and quality measures (e.g., validity, reliability, biases in the data, difficulty in collection, accuracy, completeness)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
2. Data Management	2.1 Apply data processing and handling methods (i.e., methods for cleaning and changing data to make it more organized – e.g., duplication, data structuring)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	2.2 Apply data description (i.e.,	○ Novice

	metadata)	○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	2.3 Apply data curation processes (i.e., to ensure that data is reliably retrievable for future reuse, and to determine what data is worth saving and for how long)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	2.4 Apply the technologies to preserve data (i.e., store, persist, maintain, backup data), e.g., storage mediums/services, tools, mechanisms	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
3. Data Analysis	3.1 Apply data analysis and modelling methods (e.g. application of descriptive statistics, exploratory data analysis, data mining).	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	3.2 Apply data presentation methods (e.g., pictorial visualisation of the data by using graphs, charts, maps and other data forms like textual or tabular representations)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
4. Data Comprehension & Interpretation	4.1 Interpret data properties (e.g., measurement error, outliers, discrepancies within data, key take-away points, data dependencies)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	4.2 Interpret statistics commonly used with educational data (e.g., randomness, central tendencies, mean, standard deviation, significance)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	4.3 Interpret insights from data analysis (e.g., explanations of patterns, identification of hypotheses, connection of multiple observations, underlying trends)	○ Novice ○ Advanced beginner ○ Competent ○ Proficient ○ Expert
	4.4 Elicit potential implications/links of the data analysis insights to instruction	○ Novice ○ Advanced beginner ○ Competent

		○ Proficient
		○ Expert
5. Data Application	5.1 Use data analysis results to make decisions to revise instruction	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
	5.2 Evaluate the data-driven revision of instruction	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
6. Data Ethics	6.1 Use the informed consent	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
	6.2 Protect individuals' data privacy, confidentiality, integrity and security	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert
	6.3 Apply authorship, ownership, data access (governance), re-negotiation and data-sharing	○ Novice
		○ Advanced beginner
		○ Competent
		○ Proficient
		○ Expert

4. Certificate

Congratulations, you have reached the end of our trip. You have successfully completed the L2A MOOC and submitted the Pre and Post-Course Surveys. Thank you for your participation. Please provide your name, surname and email address in order to receive a personalized Certificate of Completion of the L2A MOOC.

What is your email address?

_____

Name

_____

Surname

_____

NOTES

Appendix A.3: Pre-course Survey Questionnaire

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Appendix A.5: Post-course Survey Questionnaire

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