Lesson learned: Pedagogical insights gained from the MOOC, Making Sense of the News

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Abstract

This paper explores the pedagogical approach of a Massive Open Online Course (MOOC) on news literacy as a case study. The six-week MOOC on Coursera, Making Sense of the News: News Literacy Lessons for Digital Citizens, was launched on January 9, 2017, jointly by the Journalism and Media Studies Centre at the University of Hong Kong and the Center for News Literacy at Stony Brook University. The course is being offered to students worldwide on a rolling basis throughout the year; as of June 25, 2017, more than 5,700 people around the world have registered for the course and about two-thirds of them have actively engaged with the course materials.

The preliminary evaluation of the course presented in this paper discusses the process to create content for a global audience. It includes a summary of the observed strengths and weaknesses of the learning materials and online teaching and learning platform, drawing on the analysis of the curriculum development, instructional design and technological architecture as well as the content of online forum discussions. The quantitative side of the research delves into students' demographic data as well as the entrance and exit survey results.

These findings are believed to inform future directions of internet-based news literacy education in today's technologically interconnected societies. In the concluding section, the paper discusses how other educators could contribute to the future development of the online course and suggests ways for them to create a specialized pedagogical model based on the MOOC for news consumers in countries with different access to information.

Introduction

Evaluating the long-term effectiveness of pedagogy is not an easy task. There are myriads of factors affecting learners' understanding of the subject matters outside of textbooks, classroom instruction and teaching and learning activities. No single methodological approach can adequately address or measure all relevant variables and conditions of learning (Bates, 2014). Research into massive open online courses (MOOC), in particular, poses extra challenges because in this new form of education, the cohorts of learners are unprecedentedly large, diverse and less guided. Their prior academic training, for instance, could range from middles schools to post graduate degrees. Some learners follow the intended structured sequence; others jump around topics and skip learning components (Bruff, 2013; DeBoer et al., 2014; Perna et al., 2014).

Although an almost endless amount of clickstream data that tracks each learner's online behavior could potentially provide insights to researchers, the complexity of intertwined variables, including the platform interface and navigation system, makes it hard to gauge the efficacy of MOOC instructions in a comprehensive manner. Another problematic element that is that, unlike in the traditional model of classroom-based education, instructors may have different reasons to offer their courses and varying goals to achieve (Ebben & Murphy, 2014; Gasevic, et al., 2014).

Indeed, there seem to have been very few experimental MOOC studies that tried to test theories and hypotheses in order to draw generalizable conclusions that could be applicable across different courses, according to Raffaghelli, Cucchiara and Persico (2015), who, after

reviewing 60 journal papers on MOOCs between 2008 and 2014, concluded that empirical inquiries into MOOC pedagogies have been mostly limited to case studies.

With such limitations in mind, this paper presents yet another case study, the first phase of educational research that is intended to inform the next stage of research — formation of ideas for theory-building and experiments (Gorard & Cook, 2007). It analyzes the process of curriculum development and instructional design of a MOOC created by the authors themselves — "Making Sense of the News: News Literacy Lessons for Digital Citizens" on Coursera that was launched in January 2017. The critical self-reflection draws on producers' experience, the demographic data extracted from the platform, the results of the optional entrance/exit surveys and the content of forum discussions. It tries to zero in on some insights gained from such analysis specific to news literacy education in the digital age.

News literacy and MOOCs

Some educators, including the authors of this paper, consider news literacy instruction as a specialized approach. Although it shares many of the same goals of other related fields such as media literacy, digital literacy, and information literacy, its conceptual focus on one specific type of media message — news — and the depth of its discussions of the process of journalism seem to have distinguished itself from similar fields for the last decade.. A wide range of methods and pedagogical models have been adopted under different settings by different scholars, teachers, librarians, journalists and others involved in news literacy education. Despite the lack of definite consensus among them on what news literacy should entail, most of them seem to agree that it should empower learners to become discerning, engaged citizens equipped with the kind of critical thinking skills to identify reliable information in news reports and make informed

decisions (Adler 2014; Fleming 2014; Hornik & Kajimoto, 2014; Jolly 2014b; Klurfeld & Schneider, 2014; Loth 2012; Maksl et at., 2016; Malik, Cortesi, & Gasser, 2013; Mihailidis, 2012, 2016).

The emphasis on the civic engagement naturally lends itself to the idea of open-access online courses for the masses. Since the acronym MOOC entered into people's vocabulary in 2012, there have been a few courses dedicated to news literacy. The first of its kind was made available in May 2015 on edX by the University of Hong Kong and titled "Making Sense of News" based on the news literacy curriculum it adapted from the Center for News Literacy at Stony Brook University (Kajimoto, 2015). In the same year Arizona State University opened a course titled "Media LIT: Overcoming Information Overload" on edX at the end of June, and in August, the University of Melbourne started its course, "Journalism Skills for Engaged Citizens" on Coursera.

In 2016, while some of the above courses were offered again, the Poynter Institute launched on its NewsU platform a course titled "News Literacy Primer: How to Evaluate Information" and the non-profit News Literacy Project launched its e-learning platform Checkology. In 2017, as stated earlier, the authors of this paper from the University of Hong Kong and Stony Brook University renewed their efforts in this field, revamped the 2015 course from scratch and jointly offered the new MOOC on Coursera, which is the subject of this case study.

The course

In order to develop a course structure for the general public, the first step was to extract essential elements from the Stony Brook model of news literacy curriculum that was meant for a

semester-long (14-week) university-level education. More than 15,000 university students in ten countries have taken a version of the curriculum over the last ten years that have been adapted and localized by instructors who have taught the course (Hornik & Kajimoto, 2014; Fleming, Hornik & Kajimoto, 2016).

With years of experience in working with educators from different countries and cultures under different settings, the process to develop the course outline for international audience was relatively smooth. After vigorous discussions among the instructors from the two institutions, the length of the MOOC was decided to be six weeks as recommended by the platform and eleven key concepts were identified and organized in a streamlined sequence to fit the schedule.

In the end, the eleven themes were divided into modules (see Appendix 1). Two "lessons" — a cohesive unit of content with "lecture" videos, quizzes, readings, recommended external resources, a discussion forum prompt and a graded lesson assignment — were allocated to each week and broken down into several lectures. Each lecture starts with a 4 to 6 minute video that includes in-video multiple-choice quizzes.

In the process of producing videos and developing the course content, however, some difficulties of "globalizing" a news literacy curriculum became clear. News stories are fundamentally local and time-dependent. Even though the course instructors had experience in "de-Americanizing" and "localizing" the material for face-to-face teaching, making it universally relevant and relatable for online learners was another challenge entirely (Adler, 2014; Jolly, 2014a).

To illustrate main ideas, the original curriculum uses a great number of examples "freshly ripped from news headlines." But finding news reports that everyone in the world is somewhat familiar was a difficult, if not impossible, task. Many ongoing news stories couldn't be used

because they might have become obsolete while the course is available. Using and analyzing news reports in their entirety as course material also raised concerns over copyright issues because not every country has a fair use law (whether or not for-profit organizations like Coursera can claim fair use is another discussion to have).

As a result, the instructors resorted to many imaginary news situations in the video lessons — an approach that may not be as effective. Many references to culturally specific knowledge and ideas had to be removed from the course as well. For example, one of the draft video clips showed company logos of the New York Times and the Washington Post when the instructor was talking about major news organization, but such logos won't be recognizable for most international learners outside of the United States. Nonetheless, some local examples—like a US news report on the health problems that result from using electronic devices and a Hong Kong report on a woman who repeatedly slapped her male companion in the street—worked well because they were attention-grabbing and illustrated lessons that resonate widely.

Given that the course can be taken in countries where the press is censored and the media systems tightly controlled (Merrill and de Beer 2009), even the core values of news literacy education such as social engagement and citizen participation needed to be strategically discussed in the online course. It made more sense to concentrate on why, in general, information is powerful due to the importance of verified information to making day-to-day decisions. Overall, the MOOC has adequately laid out the foundation of the Stony Brook model of news literacy curriculum for its intended purpose, but there were limitations to this form of education.

Another limitation was the nature of the assignments which the platform allowed. The MOOC's massiveness prevented the course developers from assigning the kind of work that students typically complete in a face-to-face class. Instructors had to function as divine

clockmakers—wind up the course and let it go—because grading thousands of written assignments was not feasible. As a result, assignments had to be multiple-choice, which, moreover, prevented instructors from taking into account the subjectivity and ambiguity of the real world that students try to get a handle on in a classroom-set News Literacy course.

Demographics

The six-week course is being offered to learners worldwide on a rolling basis throughout the year, with a new session opening every four weeks, which means anyone can sign up for the course anytime and learners could change sessions to go through the material at their own pace. The course materials are all in English but the video clips come with subtitles in Polish, Spanish, Traditional Chinese and Simplified Chinese as of this writing.

As of June 25, 2017, the backend analytics data from the Coursera shows more than 5,700 people have registered for the course and 3,296 of them are actively engaging with the course (presumably those who completed the course more than a month earlier would be counted no longer active in the statistics). According to the data from Coursera and also from the optional entrance and exit surveys the instructors embedded in the course, the following are the main characteristics of the learners:

Country of origin (Table 1): People from 112 countries are estimated to have registered for the course (based on IP addresses, the platform's worldwide learner survey and profile data — with the 95% confidence interval, the margin of error at ±1.7 percentage point). But as seen in Table 1, the majority of the learners — more than 2,100 of the 3,518 sample population — is from the United States (62%), followed by Hong Kong (3.4%) and mainland China (2.7%) where the University of Hong Kong is a recognized brand name in higher education. Only six

countries have more than 50 learners (above three plus Canada, India and the United Kingdom) and 79 countries have less than 10 learners.

Gender, age and educational background (Table 2 - 5): Unfortunately, other personal particulars of the learners are not as reliable on the Coursera platform as the sample size is small and margins of error is too big (as of this writing, the statistical data on gender and age is based on only 404 learners; and educational training based on 153, with the sampling error could be as high as ±7.9 percentage points). The only thing that could be discerned from the backend analytics is that the course has a tendency to attract more female and mature learners than average Coursera courses (Table 2).

The optional entrance survey inserted in Week 2 and an exit survey in Week 6 might yield some insights, however. The above tendency is particularly salient among those learners who have taken time to fill in the survey. As of June 14, 2017, among the 219 respondents who declared their gender, 156 (71%) are female and 63 (29%) are male (Table 3). Among the 191 learners who reported their age, the most represented age group is 56 - 65 years old (68 learners) and the second is 46 - 55 years old (Table 4).

As for the highest educational qualification, 224 respondents filled in the survey and more than half of them (119 learners) said they have a master's degree or an equivalent professional degree while 57 has a bachelor's degree and 19 of them have a doctorate, which means 87% or the respondents reported that they have at least a college degree (Table 5). It goes without saying that a self-selected group of learners who had time and energy to complete the optional surveys could not represent the overall population in any way, but the results perhaps imply that more mature, educated learners are more likely to engage and interact with the material.

Forum discussions

For most MOOCs, forum discussions are the only activities where learners interact with each other as well as with the course team (Grainger, 2013) and this course is not an exception. One could assume that learners who engage with others through the open interactions in the forum are more likely to complete MOOCs and such communication among the learners could promote social learning and organically address the needs of different learners with diverse background both cognitively and culturally. Forum discussions could also facilitate virtual conversations through which not just course instructors but also advanced learners can help other learners and contribute to better teaching and learning experience (Stewart, 2013).

Nevertheless, the overall forum discussions in this course are found to be less conversational. It functions mostly like message boards where learners post one-off commentaries when prompted to discuss topics. Although the course cumulatively has more than one thousand forum discussion posts, learners have rarely interacted with each other.

Those posts did help, however, the course instructors to identify what news literacy concepts require further elaboration beyond the initial course material as many learners have posted similar questions or sounded confused. Combined with the questions instructors were getting from their on-campus students in related courses, they have created a FAQ page that supplements the forum discussions.

Table 6 shows the results of the exit survey's answers to the question, "Please rate the course components listed below based on their usefulness in helping you to learn the subject." The 1-5 rating scale was given to the participants (1. Least useful and 5 Most useful). The discussion forums are found to be the least useful and gotten the score of only 2.42 on average.

Although only a fraction of learners (to be exact, 105 learners as of June 14, 2017) has responded to the exit survey, given that it was placed as the last item in the final week, it is perhaps safe to assume that many of them have actually gone through the course material before taking it. Also, 67 respondents said they have earned the Certificate, meaning they have paid for the course, completed all the assignments and met the requirements.

It should also be noted that only paid learners could have seen and taken the assignments. Those auditing learners, 38 out of 105, who couldn't take them seem to have rated this item low, which explains the low "usefulness" of the item, but that does not explain the lowest rating for the discussion forums. Observation of the forum posts and the exit survey (albeit with its small sample size) indicate that so far, the discussion forms in this course has not created the kind of supportive learning community that MOOCs could potentially facilitate but whether such space is effective or even necessary in online news literacy education is something that course instructors should think about when revising the course in the future.

Conclusion

The Making Sense of the News MOOC was an attempt to teach essential news literacy skills to the general public around the world. It was designed to demonstrate a version of news literacy curriculum Fleming (2014) called the "journalism school approach" in which the instructional theories were drawn on journalistic methods and mindsets (see also, Fleming, Hornik & Kajimoto, 2016; Klurfeld & Schneider, 2014; Loth, 2012). It was produced to help "learners develop their critical thinking skills . . . to better identify reliable information in news reports and to become better informed about the world" through "the key elements of journalism from the viewpoint of the news audience." (Making Sense of the News, n.d.). Six months after

its launch, the preliminary evaluation of the course indicates that although it is offered internationally, so far the dynamics of the learners have not been as diverse as expected. The majority of the learners come from the United States and other English-speaking countries (Canada, India, U.K). The subtitles in four languages were not frequently utilized. It has attracted more mature, highly educated learners although the course was meant to be a basic version of a university-level course targeting the youths in the digital age.

The exit surveys, the platform's star and thumbs-up ratings and some testimonial commentaries demonstrate that the course has been favorablyaccepted and many learners found the course effective in learning the kind of critical thinking skills necessary to analyze news but the sample size is still too small to draw any definite conclusion. Besides, learners' perceptions do not necessarily indicate the mastery of the course materials. But the initial findings sketched out in this paper should, as discussed earlier, point to the next step of the research and possible experiments.

Grouping students into smaller units for the discussion forums based on their countries, educational backgrounds, and so forth, could be one idea to see if such arrangement encourages the learners to form online communities and study groups through the forums, for example. If so, would that help them better understand the subject matter? How about removing the forums entirely from the course? Instead of building a "catch-all" international version, it would also be possible to adopt the strategy for the on-campus teaching and re-create the entire news literacy course in another language by re-shooting the video clips and re-writing the content with more localized examples for narrowly targeted audience. By doing so, the English version could also have different contents for American learners, Canadians, Britons and so on. Would this

approach be more effective as it would be easier to choose news examples and negotiate the local media organizations for the usage of copyrighted material?

The online platform makes it easy to investigate different pedagogical methods with A/B testing. Delving into the exhaustive amount of learners' behavioral data to come up with experiment is also a natural next step. Say, for example, the exact points where many learners pause or fast-forward or rewind a video clip can be detected, which might indicate that some visual cues disappeared too hastily (pause), or some explanations were redundant or unnecessary (fast-forward), or what the instructor says is not clear (rewind). Course instructors can create two or more different versions of the same clip and A/B test them with test-group learners and a control to see if that changes, say, the scores of the in-video quizzes in the first attempt.
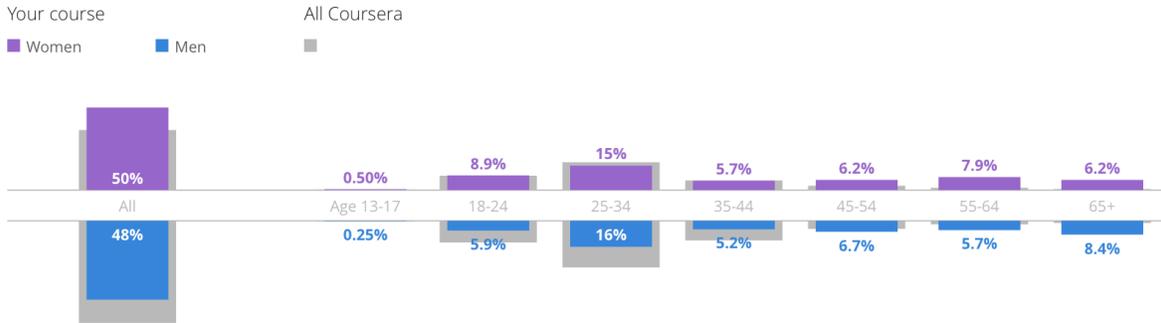
A multitude of pedagogical designs and teaching methods can be integrated into a MOOC and many hypotheses can be tested within the platform along the way. The potential of such studies in education is huge (O'Reilly & Veeramachaneni, 2014) but ultimately, what a news literacy course must achieve is an effective educational intervention, which is always hard to test and measure. A study done by Maksl et at. (2016) on the on-campus version of the Stony Brook model demonstrated that the educational intervention have contributed to students' "higher news media literacy skills and greater motivation to consume news" (p.235) after the semester is long over. Whether the online version of the course is likely to achieve the same for the learners remain to be seen.

Table 1

Countries and regions	Estimated number of learners (n = 3,518)	Percentage
United States	2,165	62%
Hong Kong	120	3.4%
China	96	2.7%
Canada	92	2.6%
India	91	2.6%
United Kingdom	50	1.4%
South Korea	39	1.1%
Vietnam	38	1.1%
Spain	37	1.1%
Italy / Philippines / Mexico	36	1.0%
Australia	35	0.99%
Japan	34	0.97%
Russia / Singapore	32	0.91%

Table 2

Gender & Age

Your course — Women, Men
All Coursera

	All	Age 13-17	18-24	25-34	35-44	45-54	55-64	65+
Women	50%	0.50%	8.9%	15%	5.7%	6.2%	7.9%	6.2%
Men	48%	0.25%	5.9%	16%	5.2%	6.7%	5.7%	8.4%

Based on data from 404 learners. Estimates accurate to ± 4.9 percentage points.

Table 3

Gender	Count (n = 219)	Percentage
Male	63	29%
Female	156	71%

Table 4

Age	Count (n = 191)	Percentage
18 and under	4	2%
19 to 25	14	7%
26 to 35	32	17%
36 to 45	29	15%
46 to 55	44	23%
55 to 65	68	36%
Over 65	0	0%

Table 5

Highest education	Count (n = 224)	Percentage
Junior high school	4	2%
High school	13	6%
Associate degree / Diploma	12	5%
Bachelor's degree	57	25%
Master's degree or equivalent	119	53%
Doctorate	19	9%

Table 6

"Please rate the course components listed below based on their usefulness in helping you to learn the subject." (n = 105)

Material	Average rating (1. Least useful / 5. Most useful)
Lecture videos by Stony Brook	4.71
Lecture videos by Univ. of Hong Kong	4.71
In-video quizzes	3.88
Recommended resources	4.51
Discussion forums	2.42
Graded quizzes (assignments)*	2.83
Overall satisfaction	4.58

*Only paid learners could have seen and taken the assignments. Those auditing learners who couldn't take them seem to have rated this item low.

Appendix 1: Course structure

Making Sense of the News: Lessons in News Literacy for Digital Citizens

Week 1: Making sense of the news is more important than ever

Lesson 1: Why is information so powerful?
- Lecture 1: Why news literacy matters
- Lecture 2: Power of information
- Lecture 3: Shoot the messenger: Why journalist become targets

Lesson 2: With great power comes great responsibility
- Lecture 1: Communication models and media
- Lecture 2: News cycles in the age of social media

Week 2 What is news and who decides?

Lesson 1: What makes journalism different from other types of information?
- Lecture 1: What makes journalism different
- Lecture 2: Information Neighborhoods
- Lecture 3: Blurred lines

Lesson 2: What makes some information newsworthy?
- Lecture 1: Universal new drivers
- Lecture 2: Editorial judgment

Week 3: Where can we find trustworthy information?

Lesson 1: What do journalists mean by truth?
- Lecture 1: Truth
- Lecture 2: Evidence
- Lecture 3: Why verification fails

Lesson 2: Are you calling me biased?
- Lecture 1: What is media bias?
- Lecture 2: Cognitive dissonance, confirmation bias
- Lecture 3: Opinion journalism and bloviation

Week 4: Says who?

Lesson 1: Is being balanced being fair? Not necessarily.
- Lecture 1: How do we find fairness?

Lesson 2: Says who?
- Lecture 2: The importance of sources
- Lecture 3: Evaluating sources: IM VAIN
- Lecture 4: Evaluating anonymous sources

Week 5: How do I apply news literacy skills?

Lesson 1: News literacy deconstruction basics
- Lecture 1: News Deconstruction steps
- Lecture 2: Debunking the viral news

Lesson 2: Applying the basics to different information media
- Lecture 1: News best covered by print
- Lecture 2: Stories that benefit from images, audio and video
- Lecture 3: Power of new media

Week 6: Meeting the challenges of digital citizenship

Lesson 1: Beyond the news literacy basics
- Lecture 1: Numbers in context: Opinion polls and surveys
- Lecture 2: Numbers in context: Health science
- Lecture 3: News angles

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