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The changing roles of higher education: curator, evaluator, connector and analyst

Julianne K. Wolfe and David W. Andrews

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Introduction

The mission of universities will be changing from gatekeepers of knowledge to curators, creators, connectors, certifiers and codifiers of knowledge. Due to the global accessibility and constant increase of information, the post-secondary learner no longer needs a university to obtain information. Changes have to be made to keep higher education relevant in the information age. Christenson and Horn (2011) have warned that the current business model characterizing higher education in America is “at – or even past – its breaking point”. Challenges come from escalating tuition; declining endowments and government funding; and the immediate, and often free access to highly credible information.

Higher education, and the American educational system at large, is historically slow to adapt to societal change. The impending pressure to continue attracting and retaining students as a source of income and of reputation is forcing changes in the education sector. The changes initially will have a larger effect for those who are not benefiting from the current roles of post-secondary education. As the values and benefits of the ever-improving higher education system become clear, learners will advocate for widespread changes across the nation (Christenson and Horn, 2011).

Higher-education institutions will no longer instruct students predominantly on content, but also on news literacy, written and oral communication and career-specific skills and techniques, and provide networking and knowledge advancement opportunities. The university can best serve twenty-first-century learners by utilizing relevant content framed within a competency-based, badging approach. University learners will advance on mastery, rather than a pre-determined length of time. Rather than learners receiving prescribed factual and procedural information, learners will be offered smaller, specific modules containing material applicable to the learner. A collection of badges may lead to an advanced degree, certification or continuing education hours, or simply represent a collection of verified skills. Grades, degrees and certification programs may remain in existence, but the pathways to obtaining career- or interest-specific knowledge will broaden and adapt to the influx of technology.

Post-secondary institutions will actively provide access to information; assistance in searching, discerning and applying information; and serve as a gathering place to improve on and develop credible and relevant research. Universities will share their knowledge and align their work with other reforming institutions, including crowdsourcing networks, professional organizations and the education sector. The knowledge gained by
researchers and universities will be disseminated in an understandable, feasible and applicable manner. To remain viable and relevant in an ever-changing world, institutions need to be intentional about creating opportunities for their learners to create and share global knowledge networks.

Global accessibility and constant increase of information require a change in the traditional role of a university. The post-secondary learner no longer needs a university for information retrieval; instead, the function of universities will be changing from gatekeepers of knowledge to circulators and evaluators of knowledge. Recent trends in higher education demonstrate a desire to adapt to the changing learning environment and learner styles and needs. Trends are shown in the development of flexible, asynchronous online or blended courses, the increase of credit receipt for prior learning, a focus on career and technical education, increased prominence of critical thinking and synthesizing skills within course content.

Importance now is placed on writing, complex reasoning and critical thinking and other twenty-first-century skills (Selingo, 2013), along with job-specific skills. Universities have not yet responded to these changing circumstances of the information age (Selingo, 2013) but will need to modify their role in career and life skills preparation. While Marcus (2013), among others, cites a poll suggesting that universities may eventually become obsolete, most predict that universities will adapt but not become extinct. Education’s role now has a premium on accessing, evaluating and synthesizing information, teaching learners how to communicate with different media and different cultures (Collins and Halverson, 2009).

According to the International Telecommunications Union (2012), approximately one-third of the world’s 1.8-billion households have Internet access. Between 2010 and 2011, the proportion grew by 14 per cent, with no indication of market saturation to inhibit continued growth in access. With the boom in information access, there is an overall increase in reliable information sources available at no cost for much of the world.

Curator

Given the volume of accessible information, there are a plethora of ideas already collected or yet-to-be collected into modules resembling coursework. Higher education has the expertise and reputation to select, organize and present high-quality information. Rather than owning the material, universities will sift through existing materials to vet the accuracy and quality of information before organizing into meaningful and appropriate resources. Universities guide the students as consumers into identifying relevant, reliable courses and content for the learner’s goals and needs.

Many open-source initiatives exist and are continually improving and gaining credence in the education world. The largest semi-formal instigator of learning has developed recently as massive open online courses (MOOCs). There are two types of MOOCs: xMOOCs, knowledge duplication (course content defined by course designers), and cMOOCs, knowledge created by connected learners (Baggaley, 2013). Typically, they do not lead to formal qualifications, but can spread viable knowledge (Clarke, 2013). Citing Khan Academy and other K12 sites, Dennis (2012) states that the “next logical step for massive online education” is the college and university levels, where MOOCs and other opportunities will supplement, not necessarily replace, universities.

Research on MOOC effectiveness and learning is ambiguous at best, with many statistics revealing little to no demonstration of learning for enrolled participants as a whole (Marcus, 2013). Many courses have high enrollment rates, suggesting at least a base interest in free, reputable learning. They may be hailed as an “educational redeemer” or as an “ugly symptom of the general educational slide” (Baggaley, 2013, p. 374) due to their large enrollments and low completion rates. Despite the lack of positive information and sustainable fee structure, universities have continued to develop and offer MOOCs. Possible benefits of MOOC usage and development for universities include engaging
alumni, recruiting students for fee-based programs, replacing more traditional learning management systems, providing students with additional preparation or tutoring, using learning analytics for course design or refinement, trying new pedagogies that might be imported into fee-based online and classroom-based programs, providing professional development opportunities for faculty preparing to teach new courses and internationalizing place-based courses (Sandeen, 2013). Universities can leverage MOOCs by increasing their learner base and piloting and evaluating innovative topics or pedagogical techniques, and can move beyond offering courses for knowledge dissemination into verification of knowledge. Initiatives such as Coursera and EdeX are providing credibility based on their branding and identity from reputable universities and educational resources.

Before the proliferation of MOOCs, Carnegie Mellon’s open learning initiative (OLI) garnered widespread attention and credibility. OLI has three distinct qualities that encouraged innovative thinking:

1. course creation is transdisciplinary, involving content experts, learning scientists, software engineers and more;
2. data are collected with every learning episode; and
3. data are used to provide immediate feedback and adjustments, both to students and to course designers (Cohen, 2012).

Other OLIs are forming and expanding within and outside higher-education institutions. Through this curation process, experts in both content and delivery can guide learners’ critical thinking and communication skills, directing learners to relevant information, and teaching analysis and synthesis of the information.

Certifier

The curating and vetting of knowledge is productive only with a standard approval of student learning. Universities already are poised for understanding and sharing student learning. Processes are in place for reputable distribution of learning credits. To adapt to the information age, universities will have to expand their abilities to credibly include quality and quantity of formal learning experiences (e.g. credit hours) and expand to knowledge gained outside of formal academe (Dennis, 2012). Some colleges have begun to award academic credit for prior learning experiences, yet students find a lack of information and a lack of consistency across campuses (American Council on Education Center for Policy Research and Strategy, 2013).

This flexible approach to certification is referred to as a competency- or mastery-based model. Competency-based education focuses on demonstration and application of learning rather than seat time (Alverno College, 2014). Learners are able to progress at their own pace and there is an innate flexibility in earning and awarding credit (USA Department of Education, n.d.). Within universities, restructuring some academic programs to competency-based courses could lead to the ability to pass out of certain classes and receive anticipated credits. Knowledge could come from prior courses, informal learning or work experiences. Typically, credit is accepted based on designated prior learning assessments, such as an examination, course review or portfolio review (Sandeen, 2013). In this model, demonstration of knowledge occurs in a variety of ways, including traditional assessments, work samples, observations, self-report, colleague-report and many more. Selingo (2013) argues that credits or badges could be received through standardized test scores, evaluations performed by national associations, portfolios, etc. He likens it to AP course credit for high school students, positing that no parallel approval is available for adult or experienced learners. In Mozilla’s Open Badges backpack, badge data include defined outcomes to receive badge and evidence provided, qualifications of learning provider/issuing organization, relationship between badge and large programs or skill sets, verification of badge earner’s identity and other communications about qualifications,
competencies and skills (Pearson, 2013). Competency-based approaches are increasingly found in plans for developing future courses or programs, including state accreditation plans (Wells, 2014). Restructuring assessment and credits around concept mastery:

- saves time and money by reducing duplicity for students with applicable work experience or other prior learning experiences [American Council on Education Center for Policy Research and Strategy (ACE CPRS, 2013)], because learners select and pay only for courses relevant to their needs and knowledge base, perhaps paying a lesser fee for certification of content mastery;
- increases clarity about expectations for students and employers by identifying and assessing competencies relevant to the world of work (Alverno College, 2014; Pearson, 2013);
- allows creation of personalized pathways to degree completion and program maps (Alverno College, 2014);
- offers potential for diagnostic and performance assessments agreed on by universities and the business world; and
- adapts the pace of learning to the student’s desired pacing (Alverno College, 2014).

Funding currently limits competency-based education. According to Alverno College (2014), there are two ways to receive federal aid for competency-based education: explicitly translate competency-based education to the credit hour, pass/fail basis, or offer a USDE-approved “direct assessment” of learning rather than a time-based credit hour. Many researchers and education administrators have begun calling for micro-credentialing courses and programs to help adopt a competency-based model. Selingo (2013) proposes that colleges “unbundle” their services and provide micro-credential badges for the best determiner of credentials, rather than relying on the college name on a diploma for credibility. Micro-credentialing, or badging, is already in use in gaming, scouting, mobile apps and online games (Pearson, 2013). With a micro-credentialing and badging focus, university faculty would fulfill two needs, possibly represented by two tracks of staff and faculty: student mentors and subject-matter experts (Alverno College, 2014). Rather than learners receiving prescribed factual and procedural information, learners will be offered smaller, specific modules containing material applicable to the learner.

Universities are in a unique place to create a meaningful system of certification that reveals information to potential employers through badging. Without a large shift in pedagogical theory, a degree can be viewed as a collection of badges (Pearson, 2013). Currently, professional badges are rarely standardized, digital or shareable. Badges provide many research-based benefits already supported in theory by universities, including motivational theories (Elliot, 1999; Higashi et al., 2012; Wigfield and Eccles, 2000) and self-efficacy theories. Badges also serve as formative and summative assessments. It is known that design, difficulty and frequency of assessment have impacts on learner motivation (Boud, 2000, in Higashi et al., 2012) and thus different avenues should be explored. Badges may have reciprocal connection to credit hours, with some universities having two transcripts with credit hours and competencies (Alverno College, 2014). Competency-based merit badges inform stakeholders and industry workers prior to hiring and have the potential to provide on-going feedback for the learner and the learning culture (Higashi et al., 2012).

In addition to certifying learning, universities have the expertise and database systems in place to assess individual student growth and learning patterns. The influx in available information births a need for developing critical thinking skills, along with measures to assess learning and application of learning. Students learn and express their knowledge differently, and the university can collect, analyze and apply that knowledge to teach the student meta-cognitive awareness for their learning preferences. With intentional time devoted to the analysis and sharing of learner information, students can leave the university setting aware of how they learn most effectively and how to create productive, flourishing
environments. Awareness of the learner and the process of education through frequent feedback and improvement processes is not possible without the university assuming a role of collecting and analyzing data on courses, career placement and success within the industry. The expansion and access to technology allows for many opportunities to gather and collect accurate and meaningful data. State licensing agencies call for a greater focus on data collection to “improve the way educational outcomes are tracked” (Wells, 2014). Selingo (2013) states that universities are the only places able to continue research, and this integral role must not be overlooked. Research on educational processes and pedagogy, as well as content-specific research, will advance effectiveness of education and its application to society.

**Connector**

Universities will fulfill a much-needed role as connections between the industry and the education sector, and between the student and professional networks. Higher education has an opportunity to improve preparation for career, technical and life skills through the development of relevant competencies.

Industry partners define relevant and meaningful skills, which content experts at universities then define the best lessons and activities to learn and assess learning of skills. A recent Gallup poll found that 88 per cent of business leaders are in favor of an increased level of collaboration with universities (Gallup, Inc., 2014). This is best evidenced currently by medical school residencies and internships.

The industry is dissatisfied with the current networks with universities, as evidence from only 10 per cent of business leaders said that they believed college graduates have the skills and competencies necessary for their business needs (Gallup, Inc., 2014). While careers and career demands are evolving with the advancement of technology, consistent interaction between industries and academia will prepare academia for the changes as soon as they begin appearing. Both the public and the business leaders overwhelming said that knowledge and applied skills in the field are “most important” for hiring decisions, more so than the learner’s major or alma mater (Gallup, Inc., 2014). By mediating the learner’s experiences with the expectations and demands of the industry, the university has a pivotal role in preparing a happy and successful workforce. While much of the aforementioned research tasks can be carried out regardless of place, maintaining a presence in a physical setting allows for physical collaboration between and across disciplines, verbal dissemination and dialogue that can move projects forward. However, connections among researchers and practitioners are not limited by location; collaboration can occur anytime, anywhere. Partnership opportunities include laboratory schools, business incubators, teaching hospitals, work-study programs and more.

In addition to providing experience, these opportunities provide access to professional and social networks. As connectors, universities have the ability to connect their students to researchers, practitioners, field specialists and social networks. Students are provided positions to actively learn the skills at work, as well as receive mentors, references and connections that may lead to career options. These connections will be equally important to the connections between the industry and the education sector.

**Creator**

Higher education’s adaptation is dependent on the success of the learner in the post-education world. Universities must have a fluid process to measure their success and make adjustments. The university will be a creator, both of new information and of new approaches to existing information. Data and scientific evidence should inform all aspects of an emerging personalized approach. Data, both quantitative and qualitative, can be collected easily through existing resources found on online analytics, observations and progress monitoring. Collecting, monitoring and reviewing data are integral; capturing information and completing analyses of detailed levels are made possible by the access to
technology and information. Post-secondary institutions have the capacity and growing need to do this at levels of the individual, program and institution.

Understanding individual learners is fundamental to a learner-centered approach. This understanding is accomplished through the accumulation, documentation and analysis of information about the learner’s needs using formal assessments, observations and learning artifacts (e.g. work samples). These artifacts informing goal setting can assess progress toward achieving goals along with external industry and societal standards; the effectiveness of specific strategies to advance learning should be judged by scientific evidence of their impact on specific learning outcomes. By monitoring and advising at the individual level, feedback, both quantitative and qualitative, can be utilized to identify when individual special assistance is needed (Alverno College, 2014), improve the program quality and connection between the job market and programs (Pearson, 2013) and improve program efficiency and cost-effectiveness (Alverno College, 2014; Pearson, 2013). These data allow universities to understand and profile the cognitive, social/emotional and physical characteristics of each learner, assembling an individual profile to set and achieve individual learner goals. Learners will contribute to their goals and assessments for learning based on interests and goals, and the university will contribute to the profiles and goals based on external industry and societal standards. Frequent assessments and feedback processes reaffirm the utility of micro-credentialing programs. Learner progress can be driven and informed by knowledge of the learner and constantly adapted from additional data collected and entered into feedback loops. Data on student progress and the efficacy of specific strategies to advance learning are constantly informing future decisions.

Similarly, collected and interpreted data have the potential to evaluate programs, pedagogical strategies and credentialing standards. Within programs, universities can leverage connections with content experts to develop and improve measures of effectiveness within the field as well as pre-service training and ongoing worker development. For example, The Chief Council of State Schools Officers calls for inclusion of multiple measures of educators’ abilities to perform and to not only have selective admissions, but exit criteria that include content mastery and high-quality clinical practice (Task Force on Educator Preparation and Entry into the Profession, 2012). Programs within universities are able to monitor job placements, successes of graduates, graduate retention and feedback and industry feedback, to constantly improve program outcomes. As curators, certifiers and connectors, universities easily will identify missing information, data or research and are in the prime position to call for and advance new material.

Creating new materials and learning processes also will occur at an institutional level. Using data on the changing demographics and interests of learners and industries, universities must make significant changes and monitor the effects of the changes, preparing to continually adapt and grow. Higher education must be prepared to serve these learners with fluency in multiple media settings and a workforce demanding collaborative skills, experience and strong reflective practices, according to Dede (2008) in Clarke (2013). Current proposals for furthering the state of secondary education are centered around opening experiences to different types of learners, including transfer students (Alverno College, 2014), students who have dropped out with few classes to finish (Wells, 2014) and part-time or working students (Alverno College, 2014). To serve the expanding student body in higher education, universities must verify that learning happens outside of the college walls. There is a call to increase high-quality options for those not ready for college (Selingo, 2013), whether through transitional courses for 12th graders (Wells, 2014), gap-years, internships or job placements (Selingo, 2013), as is seen in many countries across the world. These proposals serve as evidence that secondary education students are lifelong learners who need to be able to expand their knowledge base and apply it in various settings to demonstrate progress and success.
Conclusion

Post-secondary institutions will actively provide access to information; assistance in searching, discerning and applying information; and serve as a gathering place to improve on and develop credible and relevant research. Universities will share their knowledge and work with reforming institutions, including crowdsourcing networks, professional organizations and the education sector. The knowledge gained by researchers and universities will be disseminated in an understandable, feasible and applicable manner. To remain successful and relevant in an ever-changing world, institutions need to be intentional about creating opportunities for their learners to create and share global knowledge networks. The changing demands of the workforce and society due to the information age do not imply the demise of formal, post-secondary education, merely a need to respond based on their needs. Grades, degrees and certification programs will remain in existence, but the pathways to obtaining career- or interest-specific knowledge will increase and adapt to the influx of technology. These changes may happen incrementally, but the benefits of the roles for the universities far outweigh any opposition to change.

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