To: International Council for Open and Distance Educational Standards (ICDES)
From: Ebenezar Wikina, Comfort Onyaga, Chimdi Chukwukere, Kehinde Adebiyi
Date: 4/10/2021
Re: How Open Data can drive Transparency and Transformation in Virtual Universities

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Executive Summary

The pandemic era has forced universities worldwide to pivot to online learning platforms with lessons emerging daily about the challenges that students, faculty, and administrators face. Access to open data is largely an untapped goldmine that could improve learning outcomes and reduce the higher dropout rate associated with virtual education. As a matter of fact, only 1 in 5 virtual universities have reported their annual data on the National Center for Education Statistics website. As such, there is no transparent data system that could have helped optimize virtual learning. Virtual universities can foster transparency by releasing new datasets on graduation/course completion rate, periodic financial reports, as well as expand already existing datasets like enrollment statistics and student base.

Background

The COVID-19 pandemic ushered in a new era of learning around the world, especially in developed countries whose digital infrastructure was robust enough to handle the migration. As online learning gains wider acceptance, it is pertinent that virtual universities adopt open data as a pathway to transparency in their dealings with students and the wider web at large.

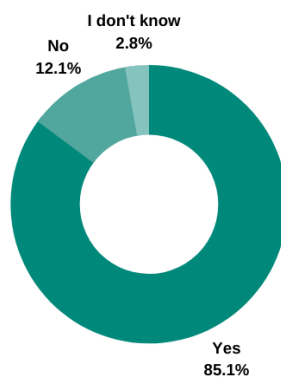**Are you now having to take any classes online due to COVID-19?**

- I don't know 2.8%
- No 12.1%
- Yes 85.1%

Fig1: A survey of 7,400 prospective and current international students shows that 85% studied online because of COVID-19 (Source: educations.com)[1]

However, while managing data, unlike their physical counterparts virtual universities need to take into cognizance internet policies like the European Union's General Data Protection Regulation (GDPR) which prescribes how companies can collect, store and use personal data in
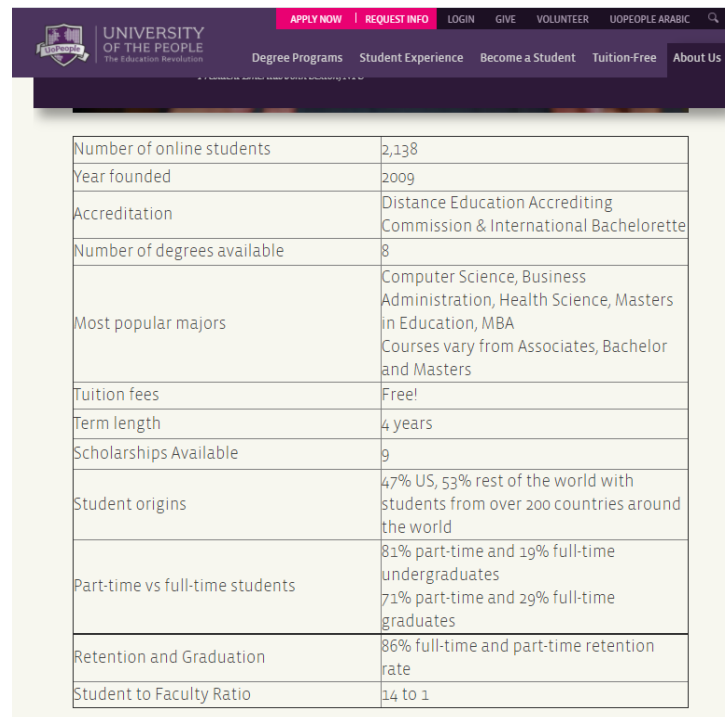
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[1] Educations,
https://institutions.educations.com/insights/demand-for-online-studies-skyrockets-but-here-are-students-biggest-concerns

the European Union. Other national data privacy laws[2] include, the Lei Geral de Proteçao de Dados (LGPD) in Brazil, the Privacy Amendment (Notifiable Data Breaches) in Australia, the California Consumer Privacy Act (CCPA) in the US, Act on Protection of Personal Information in Japan, Personal Information Protection Act in South Korea, Personal Data Protection Act in Thailand, Personal Data Protection Bill of India, to mention a few.

These regulatory frameworks could appear challenging for virtual universities who wish to embrace open data, however, with proper stewardship and securement of students' consent, those heavy fines can be avoided.

Analysis

The National Center for Education Statistics (NCES) is the part of the United States Department of Education's Institute of Education Sciences (IES) that collects, analyzes, and publishes statistics on education and public school district finance information in the United States. It also conducts international comparisons of education statistics and provides leadership in developing and promoting the use of standardized terminology and definitions for the collection of those statistics. NCES is a principal agency of the U.S. Federal Statistical System[3]. Ironically, although this data system is online, more than half of the notable online universities in the world do not have their historical data published on the platform. This goes to show how closed data systems are in virtual universities.

Number of online students	2,138
Year founded	2009
Accreditation	Distance Education Accrediting Commission & International Bachelorette
Number of degrees available	8
Most popular majors	Computer Science, Business Administration, Health Science, Masters in Education, MBA Courses vary from Associates, Bachelor and Masters
Tuition fees	Free!
Term length	4 years
Scholarships Available	9
Student origins	47% US, 53% rest of the world with students from over 200 countries around the world
Part-time vs full-time students	81% part-time and 19% full-time undergraduates 71% part-time and 29% full-time graduates
Retention and Graduation	86% full-time and part-time retention rate
Student to Faculty Ratio	14 to 1

Fig 2: Screenshot of The University of the People's website showing key statistics from the university

The University of the People[4], one of the largest online universities, is a good case study of a virtual university making efforts to open data to the public. However, even with its efforts so far, much still has to be done to reach the true state of openness. The information in Figure 2

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[2] 12 Countries with GDPR-like Data Privacy Laws, Comforte blog, https://insights.comforte.com/12-countries-with-gdpr-like-data-privacy-laws
[3] Wikipedia, https://en.wikipedia.org/wiki/National_Center_for_Education_Statistics
[4] The University of the People, https://www.uopeople.edu/blog/your-guide-to-the-largest-online-universities/

above is not represented in a visually appealing form thus this could easily pose a hindrance to understanding and assimilation. Rather than publishing the data as a single blog post, it can be presented as an open data webpage that would enhance the credibility of the information, thereby facilitating understanding and optimal usage.

Proposed Recommendations

Here are three datasets, with the most value for virtual students, which we are advocating for virtual universities to publish. We believe that publishing these sets do not only enshrine transparency but could potentially transform the future of learning.

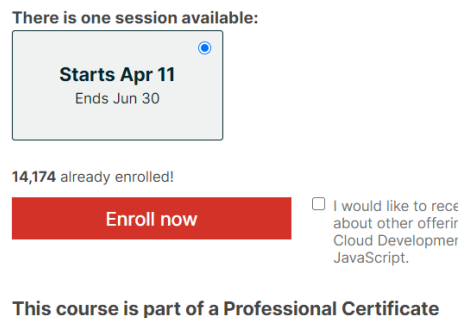1. **Enrolment Statistics need to be visualized better**

Fig 3: Screenshot of enrolment statistics on edX

Most virtual universities visualize course enrollment information as represented above. In some cases many of these universities don't even display the numbers. Online learning can be a very lonely venture and the use of numbers alone can further expand the gap between learners; especially when these figures cannot be verified. When enrollment information is interactive and verifiable, students can easily make connections and find motivation to join a given course.

- Collection

This data can easily be collected via the student enrollment or application form and the form should be updated to include location, profession, hobbies, etc. as these further bring a human touch to the dataset.

- Visualisation

As opposed to "14,174 already enrolled", an interactive map should be embedded on the signup page showing where these students are, what they do, and if they have completed other courses in the past. This might sound cumbersome but it will enhance the user experience of prospective students and has the possibility of increasing the enrollment rate. See sample below.

Fig 4: Map of students in virtual Harvard Executive Education class, 2019 (Source: Harvard)

- Stewardship

Students who are signing up for the courses should have the right to opt-out of being plotted on the enrollment map and consent must be obtained expressly before they complete registration. This should not be hidden in the fine print of Terms and Conditions but rather should be clearly stated in the form.

2. **Publication of Graduation or Course Completion Rate**

Currently there's no transparent data system to optimize virtual learning globally. Virtual universities do not have credible information online that speaks to graduation and course completion rates, thus this gives room for speculation on the effectiveness of these online programs.

- Collection

This data can be easily collected at the end of online course work through proctored examination scores. For courses without end-of-course evaluation, participation data can be tracked.

- Visualization

It is important for this data to be visualized anonymously to ensure that the privacy of those who completed the courses are protected online. However, in a case where verification is required, a database of completion scores from the backend needs to be available on demand.

- Stewardship

Virtual universities need to handle this data with utmost confidentiality and as required may also need to seek the consent of students before publishing their scores - anonymously or not.

3. **Student Feedback needs to be signposted**

Amazon, Uber and other unicorns use customer rating and other forms of feedback to aid new prospective customers in decision making. This can be adopted for online courses too. Beyond rating courses, it can also be taken a step forward to include advice from Alumni for prospective students. This would make the new students better prepared for success on the course.

- Collection

Virtual Universities currently administer end of course surveys and this rating component can be incorporated into the form. With the permission of students, universities can also collect their feedback and share with interested students who visit their website.

- Visualization

This data can be represented in a word flow chart which shows advice and at the same time shows ratings for each course.

- Stewardship

Students need to be given the option to opt out of using their data for Course ratings. To avoid ratings that are misleading, students need to compulsorily give justification for each rating they give.

Urgency Statement

Only 2 in 10 people who start an online education program complete it, according to average data from the top 10 online colleges[5]. Many factors like 'learner loneliness[6] as well as lack of community and motivation can often lead to this. Virtual universities can attempt to solve this challenge by releasing key datasets including; student feedback, enrolment rate, graduation rate, and student progress tracker to debunk the speculations about the effectiveness of virtual courses and

Impact Logic

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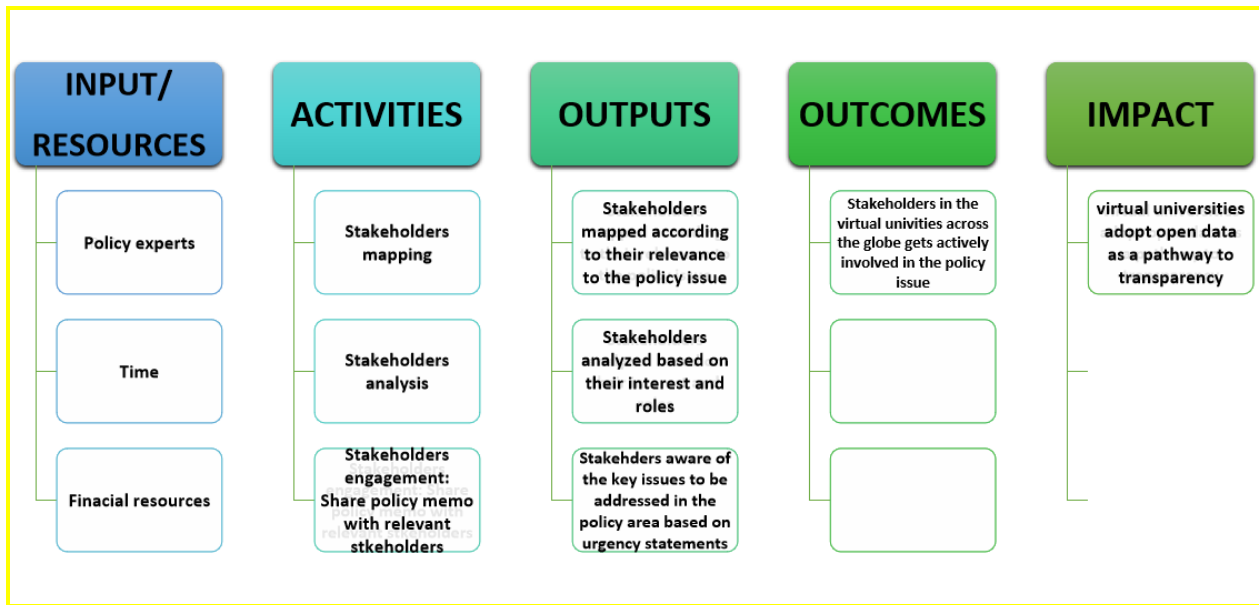
[5] Top Ten Online Colleges, What are the Graduation rate like for Online Colleges, https://www.top10onlinecolleges.org/faq/what-are-graduation-rates-like-for-online-colleges/
[6] The Loneliness of the long-distance learner, Global Partnership for Education, https://www.globalpartnership.org/blog/loneliness-long-distance-learner