Impact Revealed: Learner Outcomes in Open Online Courses

An inaugural study of career and educational outcomes for learners in open online courses

Conducted by researchers at Coursera, University of Pennsylvania, and University of Washington

September 2015

The online learning revolution, four years and millions of learners later

Four years since Coursera co-founders Daphne Koller and Andrew Ng put their first Stanford courses online, nearly 52,000 online learners share the impact of online education on their lives and careers.

Researchers at the University of Pennsylvania, University of Washington, and Coursera conducted the first longitudinal study of open online learning outcomes. Learners from across the globe, all at least three months past completing an open online course on Coursera, shared their experiences in a detailed research survey. The results, published in the Harvard Business Review, show that these learners are seeing tangible, positive results.



15 million registered Coursera learners



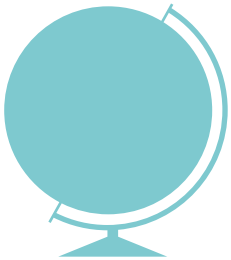
2.5 million course completers



120 partner institutions



1,000 courses



35 languages

Delivering on a vision of the future of education

As a global society, we face the extraordinary challenge of educating over seven billion individuals. Rapid advances in industry and technology have pushed us not only to provide traditional schooling for new generations, but also, increasingly, to offer ongoing training for an existing workforce struggling to keep up with the skills that employers demand. Meanwhile, the cost of higher education continues to skyrocket as more people compete for seats at top-tier institutions. These factors are driving more and more people to seek out nontraditional models of education, including online courses, in order to learn and improve their lives.

In 2011, several top universities began experimenting with Massive Open Online Courses (MOOCs). Institutions like Yale University, Harvard University, University of Michigan, and University of Pennsylvania opened their digital doors to anyone with an Internet connection, with the promise to deliver unlimited access to high quality education.

Now, four years later, people of all ages and means can take online courses from top professors in every imaginable subject. Often, these instructors reach more people in a single online course than they could hope to teach throughout an entire career in a traditional on-campus classroom.

As the MOOC movement has matured from a small-scale experiment into a fully-fledged industry, it has continued to nurture a healthy debate around the future and efficacy of open online courses.

Today, we reveal results from a first-of-its-kind longitudinal study investigating the self-reported impact of open online courses on the lives of learners.

Online learners report significant career and educational benefits



72%

Reported Career Benefits



61%

Reported Educational Benefits

In December 2014, researchers received survey responses from 51,954 learners who completed online courses on Coursera prior to September 1, 2014.

Learners motivated by career or educational advancement even more likely to report benefits



The Career Builders

52% of learners surveyed took online courses to advance their careers. These learners reported the following benefits.

87%
Reported Career Benefits

33%
Reported Tangible Career Benefits[1]

[1]Tangible career benefits include receiving a pay raise, a promotion, a new job, or starting a new business.



The Education Seekers

28% of survey respondents came to Coursera to pursue academic goals. These learners reported the following benefits.

88%
Reported Educational Benefits

18%
Reported Tangible Educational Benefits[2]

[2]Tangible educational benefits include gaining credit towards an academic degree or completing prerequisites for an academic program.



The Career Builders

All data in this section is based on the 52% of learners who were self-reported career builders

Online learners are experiencing a variety of career benefits



62% Better equipped for current job



43% Improved candidacy for a new job



26% Found a new job ★



9% Started a business ★



3% Received a raise ★

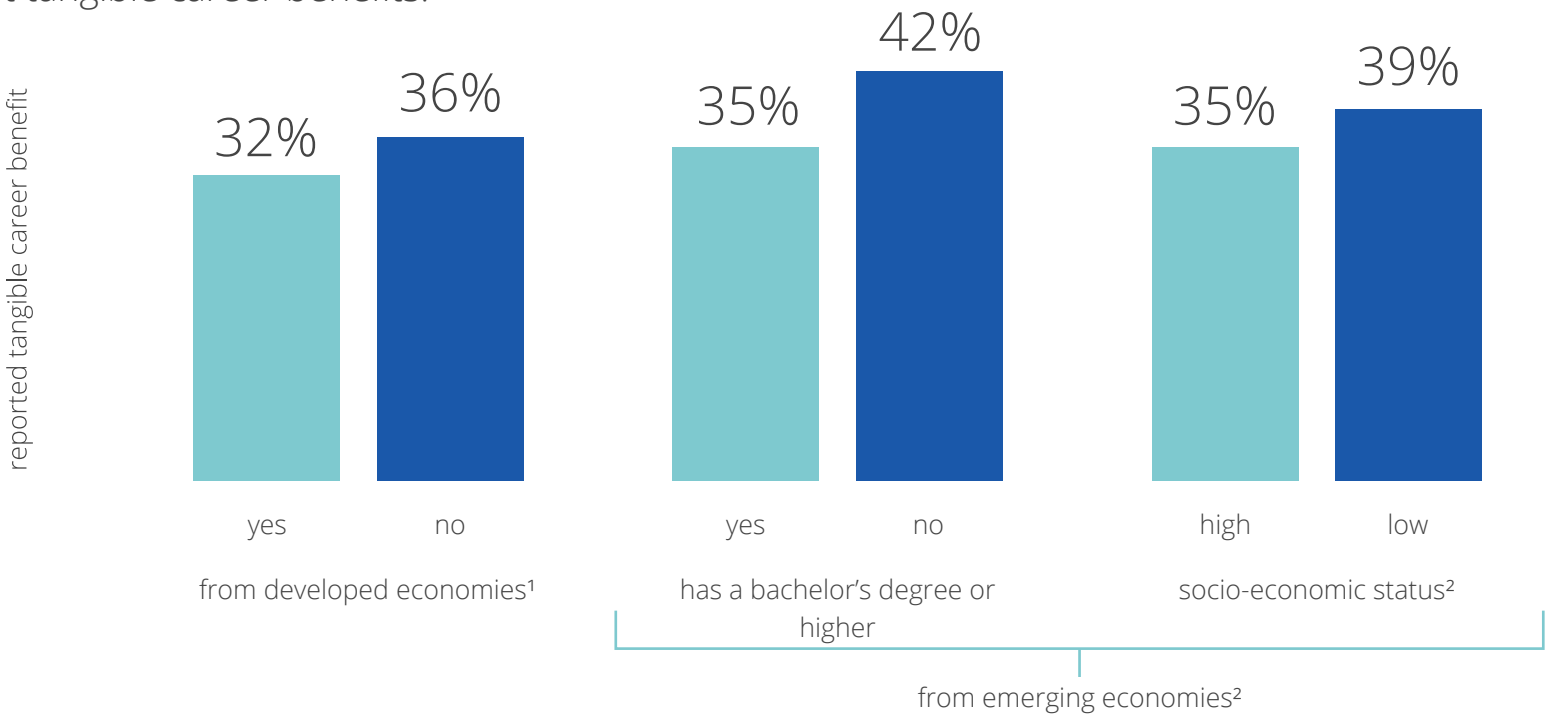


3% Received a promotion ★

Tangible benefits ★

Online learners from less educated and less affluent backgrounds more likely to report tangible career benefits

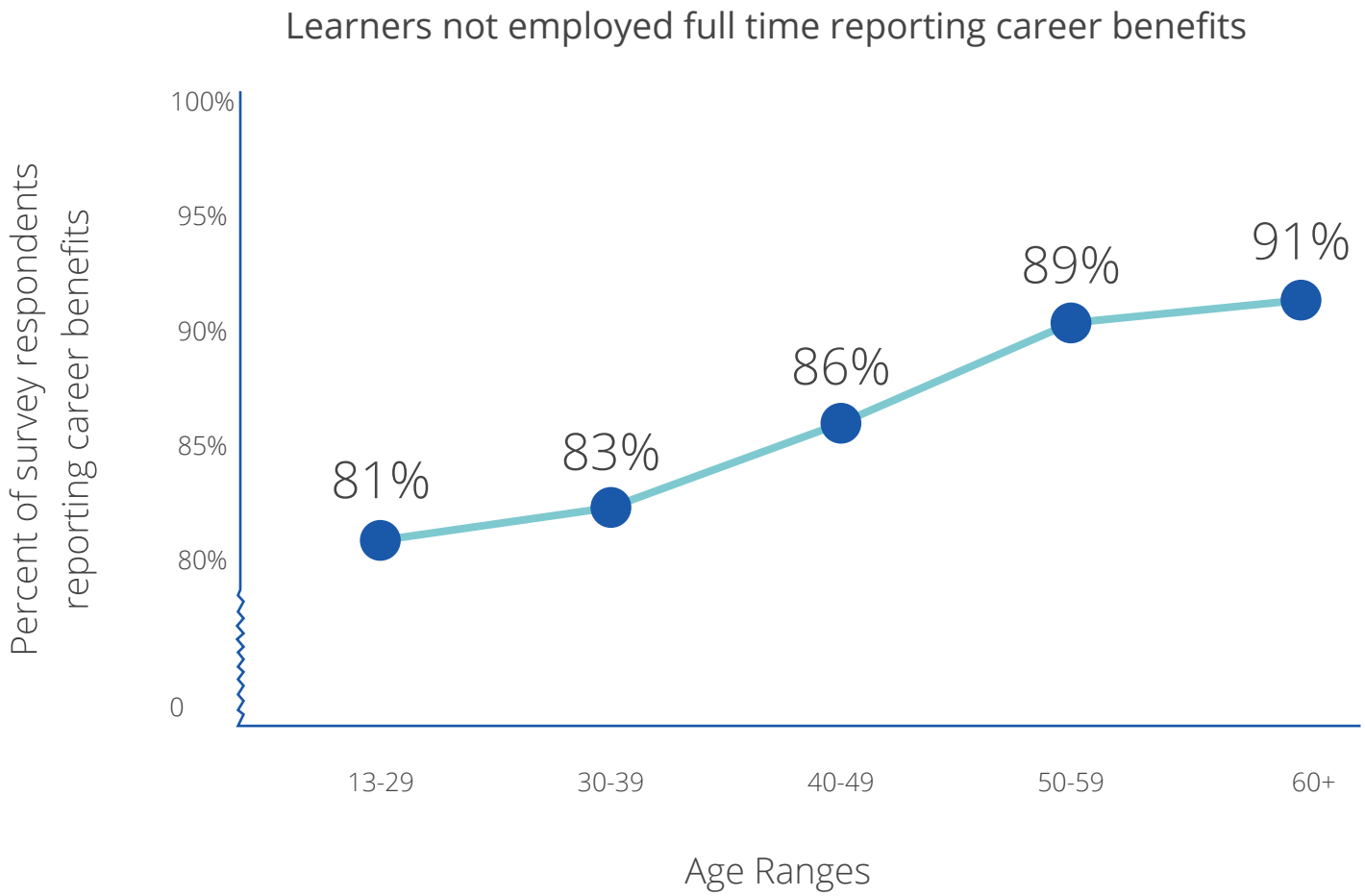
Career builders with no bachelor's degree, from low SES brackets, and from emerging economies are more likely to report tangible career benefits.



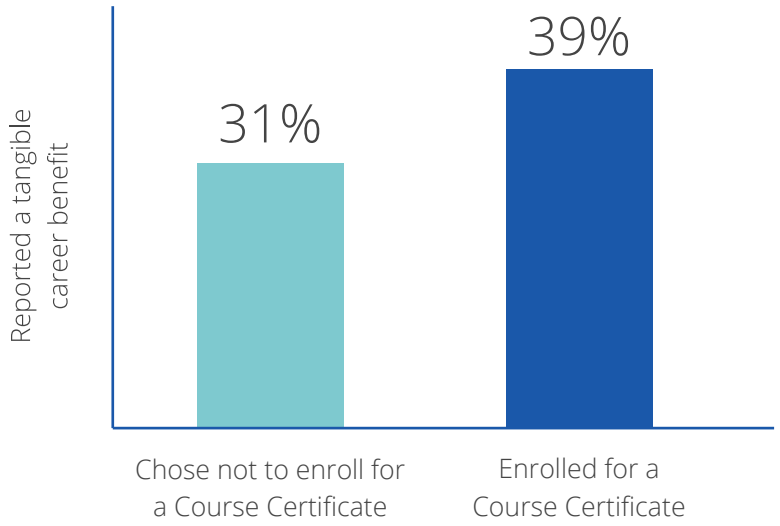
[1]Developed and emerging economies are evaluated using indicators from the Organisation for Economic Co-operation and Development (OECD).

[2]SES, or socioeconomic status, is evaluated as a combination of factors including income, level of education, and occupation. SES was self-reported by respondents.

Among unemployed learners who seek career advancement, older learners report greater benefits



Career builders who chose to purchase a Course Certificate were more likely to report tangible career benefits



Meet the Learners



Patricia Ehrhardt, USA

For over 20 years, Patricia's career spanned a variety of fields, including acupuncture, nonprofit work, and business administration. But she was consistently unhappy with her employment opportunities and decided to try her hand at coding. A Google search for affordable training options led her to *Programming for Everybody (Python)* on Coursera. While taking the course, Patricia was unexpectedly laid off from her job as an office administrator, but she immediately found a new part-time position as a developer for a local nonprofit. She says the company would not have hired her without the technical skills she had learned on Coursera. Patricia is now pursuing a career as a web developer in San Francisco.

"Coursera gave me the confidence that I do know what I'm doing and feel like I can succeed in this field."

Meet the Learners



Daniel Adornes, Brazil

Computer Science Master's student Daniel Adornes enrolled in Coursera's *Data Science Specialization* to gain skills that he hoped would help him stand out as a new graduate entering the job force. After completing the Specialization and adding his Certificates to his LinkedIn profile, he was immediately contacted for a job interview. As it turned out, his interviewer was also taking the Data Science Specialization! Daniel demonstrated mastery of the Specialization topics throughout the interview, and was offered the job. He is now happily employed as an engineer at a startup company, where he frequently applies data science methods such as text retrieval and language processing.

"It turns out, my technical interviewer was also taking the Specialization. We were able to talk exactly the same language."

Meet the Learners



Kehinde Adewusi, Nigeria

Kehinde Adewusi studied Electrical Engineering and received an MBA from Lagos Business School in Nigeria. His education led him to a telecommunications job at IBM in Lagos, but he dreamed of starting his own company. While searching for cost effective and convenient ways to learn about building a business, he stumbled on Coursera. He signed up for *On Strategy: What Managers Can Learn from Philosophy* and *The Data Scientist's Toolbox.* Today, Kehinde's company is up and running with 10 full-time staff and 2 interns, and he credits Coursera with giving him the skills he needed to become a successful, innovative entrepreneur. In fact, Kehinde requires his staff to take courses on Coursera every six months to continually improve their business skills and stay ahead of industry standards.

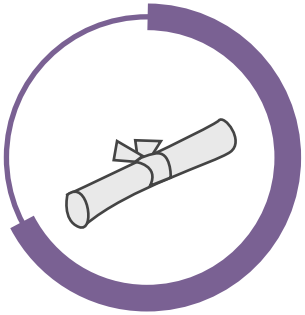
"Coursera helped me and my startup fulfill learning needs with a lean budget."



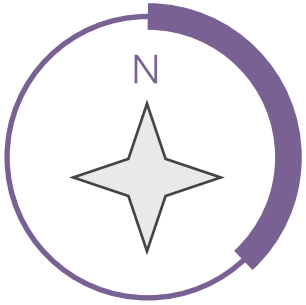
The Education Seekers

All data in this section is based on the 27% of learners who were self-reported education seekers

Learners use online courses as a stepping stone in traditional education



64% gained knowledge essential to a field of study



38% decided on a field of study



36% refreshed concepts before going back to school



18% received credit or waived prerequisites for an academic program ★

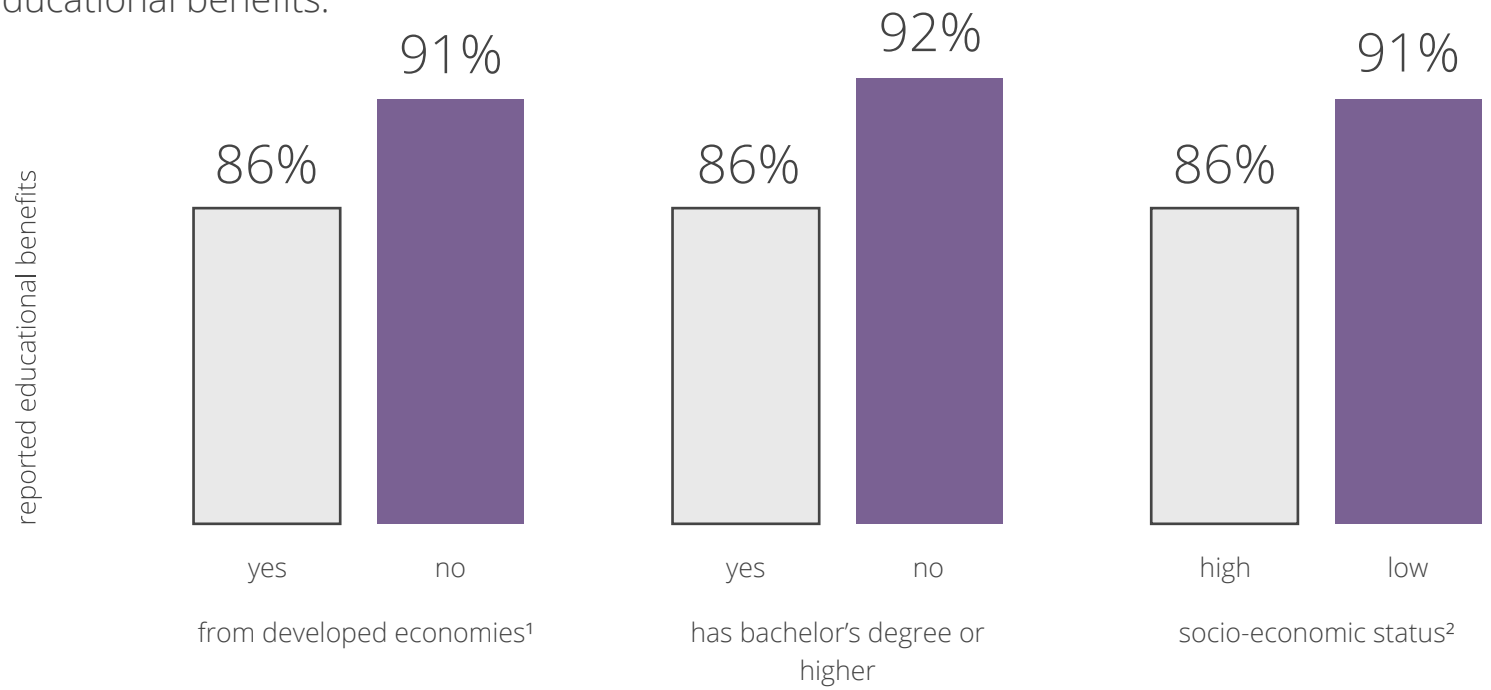


17% improved college admissions

Tangible benefits ★

Learners regardless of educational, geographic, or economic background can expand educational horizons

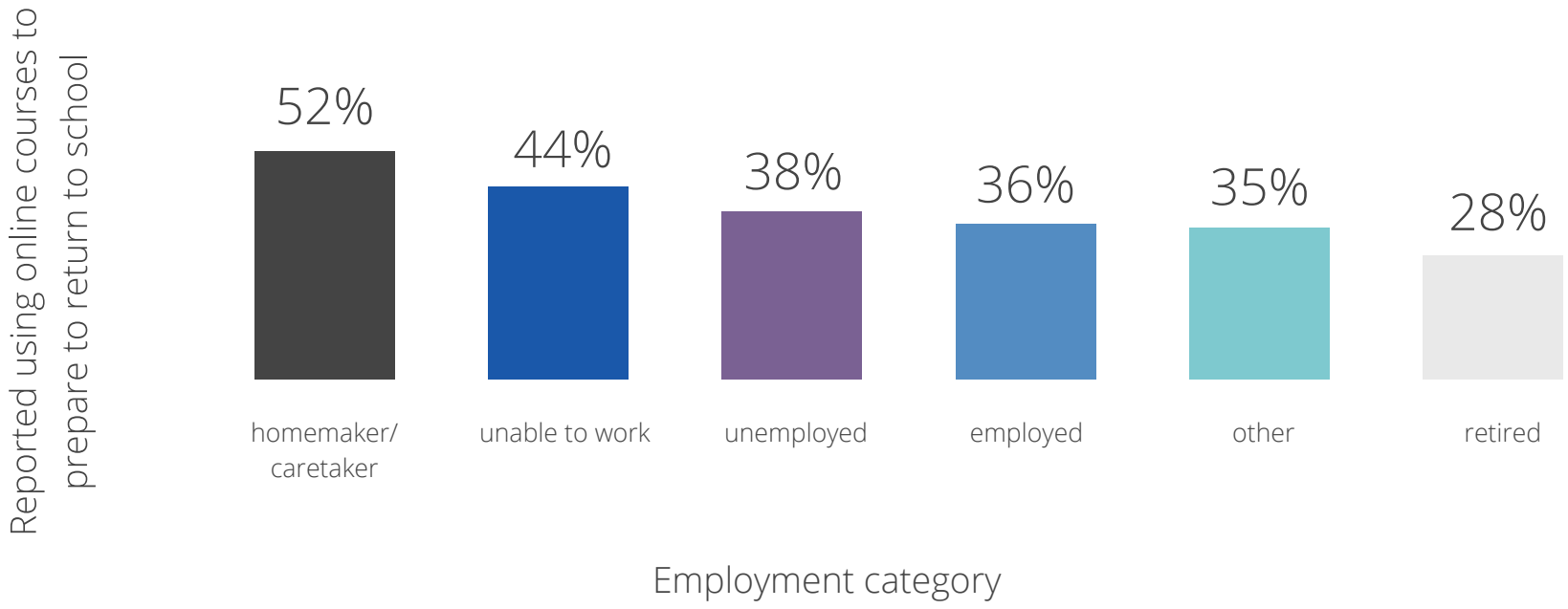
Learners with no postgraduate degree, from low SES brackets, and from emerging economies are more likely to report educational benefits.



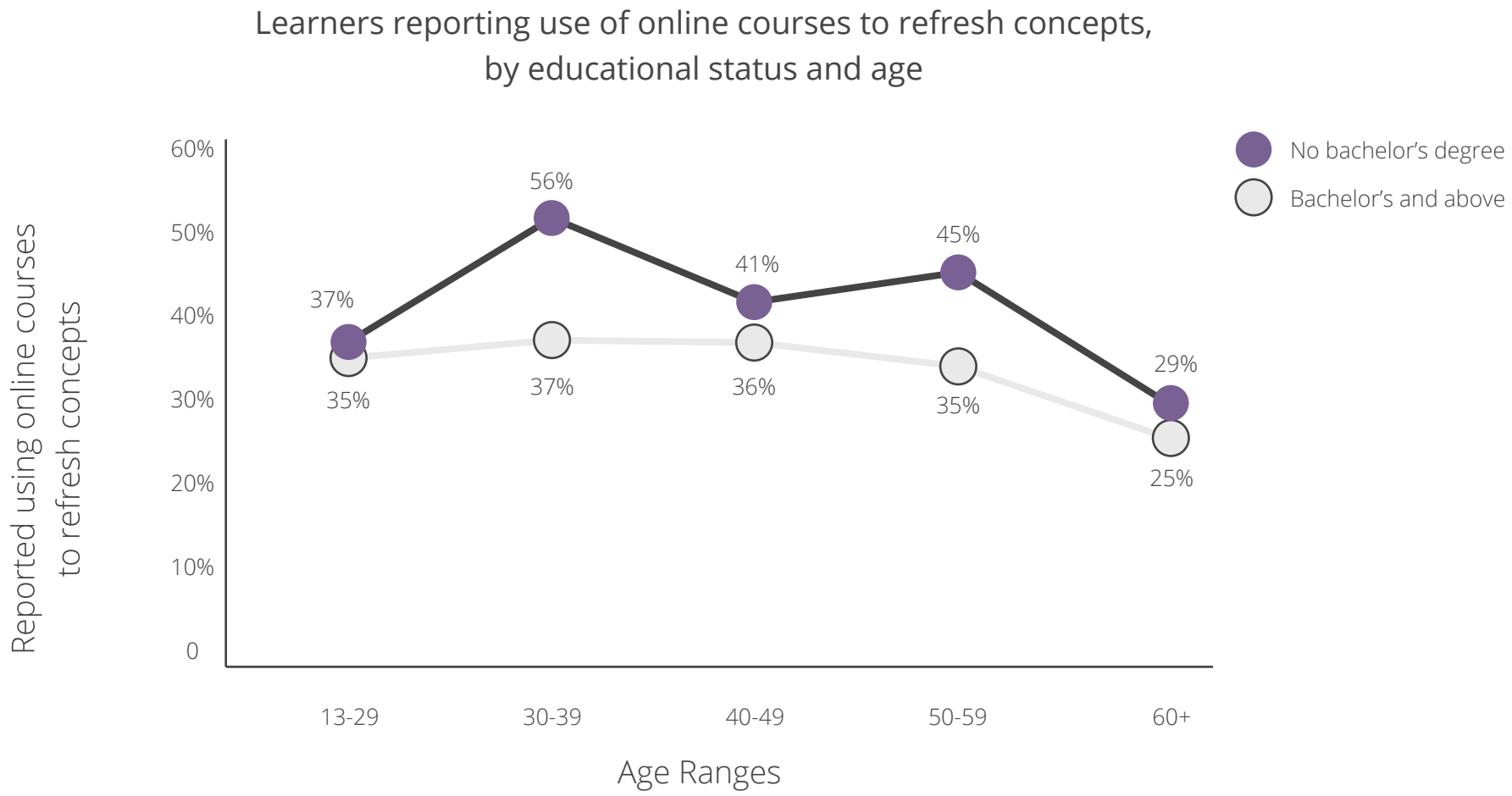
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Homemakers and caretakers are more likely to use Coursera to prepare to return to school



Regardless of age, learners without a bachelor's degree are more likely to use online courses to refresh concepts



Meet the Learners



Peter Ward, USA

When Peter enrolled in *Experimental Genome Science* on Coursera, he wasn't planning a career transition. But he found himself fascinated by the cutting-edge research presented by the course's instructors, all leading scientists in the field. By the time he received his Certificate, he was hooked. Peter proceeded to take related Coursera courses in biology, molecular evolution, and even astrobiology - and he began to think about a professional move into the life sciences. In 2013, he was accepted into Johns Hopkins University as a Master's student in Biotechnology. His Coursera Certificates and coursework featured prominently in his graduate school applications, and he credits Coursera with helping him find his true passion.

"I found my passion and the confidence to apply to a graduate program."

Meet the Learners



David Memezi, Zimbabwe

As a full-time employee and father of four, David felt that his dreams of pursuing higher education and changing the global economy might be out of reach. But when he discovered Coursera, David found that courses like *An Introduction to Finance* and *Organizational Analysis* gave him the feeling of being part of a world class university, but in a format that fit into his busy life. His confidence increased with every Course Certificate he earned. Eventually, David applied and was accepted into an MBA program at the Business School of Netherlands, and was awarded an NFP fellowship. He credits Coursera with helping him realize his dreams while allowing him to balance his work and personal life.

"Thanks to Coursera, I was able to build skills, at my own schedule, from world-class universities."

Meet the Learners



Natalie Hanisch, USA

Natalie Hanisch discovered an interest in neuroscience while studying mathematics at the University of Nebraska and kickstarted her passion through Coursera. Hebrew University of Jerusalem's course, *Synapses, Neurons, and Brains*, introduced her to brain science research and inspired her to keep learning. The summer after completing the course, Natalie was accepted to the University of Pittsburgh's TECBio program - an intensive 10-week summer research program for undergraduates interested in computational biology. She used the knowledge and skills she gained and was accepted to the University of Nebraska's Master's in Computer Science program, where she began working as a research assistant on collaborative projects with the U Nebraska Center for Brain, Biology, and Behavior.

"Taking this Coursera course that summer was the push I needed to realize my passion for the human brain."

A note from Daphne Koller, President of Coursera

Four years ago, my co-founder Andrew Ng and I were professors on Stanford University's campus, exploring the life-changing possibilities of opening a top-tier educational experience, previously available only to a select few, to the world. Our experiments applying scalable technologies to our own courses led us to found Coursera, with the mission of providing universal access to the world's best education.

In collaboration with two of our university partners, University of Pennsylvania and University of Washington, we are proud to release this first-ever report that shares a comprehensive picture of the impact of open online courses on learners' lives and careers.

As we've revealed in this study, online learners around the world are seeing meaningful outcomes, including job attainment and financial stability, better access to a traditional university education, the confidence to start a new business, and more. Most encouragingly, these benefits are reported at an even higher rate among learners from emerging economies, in lower SES brackets, and without a bachelor's degree, as well as among homemakers and older individuals aspiring to reinvent their careers or go back to school.

Online education is certainly not the panacea for the greater issues of our time. However, it allows us to explore a future model of learning that's no longer bound by university walls, costs, and time commitments; a model that puts higher education truly within the reach of billions of people. We have already transformed tens of thousands of lives, and hope to touch millions more in the future.

About the Researchers

Coursera

Daphne Koller is the President and Co-Founder of Coursera, and previously the Rajeev Motwani Professor of Computer Science at Stanford University. She is the author of over 180 refereed publications appearing in venues such as Science, Cell, and Nature Genetics. She received bachelor's and master's degrees from Hebrew University of Jerusalem and completed a Ph.D. at Stanford University.

Nicholas Eriksson is a Data Scientist at Coursera. He studied mathematics at MIT and the University of California, Berkeley, pursued a National Science Foundation postdoc at Stanford University, and was a Visiting Assistant Professor in Statistics at the University of Chicago, working in statistics, high-throughput sequencing, and viral evolution.

Chen Zhenghao is a Software Engineer and Data Scientist in the Analytics group at Coursera. He has explored applications of technology to education and has written about various aspects of MOOCs such as peer grading and learner retention. Zhenghao received bachelor's and master's degrees in Computer Science from Stanford University.

About the Researchers

University of Pennsylvania

Brandon Alcorn is the Project Manager for Global Initiatives at the University of Pennsylvania. He earned a bachelor's degree in Political Science from the University of Pennsylvania. He has a diverse background in data analysis and visualization, social science theory, modeling methodology, and political forecasting and has published articles in a variety of peer-reviewed journals.

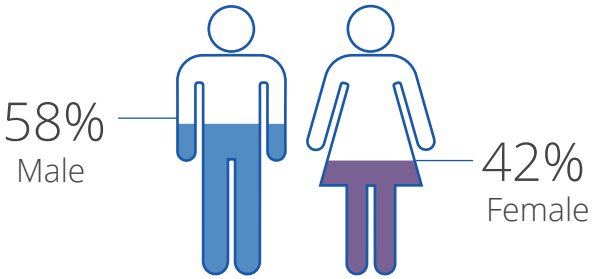
Ezekiel Emanuel is the Vice Provost for Global Initiatives, Chair of the Department of Medical Ethics and Health Policy, and the Diane v.S. Levy and Robert M. Levy University Professor at the Perelman School of Medicine and The Wharton School. Dr. Emanuel has published widely on the ethics of clinical research, health care reform, and the physician-patient relationship. He received a bachelor's degree from Amherst College, a M.Sc. from Oxford University in Biochemistry, M.D. from Harvard Medical School and Ph.D. in political philosophy from Harvard University.

University of Washington

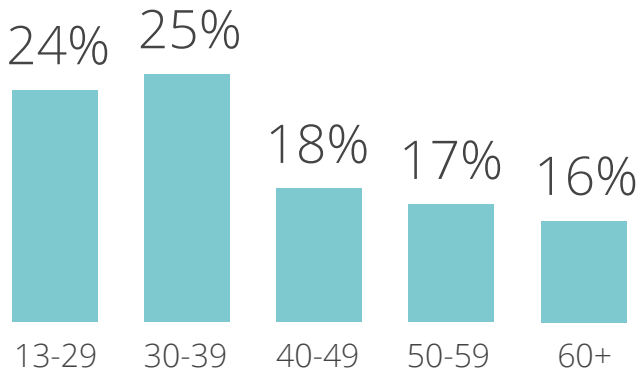
Gayle Christensen is the Assistant Vice Provost at the University of Washington, managing global initiatives and directs strategic priorities. Her previous research on the global reach of MOOCs has been published in Nature, The Atlantic, and other publications. She holds a master's degree from The Fletcher School of Law and Diplomacy at Tufts University and a master's and doctoral degree from Stanford University.

Respondent demographics

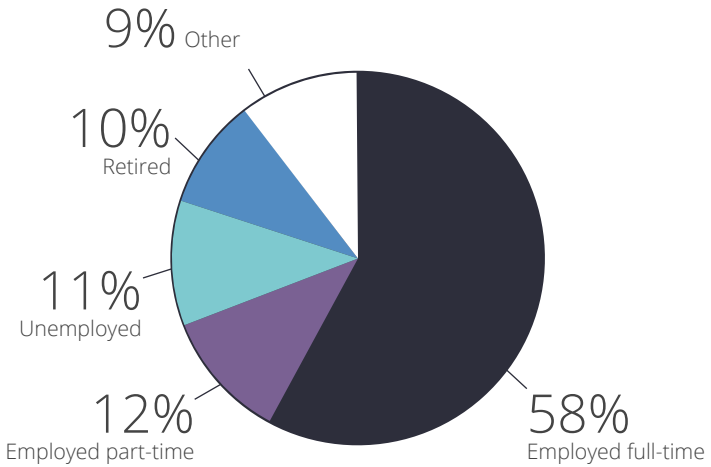
Gender



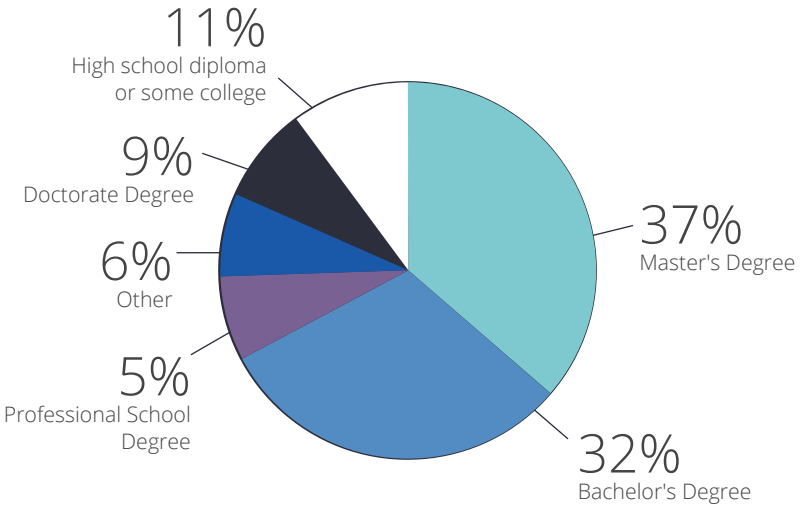
Age Range



Employment Status



Level of Education



Respondent demographics

