

**Benefits and Costs of MOOC-Based Alternative Credentials**  
*2017 - 2018 Baseline Survey Results*  
October 2018

## Introduction

Since 2014, many massive open online courses (MOOCs) have been packaged into series of courses with a non-degree or “alternative” credential attached (See [Gordon, 2018](#); [Inside Higher Education, 2018](#); [Pickard, 2018](#);). These include [Specializations](#), [MicroMasters](#), [Nanodegrees](#), [Professional Certificates](#), and [XSeries](#). Many of these series include a final capstone project or exam. For a fee, they provide the learner with verified documentation of completion, sometimes in the form of a digital badge that is easily embedded in the learner’s online profile. Coursera currently offers hundreds of Specializations developed by institutions across the world, mostly universities and colleges, but also companies and research institutes. Twenty-seven universities from the U.S., Canada, Australia, India, Hong Kong, Belgium, Netherlands, Mexico, Guatemala, Sweden and Spain are offering a total of 51 MicroMasters via the edX platform.

These alternative credentials are vastly less costly than traditional degrees. The average cost of a MicroMasters is \$960. For example, Boston University’s Digital Leadership MicroMasters costs \$900 for five 6-8 week courses. MicroMasters programs offer completers a stand-alone “MicroMasters” credential and also the opportunity to apply academic credit towards a full Master’s degree, sometimes at the same university and sometimes at a different university. Specializations are priced at \$39-\$79 per month, totaling a few hundred dollars per program, and offer a certificate upon completion, but no option for academic credit towards a further degree. For example, Johns Hopkins University’s Data Science Specialization consists of nine courses plus a capstone project, and costs \$49 per month. If a learner completes the program in 9 months, it would cost \$441.

**Research Question:** *Will MOOC-based alternative credentials bring learners career, financial, educational, or other benefits that outweigh the direct costs and opportunity costs of participation?*

[Zenghao et al. \(2015\)](#) partially addressed this question for stand-alone MOOCs a few years ago and found that learners did report career and educational benefits from completing individual MOOCs. This study extends the inquiry to series of MOOCs which have been packaged into programs bearing some form of non-degree credential. The hypothesis of the current study is that courses offered as a series with a culminating credential could be even more beneficial than individual MOOCs. From an educational standpoint, the learner will pursue a topic in depth and participate in more rigorous assessments. From a career standpoint, the credential may serve as a signal to potential employers that the learner is capable of mastering a substantial body of knowledge and skills related to a particular topic area.

## Methods

This study began in 2017 by gathering baseline information about a learner’s education, earnings, and career status through a voluntary online survey administered as he or she started the first course in an open, online course series. A second survey will ask for similar information once the credential is earned. Additionally, a follow-up survey will be sent around 12 months after the learner has completed the

credential in order to assess changes in education, earnings, and career status since completing the credential. For example, one of the outcomes to be investigated is how many MicroMasters students are able to progress to the full Master's degree.

The study also investigates the direct costs and opportunity costs incurred by learners participating in these course series: Who is paying for the courses? Are participants sacrificing paid work time to complete coursework? Are their employers allowing them to study during paid work time? Overall, the study will assess both the benefits and costs to learners who are engaging in a series of open, online courses that may allow them to earn a culminating, non-degree credential.

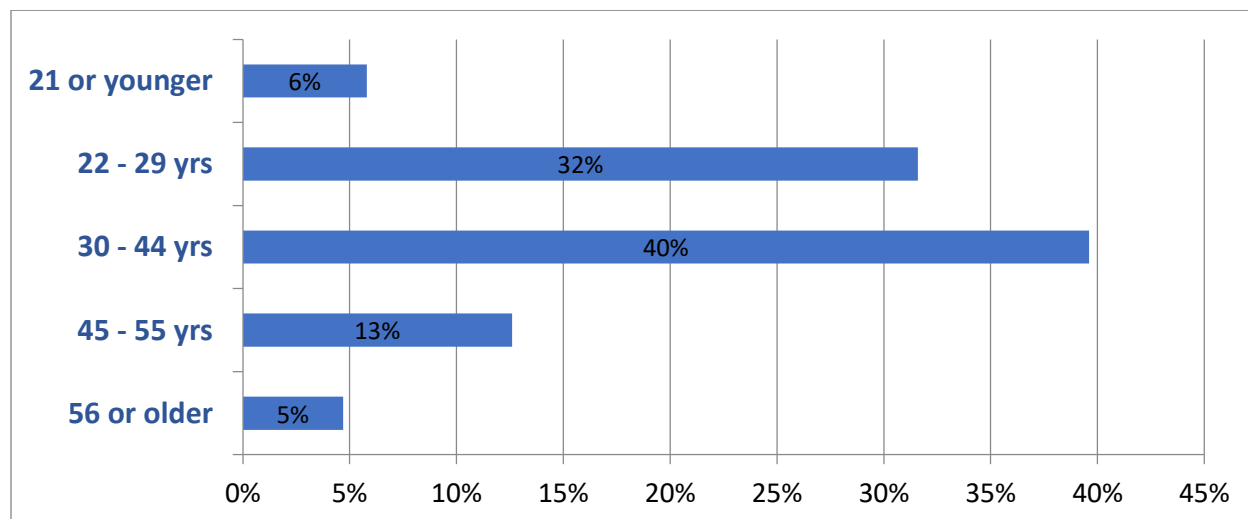
### Data Sources

Data reported here are based on 3,086 survey responses from learners in six Coursera Specializations (43% of the respondents) and four edX MicroMasters (57% of the respondents) offered by public and private universities in the United States between February 2017 and August 2018. The Specializations were in business and finance topics and the MicroMasters were in social science, computer science, business and management topics.

### Who Were The Learners?

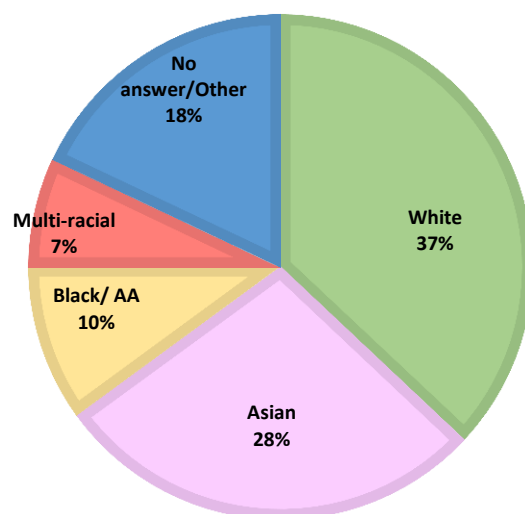
*Demographics:* Across all programs, 49% of the learners were male, 49% were female and 1% “Other.” The average age was 35 and most learners were between 22 and 44 years old (Fig. A).

Figure A. Age of Learners Across All 10 Programs



Fourteen percent of the learners were Hispanic. Almost two-thirds were White or Asian. Race categories used in the U.S. are not always applicable in a global context: 18% of the survey respondents did not give an answer to the question or answered “Other” (Figure B).

Figure B. Learners' Race Across All 10 Programs



While participants in the 10 programs lived in 154 different countries, the largest concentration was in the U.S. (25%), with India the second most common abode (12%). Each of Brazil, Nigeria, and Canada were home to 3% of the learners. Differences in demographics between MicroMasters and Specializations learners are shown in Table 1.

Table 1. Demographic Differences between Specialization and MicroMasters Participants

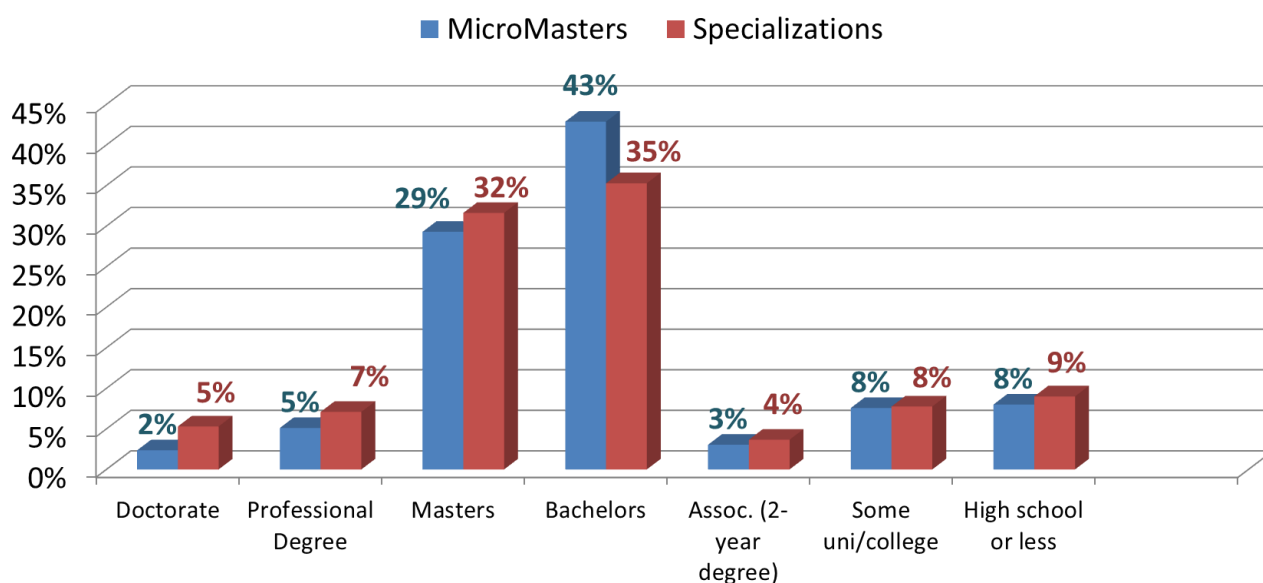
Characteristic	Specializations	MicroMasters
Female	56%	43%
Male	42%	53%
Average age (years)	36	34
Youngest (years)	8	13
Oldest (years)	79	83
Hispanic	13%	15%
White	49%	29%
Asian	23%	32%
Black/African American	8%	12%
Multiracial	5%	8%
# of countries in which participants lived	108	142
Most common countries of abode	U.S. (36%) India (9%) Brazil/Canada (3%)	U.S. (16%) India (14%) Brazil/Colombia/Nigeria (3%)

Learners in Specializations were more likely to be older and female. MicroMasters learners were more racially diverse and more likely to come from low or middle-income countries — almost half of Specializations participants were White compared with 29% of MicroMasters learners.

*Current Knowledge/Skill Level:* Participants in the 10 programs indicated having a high level of English fluency with 55% being fluent, 41% having very good or intermediate English skills and only 3% basic or weak English skills. Learners in the MicroMasters programs were asked about their current knowledge level in the subject area of the program. Only 7% claimed to have advanced knowledge or to be an expert in the topic, while 55% were beginners and 35% indicated having intermediate-level knowledge.

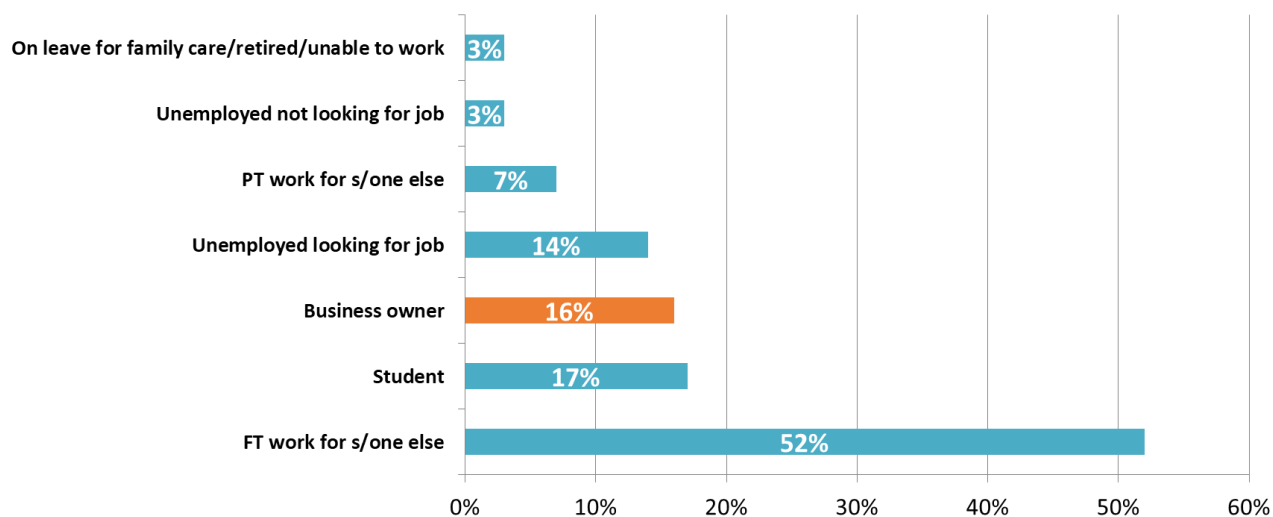
*Highest Level of Education Completed (Figure C):* In general, learners were quite well educated with 79% holding at least an undergraduate degree and 40% a graduate degree. On the other hand, 16% of participants across all programs had no degree at all, although half of these had completed some university or college courses. All programs attracted a low number of participants with an Associate's Degree. Notably, 46% percent of the respondents with no university degree as yet reported themselves as current students while 17% of them indicated that they were taking the courses in order to improve their applications to a degree program. Specializations learners were more likely to have a graduate degree than MicroMasters learners.

Figure C. Highest Level of Education Completed by Learners



*Employment Status:* The employment status of participants across MicroMasters and Specializations programs was quite similar. Over half of all learners worked full-time for someone else and 16% ran their own businesses (see Figure D). Professions pursued by 3% or more of the participants were: marketing, sales and service; business management and administration; educational services; and professional, scientific or technical services.

Figure D. Employment Status of Learners Across All 10 Programs



Note. FT = full time; PT = part time; s/one = someone

**Total Annual Income:** Despite similar employment status, Specializations participants earned double the median annual income<sup>1</sup> of MicroMasters participants — \$46,000 and \$23,000 respectively. A number of factors could explain this difference in earning power:

- 30% of Specializations learners lived in the U.S. compared with 16% of the MicroMasters learners while a greater number of MicroMasters learners lived in low- or middle-income countries such as India, Colombia and Nigeria.
- Specializations participants were more likely to have a graduate degree than MicroMasters participants (44% vs. 36%).
- Specializations topics were all in business and finance whereas the MicroMasters topics were more diverse.

For the U.S. participants in the programs, median annual income was \$70,000 which is higher than median annual income for the general population in the U.S. (reported as \$61,372 in 2017 by the [United States Census Bureau](#)).

### Expected Benefits of Taking the Courses

In general, MicroMasters learners had higher expectations than Specialization learners regarding the benefits of participating in the series of courses. Across all programs, the most common way in which participants expected to benefit was by improving their performance in their current job (See Table 2). Notably, 1.4% of MicroMasters participants and 2.8% of Specializations participants were actually asked by their employers to take the courses. Over a quarter of the participants expected the courses to help them start their own businesses; 23% expected to improve their application for a different job or to network with other professionals in the related field. Interestingly, job promotions and pay raises were

<sup>1</sup> We asked for annual salary, commissions, bonuses and total income, all in U.S. dollar amounts, but in some cases these did not appear to be reported correctly so we focused on total income only. We report median income rather than mean income to avoid being influenced by the extremes such as the MicroMasters participant who apparently earned \$7mm, or the Specialization participant who reportedly earned \$3.5mm.

low on the list of expectations across all respondents, suggesting a group of learners with high levels of intrinsic motivation.

Table 2. How Learners Expect to Benefit from Participating in a MicroMasters or a Specialization

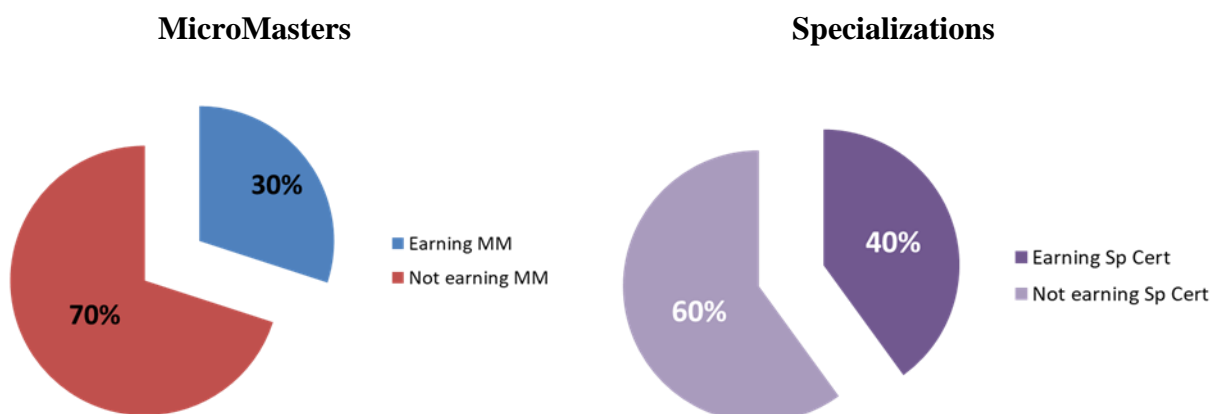
Benefit Expected	% of all learners	% of Specializations learners	% of MicroMasters learners
Improve my performance in current job	44%	<b>42%</b>	<b>45%</b>
Help me start my own business	27%	<b>25%</b>	<b>28%</b>
Learn something new	26%	26%	26%
Network	23%	<b>19%</b>	<b>25%</b>
Improve application for a different job	23%	<b>19%</b>	<b>25%</b>
Improve my English	21%	<b>19%</b>	<b>22%</b>
Supplement a formal degree program	16%	<b>13%</b>	<b>18%</b>
Improve application to a formal degree program	12%	12%	12%
Help me get a job promotion	11%	13%	12%
Help me get a pay raise	9%	9%	9%
Improve my application to a first job	9%	<b>7%</b>	<b>11%</b>

Note. Bolded percentages indicate statistically significant differences between responses given by learners in Specializations and MicroMasters.

### Plans for Earning the Alternative Credential

Overall, 35% of participants planned to earn the alternative credential, although the percentage was higher for Specializations as shown in Figure E. A quarter of the participants planned to take all the courses in the series, but not earn the credential.

Figure E. Percentage of Learners Planning to Earn the Credential



Note. MM = MicroMasters; Sp = Specialization

### Plans for Applying to a Degree Program

- 23% of all respondents had no plans to apply for a further degree program. This number was higher for Specializations (28%) than MicroMasters (19%).
- 9% of MicroMasters respondents (n=1,745) planned to apply to the Master's program with which the MicroMasters was associated.
- 5% of all respondents planned to apply to a different degree program at the same university that was offering the MicroMasters or Specialization.
- 5% of all respondents planned to apply to a degree program at a different university from that offering the MicroMasters or Specialization.
- Some respondents indicated they would apply to multiple programs.

### How Much are the Fees to Earn a Credential and Who is Paying Them?

Although some of the individual MOOC courses can be taken for free (i.e., audited), participants must pay a fee or request financial aid in order to earn a MicroMasters or Specialization credential. Specializations are priced at \$39-\$79 per month, totaling a few hundred dollars per program depending upon amount of time to completion. MicroMasters are fixed price. Across all 51 MicroMasters programs currently offered on the edX platform, the price range is between \$540 and \$1500, averaging \$960.

- Overall, MicroMasters are more costly than Specializations
- The estimated average cost of each of the 4 MicroMasters included in this study was \$980 compared with \$360 for each of the 6 Specializations<sup>2</sup>
- These fees amounted to 4% of median income for MicroMasters participants and 1% of median income for Specializations participants
- Across all 10 programs, 56% of the participants were paying for the courses themselves
- 21% were taking the free versions of the courses
- 7% were receiving financial aid from the platform provider (Coursera or edX)
- Employers were paying the fees for 4% of the learners and were splitting the course fees with another 1%
- 2% of participants were being paid by their employer for the time spent working on the courses

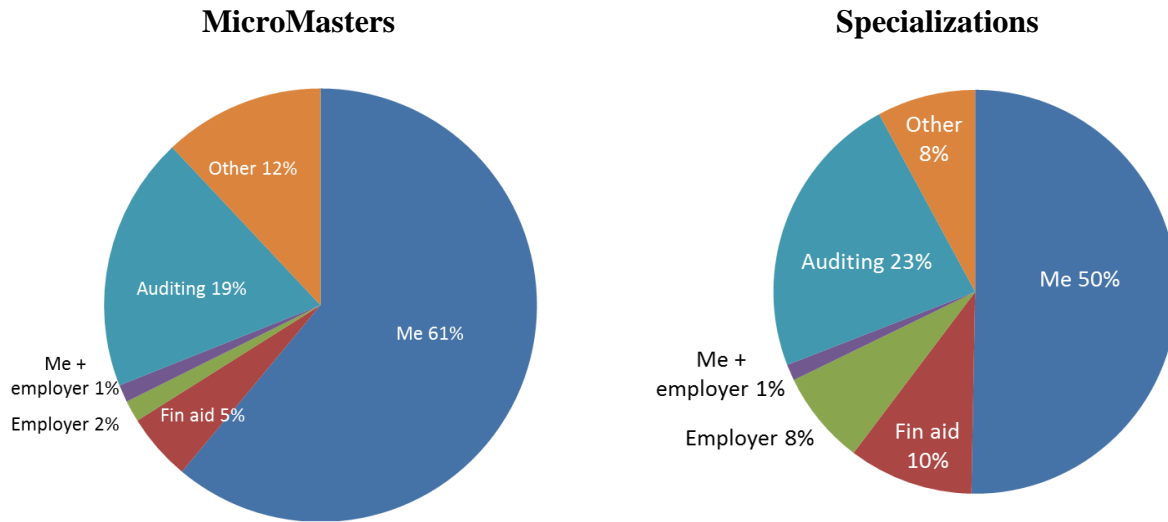
*Differences between Specializations and MicroMasters in terms of who is paying the fees (see Figure F):*

- 8% of Specializations learners indicated their employers were paying the course fees, compared with only 2% of MicroMasters learners
- 10% percent of Specializations participants were receiving financial aid from the platform provider (Coursera) compared with 5% of MicroMasters participants.

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<sup>2</sup> Costs calculated based on the information provided on [edX](#) and [Coursera](#) websites.

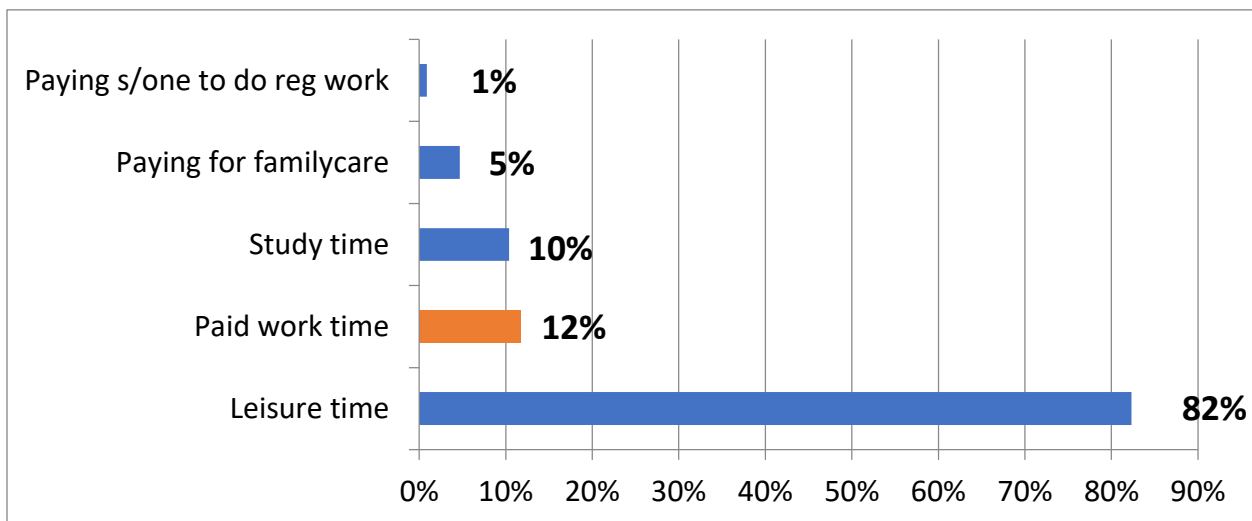
Figure F. Who is Paying Course Fees



**Opportunity Costs**

Most participants in both Specializations and MicroMasters were giving up unpaid leisure time to work on the courses, but 12% were giving up paid work time (See Figure G). Ten percent were giving up study time in a formal degree program. A few participants were paying others to look after their families or to do the work for their regular paid jobs.

Figure G. What Learners are Giving up in Order to Work on Courses

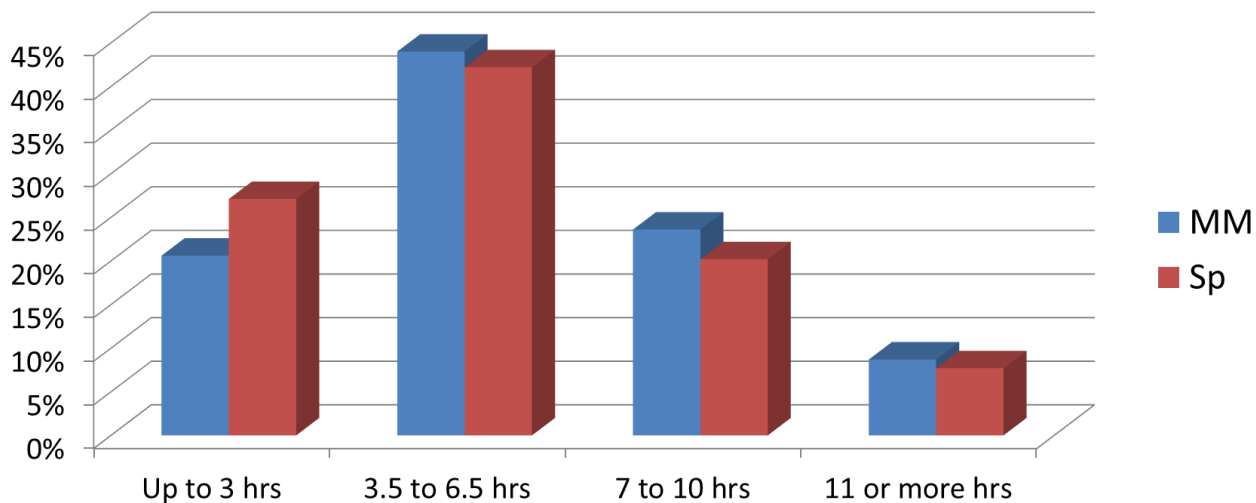


Note. s/one = someone; reg = regular



On average, learners expected to spend around 6.5 hours per week on the courses (see Figure H). However, on the whole, MicroMasters are more time-consuming than Specializations. For the 4 MicroMasters programs in the study, the course providers' guidelines indicated that, on average, students should expect to spend a total of 197 hours for the whole program, spread across 34 weeks. For the 6 Specializations, the course providers' guidelines indicated that, on average, students should expect to spend a total of 57 hours for the whole program, spread across 21 weeks.<sup>3</sup>

Figure H. Number of Hours per Week Learners Reported Expecting to Spend on their Courses



### Next Steps for the Study

Participants in the 10 programs surveyed will be invited to complete a second survey when they earn the culminating credential, and a third survey a year later to assess actual rather than expected changes in education, earnings, and career status since completing the credential.

The second, or end-of-program, surveys have been embedded in the final courses of some programs but, to date, the response rate has been low. For example, in one program we had received around 2,000 responses to the pre-survey at the time of writing but only 24 responses to the end-of-program survey. It is as yet unclear whether the low response rate is due to low completion, slow completion, survey fatigue, posting the survey in a poor location, or a combination of all these. In an anonymous survey administered during a [September 2018 webinar](#) about MOOCs and Specializations, ten respondents to a question about completion rates for Specializations at their own institutions indicated rates of 15% or less; eight of these were rates of 5% or less. This suggests that completion rates for series of MOOCs may be in line with those for stand-alone MOOCs.

For the final, follow-up survey, to be sent a year after completion, participant permission and email addresses are being acquired where permissible by relevant Institutional Review Boards. Encouragingly, 78% of participants in the pre-survey have given consent for future contact.

<sup>3</sup> Time demands are based on information provided on [edX](#) and [Coursera](#) websites.

**Key Takeaways**

- A typical MicroMasters or Specialization learner is well-educated, employed, White or Asian, and 30-44 years old
- MicroMasters participants are less concentrated in the U.S. than Specializations participants
- Just over 1/3 of participants plan to earn the MicroMasters or Specialization credential
- 9% of MicroMasters participants plan to apply to the related degree program
- 5% of all MicroMasters or Specialization participants plan to apply to a different degree program at the university offering the alternative credential
- 60% of participants say they are going to complete all courses in the series but very few end-of-program survey responses have been received compared with the number of pre-surveys
- Learners are mostly expecting career benefits: the most common benefit expected is improving job performance
- MicroMasters are more costly than Specializations but MicroMasters learners have lower median income
- Specialization participants get more help from employers and financial aid to cover fees.

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