SUMMATIVE EVALUATION: HOW TO LEARN ONLINE

ABSTRACT

This summative evaluation assesses the effectiveness of the edX MOOC How to Learn Online where we focused on learner achievement, learner satisfaction and the overall application of the course's content. The course builds online learning skills such as time management and digital literacy.

Dream Team: Brady Davis, Paola Delarosa-Lloret, Leah Willis

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Syracuse University

IDE 641: Techniques in Educational Evaluation

Dr. Moon-Heum Cho

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Executive Summary

This summative evaluation plan assesses the effectiveness of the edX MOOC *How to Learn Online*, a self-paced introductory course designed to develop essential online learning skills, including time management, digital literacy, and self-regulated learning. This evaluation aims to determine the course's success in achieving its stated learning outcomes, gauge learner satisfaction, and assess behavioral changes in self-directed learning practices. The summative evaluation will also examine the course's efficacy in achieving its clearly stated learning objectives, learner satisfaction with the course structure and content, and how course ideas are being applied by learners in their professional or academic life.

The results from this evaluation will inform key stakeholders like instructional designers, course developers, and academic management on the strengths and weaknesses of the course. Data that will be collected will be used to enhance teaching practice, increase the accessibility and interactivity of courses, and further provide evidence-informed recommendations on how to expand or redevelop the program. A multi-method approach ensures both depth and breadth of findings. Quantitative data will be gathered via pre/post assessments and surveys; qualitative insights will come from learner reflections and interviews. The evaluation is designed to address three primary questions:

(1) To what extent do students achieve the intended learning outcomes?

(2) How satisfied are students with course content and organization? and

(3) How has the course affected students' self-directed learning habits?

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Introduction

The digital age has brought about new ways to conduct education, training, and instructional design and as a result, we must continue to evaluate these training products to ensure that the outcomes are achieved. Additionally, the onset of the COVID-19 pandemic, warranted the need to shift to the digital learning environment that underscored the promise and the pitfalls of online education. As a result, many educators jumped at the chance to continue strengthening the digital environment using MOOCs which provide accessible, scalable and high educational learning content to learners worldwide. The course *How to Learn Online,* offered on the edX platform serves as a foundation to prepare learners for the demands of online learning. This course is self-paced and widely available to anyone that has access to the internet. By the end of the course, learners will be able to have a clearer understanding of learning online, developed time management skills, and understanding the many intricacies of the learning management system.

With the arrival of these courses, it is important to conduct constant evaluation to ensure that the course continues to meet its intended goals. Evaluation is one of the most important methods to consider. Among the different evaluation types utilized within the instructional process, summative evaluation is a critical tool which measures the overall impact and success of the instructional program. According to Johnson and Dick (2012), "summative evaluation determines the overall effectiveness, usefulness, or worth of the evaluation object" (p.103). The summative evaluation process ultimately sums up what learners have achieved at the end of the instructional period. Unlike formative evaluation which is ongoing and used to inform instruction while it unfolds, summative evaluation determines the overall effectiveness and impact of the instruction. It offers clear and objective measures of the learner's performance, and

answers critical questions that aim to assess whether the course objectives were met and whether learners are prepared to apply the knowledge in the real world.

The overall goal of this evaluation is to provide insights into how well the massive open online course (MOOC) *How to Learn Online* prepared learners for the demands of online learning and determined whether the course was engaging, relevant, and supportive. The evaluation will address three critical questions:

(1) To what extent do students achieve the intended learning outcomes?

(2) How satisfied are students with course content and organization?

(3) How has the course affected students' self-directed learning habits?

Report Audience

This report is intended for key stakeholders who are involved in developing, implementing, and strategically overseeing the How to Learn Online course. This includes instructional designers responsible for course revisions, digital learning administrators seeking data-driven insights for improving learner experience, and academic leaders evaluating MOOC effectiveness across platforms. The report is intended to provide actionable recommendations that are aligned with their strategic goal of designing high-quality online learning experiences.

Evaluation Matrix

The matrix is an essential component of this summative evaluation because it establishes an evident alignment between the evaluation questions, data collection methods, data sources, and procedures for collecting data. By incorporating more than a single strategy for each evaluation question, the matrix shown below (Table 1) supports methodological triangulation so that findings are not only credible but also robust.

Table 1
Evaluation Matrix

Evaluation Questions	Data Collection Methods	Data Sources	Data Collection Procedures
1. To what extent do learners achieve the intended learning outcomes of the course?	Pre- and post-course assessments Rubric-based artifact analysis	Learners LMS (quizzes and assignments)	Learners complete a pre-course quiz upon enrollment and a post-course quiz at completion. Submitted learning artifacts (e.g., discussion responses) will be evaluated using a rubric.
2. How satisfied are learners with the course content, structure, and instructional design?	End-of-course survey Open-ended learner feedback	Learners	Online survey administered through Google Forms or edX's internal survey tool post-course. Analysis of open-response survey items and course discussion forums.
3. How has the course influenced learners' self-directed learning behaviors?	Semi-structured interviews Reflective self-assessment survey	Volunteer learners (follow-up participants)	Interviews conducted via Zoom within 2–4 weeks after course completion. Self-assessment survey using a validated scale for self-directed learning behavior, administered post-course.

Methods

Evaluating Learning Outcomes Achievement

Evaluation Question: To what extent do learners achieve the intended learning outcomes of the course?

Data Collection Methods

This study uses a pre/post-assessment design combined with rubric-based analysis to evaluate learner achievement of the course's intended learning outcomes. The pre/post

assessments measure gains in knowledge related to the course's learning objectives of time management, collaboration, and digital literacy. This method is best suited for asynchronous online learning and provides quantifiable evidence of knowledge acquisition. Rubric-based evaluation of discussion board responses and reflective assignments adds qualitative depth, revealing higher-order thinking and real-world application.

Data Sources and Procedures

Data will be gathered from students enrolled in the *How to Learn Online* course and their activity with the learning management system (LMS). Every student will be requested to complete a pre-course quiz during sign-up and a post-course quiz after the completion of the final module. Quizzes will address key concepts such as time management, digital communication, online collaboration, and self-regulated learning. In addition, student artifacts such as discussion board threads or reflective papers will be evaluated against a standardized rubric to measure evidence of critical thinking and applied learning. Application of the two-pronged method improves validity and allows for greater interpretation of learning impact.

Assessing Learner Satisfaction

Evaluation Question: How satisfied are learners with the course content, structure, and instructional design?

Data Collection Methods

For measuring satisfaction, the review will utilize an end-of-course survey as well as open-ended student feedback analysis. Surveys present a structured method to gauge student attitude on course clarity, pace, usability, and relevance. Quantitative measures, however, tend to suppress detailed feedback. For this reason, including open-ended questions and open-ended

analysis of informal student feedback from discussion forums allows the capturing of comprehensive opinions, suggestions, and emotional feedback that put the ratings into context.

Data Sources and Procedures

Learners who complete the course will be asked to complete an online satisfaction survey hosted on Google Forms or forms directly embedded within the edX platform. The survey will include both Likert-scale items and open-ended questions. Additionally, comments posted in course forums or optional reflections will be reviewed to supplement the survey data. These will be subjected to core content analysis to identify common themes such as instructional clarity, perceived workload, or satisfaction with multimedia components. The three-prong approach ensures the evaluation reflects a comprehensive view of the learner's experience.

Behavioral Change and Self-Directed Learning

Evaluation Question: How has the course influenced learners' self-directed learning behaviors?

Data Collection Methods

To explore behavioral changes resulting from the course, the evaluation uses semi-structured interviews and a reflective self-assessment survey. This combination captures both personal narratives and structured self-evaluations. Semi-structured interviews are particularly useful for understanding learner journeys and behavioral shifts in a detailed, conversational format (Buys et al., 2022). The self-assessment survey complements this by offering a standardized framework to measure key indicators of self-directed learning readiness, such as goal setting, time management, motivation, and confidence.

Data Sources and Procedures

Participants will be drawn from a subset of volunteer learners who completed the course and indicated interest in participating in follow-up research. Interviews will be scheduled 2–4 weeks after course completion, conducted via Zoom, and guided by a protocol exploring learning habits, application of course strategies, and perceptions of learning autonomy. Simultaneously, a validated self-directed learning scale will be distributed electronically. The combination of qualitative depth and quantitative structure provides a robust picture of the course's influence on learner behavior and sustained impact over time.

The data collection strategies outlined in the matrix are intentionally diverse, combining quantitative instruments such as assessments and surveys with qualitative methods such as interviews and artifact analysis. Each strategy complements the others by addressing different limitations and providing multiple angles from which to interpret the data. Altogether, the evaluation matrix will provide a thorough and strict summative evaluation that will impact the further improvement of the MOOC and make it more helpful for learners in the future.

Additional Methods

Pre and Post Course Assessments

Administering pre and post course assessments will allow course evaluators and instructional designers to determine how well the students meet the intended learning objectives. This method provides a way to quantify measurable results that can determine the course effectiveness. Administering a diagnostic quiz at the start of the course establishes a baseline, and an equivalent quiz will be administered at the end to assess cognitive improvement and mastery of core concepts. Comparing the results from the pre- and post-assessment will help identify areas where learners need further support and evaluate how well these key skills were acquired.

The pre-course quiz will be available upon enrollment to establish a baseline for the student's level of knowledge at the time of taking the course, and the post-course quiz will be available upon completion of the last module. The quizzes will consist of a mix of multiple-choice, true/false, and scenario questions to assess conceptual understanding and application. Data will be collected for analysis to determine learning trends and areas of content that may need revision. All students enrolled in the course will be required to complete both assessments. Quiz questions will be crafted using Bloom's taxonomy to ensure variety and reviewed by a panel of instructional designers to determine content validity. These tests will be analyzed using paired t-tests and descriptive statistics to determine the average knowledge gain for the learner group.

Learner Satisfaction Survey

The satisfaction survey of the learner will evaluate the participants' views on the content, pace, delivery format, and overall usability of the course. This feedback mechanism is significant to determine the learner's initial impression and overall comfortability with the course environment (Al Hakim et al., 2022). The data collected will establish whether the course meets the learners' expectations and if the course design allows for easy navigation, clear instruction, and materials relevant to the course. By combining quantitative ratings with qualitative feedback, the survey will provide a balanced view of the user experience.

This method aligns with Kirkpatrick's Level 1 (Reaction), which is focused on learners' first impression and affective responses to a learning experience (Kirkpatrick & Kirkpatrick, 2016). Collecting data on satisfaction is important as it influences learner motivation, their level of engagement, and enhances the chances of learners completing the course (Rajabalee & Santally, 2021). A positive user experience is likely to be associated with improved levels of

learning retention and course success. Additionally, satisfaction statistics can provide insight into specific strengths of the course and areas that may need to be improved.

Surveys will be undertaken immediately upon completion of the course, using a mix of Likert-scale statements and open questions to both ascertain quantitative trends and qualitative opinions. The questions will center on areas such as clarity of content, alignment of learning objectives, teaching support, ease of use in the platform, and overall satisfaction. Surveys will be facilitated through Google Forms or built into the edX system. To encourage participation, learners will be informed of the survey's importance and its role in course improvement.

Those learners who complete the course will be invited to participate in the survey voluntarily and anonymously. The responses will be gathered and analyzed to identify patterns in learner perception. Descriptive statistics will summarize the Likert-scale data, while trend analysis will be conducted on the open-ended responses. The survey instrument will include items adapted from previously validated instruments used in evaluating online learning experiences, ensuring its reliability and relevance to the course context.

Semi-Structured Interviews and Reflective Self-Assessment

To explore the course's impact on learners' self-directed learning behaviors, a mixed-method approach involving semi-structured interviews and reflective self-assessment surveys will be employed. This method uses Kirkpatrick's Level 3 (Behavior), to examine whether learners are applying the skills and strategies they acquired in the course to real-world academic or professional settings (Kirkpatrick & Kirkpatrick, 2016). Self-directed learning is a critical competency for success in online education, and this component of the evaluation will provide in-depth, personalized insights that quantitative data alone cannot capture.

Participants for the interviews will be sourced from among those learners who have completed the post-course survey and are willing to engage further. The selected interviews will be conducted via Zoom and will follow a semi-structured format guided by prompts which focuses on the learning objectives of the course. The interviewees will be asked questions related to their study habits, time management techniques, confidence in navigating online platforms, and their ability to set and meet learning goals. The interviews will be recorded and transcribed for trend analysis to enable the accurate capture of emerging themes and divergent views (if any).

At the same time, a reflective self-assessment questionnaire will be given to all course completers to measure change in learning behavior. The instrument will contain a validated self-directed learning readiness scale that assesses essential attributes of initiative, goal setting, time management, and the ability to monitor one's own progress. Additionally, the survey will include open-ended questions that prompt the learners to reflect on how their approach to learning has changed due to taking the course. This will provide both quantifiable data as well as personal feedback on the development of self-regulated learning strategies.

The data obtained by the reflective survey will be combined with data from the semi-structured interviews to have a broader picture of the overall findings. Combining qualitative and quantitative methodologies will yield a general understanding of behavioral change that will decide the magnitude and durability of the course's impact. By probing whether the students continue to apply these methods in other professional or academic contexts, the evaluation will provide insight into how lasting the course is. Together, these approaches aim to assess Kirkpatrick’s Level 3, which looks at whether learners are using what they have learned once they are outside the training environment.

Self-Reflections

Group Member 1 (Brady)

Throughout this semester, I have come to appreciate the central role that formative and summative evaluation plays in Instructional Systems Design (ISD). Initially, my understanding of evaluation was simply that it was utilized to grade or give straightforward course feedback. However, through completing many projects and logic models, I have come to have a greater understanding of how evaluation is an active tool for improving instructional quality, learner motivation, and overall program effectiveness. Formative evaluation has taught me that continual feedback throughout course development is necessary. Because formative evaluation reveals design faults or problems faced by learners in understanding content and implementing instructional strategies, it ensures that intended instructional processes fit the needs and goals of students.

Summative assessment has therefore enriched my understanding of evaluation as a tool of strategic choice. It provides a static picture of how a course, or a program achieves its intended objectives or goals, and that is critical to accountability to learners and investors, course or program duplication, and investments. The task of designing the summative evaluation plan of the *How to Learn Online* course has illustrated how seemingly unrelated types of data collection, if used purposefully and in harmony, can help unveil some patterns, which cannot be highlighted by mere observation. For instance, combining pre/post measures with reflective surveys may offer greater insight into behavioral learning and in spite the latter, which are the ultimate outcomes in instructional systems design.

Group Member 2 (Paola)

One of the most important insights I have gained is that formative and summative evaluation is not opposed to each other, but, in fact, a formative and summative model of evaluation. Formative evaluation can be considered as a 'mid-test', which allows the instructional designers to change things during the development process based on feedback from learners, usability tests, and pilot tests. Summative evaluation, on the other hand, concerns the documentation required to pass or fail a course or to make general assessments about its worth usually after it has been implemented. Learning the concept of how formative and summative evaluation fits into one another was rather enlightening in terms of the whole process of instructional design. The change in the perception of evaluation building on the need assessment level, skipping to the subsequent step, implementation, and continuing further.

This, however, does not remain restricted only to the scales used in the evaluation of courses. Lastly, summative assessments play a crucial role in providing compilation of data useful for curriculum updates, resource allocation, and course offerings. For instance, such assessments can be used in departments of higher education to find out which of its courses require updating and enrichment or perhaps which ones should be enrolled and phased out given learner outcomes or satisfaction levels. Incorporation of this assessment into different levels of educational planning helps to foster sustained enhancement and accountability of instruction improvement in learning institutions.

Group Member 3 (Leah)

For me, formative and summative evaluation has been of great benefit in enhancing my understanding and capability of using models such as Kirkpatrick's Four Levels and logic models in practice. Before, I typically found myself intimidated by the complexity of designing evaluations that were systematically sound but achievable to conduct. From instructor guidance,

peer feedback, and direct assignments, I have learned to select the optimum data collection techniques, use them on carefully constructed evaluation questions, and to investigate data with results that indicate action. It is something I can now claim to do in many environments, whether I am assessing a single course, a professional development session of a businessperson, or a large-scale learning campaign.

Equally important is the mindset shift I've experienced. I now see evaluation not only as a quality assurance process but also as a learning opportunity for instructional designers and educators themselves. In the same way that learners grow from feedback, so do designers grow from evidence-based reflection. I have gained a deeper appreciation for the ethical responsibility of conducting evaluations that are learner-centered, inclusive, and respectful of diverse learning contexts. Going forward, I plan to carry these values into my professional practice and to advocate for robust, thoughtful evaluation practices wherever instructional design work is taking place.

Conclusion

At the institutional level, evaluation acts as a feedback tool to assess the long-term outcomes, possible sustainability and fit within the strategic goals of educational programming. Overall, summative assessments contribute reliable information to key curriculum and instructional decision-making contexts such as curriculum decision-making and course offerings. The summative evaluation plan for the *How to Learn Online* massive open online course offered on the edX platform is designed to critically examine the effectives and impact of the course on the learner's achievement, and their overall satisfaction. Focusing on the measurable learning outcomes, usability and the learner experience, this summative evaluation plan provided meaningful data that will inspire the course revisions and instructional strategies. The results

from this evaluation will eventually guide the key stakeholder to determine whether the course aligns with its learning outcomes and identify whether the course should be modified based on the evidence of learner success and satisfaction. Overall, this course reinforces the importance of continuous feedback, and informed decision making as essential components of quality assurance in online education.

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Appendix A

Instrument 1

Learner Satisfaction Survey (Post-Course)

Purpose: To evaluate overall learner satisfaction with course content, structure, delivery, and usability (aligned with Evaluation Question 2).

Method: Online survey administered at course completion.

Section A: Course Content and Instruction
(Please indicate your level of agreement with the following statements: 1 = Strongly Disagree, 5 = Strongly Agree)

1. The course content was clear and easy to understand.
2. The course topics were relevant to my needs as an online learner.
3. The learning objectives were clearly stated and achieved.
4. The course activities helped reinforce key concepts.
5. The assessments accurately measured my understanding of the material.

Section B: Course Structure and Usability

6. The course layout on edX was easy to navigate.
7. Instructions for assignments and discussions were clear.
8. The course design supported my independent learning.
9. The pacing of the course was appropriate for self-directed learning.
10. Multimedia elements (e.g., videos, diagrams) enhanced my learning experience.

Section C: Overall Satisfaction

11. I am satisfied with my learning experience in this course.
12. I would recommend this course to others new to online learning.
13. This course has increased my confidence in taking online courses.

Section D: Open-Ended Questions

14. What was the most valuable part of this course for you?

15. What improvements would you suggest for this course?

16. How did this course change your approach to learning online?

Appendix B

Instrument 2

Semi-Structured Interview

Purpose: To explore behavioral change and the development of self-directed learning skills post-course (aligned with Evaluation Question 3).

Method: One-on-one interviews conducted via Zoom (20–30 minutes), recorded and transcribed.

Interview Introduction (Script):
"Thank you for participating in this follow-up interview about your experience with the *How to Learn Online* course. Your insights will help improve future versions of the course and understand how it influences learner behavior. Your responses will remain confidential."

Section A: Initial Learning Experience

1. What motivated you to enroll in this course?
2. What were your expectations before starting the course?
3. How would you describe your initial experience navigating the platform and content?

Section B: Learning Application and Behavior

4. Have you applied any of the strategies you learned in the course to other academic or professional settings? Can you give an example?
5. How has this course affected your ability to manage your own learning (e.g., setting goals, organizing time, staying motivated)?
6. What tools or habits have you continued to use since completing the course?

Section C: Reflection and Impact

7. Do you consider yourself more confident as an online learner after completing this course? Why or why not?
8. In your opinion, what part of the course had the greatest impact on your learning behaviors?

9. What changes, if any, would you recommend to better support learners like yourself?

Interview Wrap-Up (Script):

"That concludes our questions. Is there anything else you'd like to share about your experience in the course or how it influenced your learning journey?"