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Work Session on the Communication of Statistics

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Session 2: Changes in Communication

Engaging new audiences while improving the dissemination of UIS education data

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I. Background

1. The UNESCO Institute for Statistics (UIS) is the statistical branch of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). It delivers comparative data for countries at all stages of development to provide a global perspective on education, science and technology, culture, and communication. The UIS serves Member States in the UN system, inter-governmental and non-governmental agencies, research institutes, universities and citizens interested in high-quality data.

2. From pre-primary school enrolment to tertiary graduation rates, the UIS is the leading source for international **education** statistics. The UIS data base includes more than a thousand indicators from more than 200 countries and territories. In addition to its flagship publication, the Global Education Digest, the UIS produces analytical reports on critical themes such as education finance. It develops new indicators to monitor emerging issues in education policymaking. UIS data appear in a range of publications, and statistical indexes such as the

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World Bank's World Development Report and Indicators and UNDP's Human Development Report and Index.

3. The world of data dissemination is changing quickly. As a small institute with limited resources, the UIS has focused on serving its core constituents, statisticians and policy experts in governments, NGOs and other UN agencies. However changes in technology have made high-quality statistics available to citizens, enriching policy debates and the fostering new data-savvy stakeholders, including journalists, students and bloggers. Acknowledging the opportunities this new environment presents, the UIS has begun to broaden its focus in order to reach new audiences, while improving communication of its data to its core audience.

4. Reaching out to new users is always daunting; however it is clear that the UIS has data, particularly in the field of education, which must be shared with a wider audience. Governments are already aware of these facts. What is needed is greater awareness of these data amongst citizens who want to bring about change. Our work is only meaningful if it spurs governments and civil society to act on commitments to ensure the right to education for all children.

II. A data dissemination environment in need of renewal

5. Since it was established in 2000, the UIS has had two main dissemination vehicles: the UIS website, and printed documents published by the UIS and other intergovernmental organizations. The UIS website provides a portal to the database, where users can view and download all data and indicators free of charge. An online document library provides the full range of publications in PDF form.

6. In 2012, following the launch of a new website, two strategic decisions were taken to bring the UIS in closer step with its peers: First, to move the UIS database from the outdated Beyond 20/20 platform to OECD.stat, which offers more flexibility, including mapping and graphing tools. Second, to showcase data across the UIS site using different forms of data visualization and data story-telling.

7. The migration of a database is a costly and lengthy process, but it also offered us an opportunity to re-think our strategic objectives with various stakeholders. Who are they? What are they looking for? What types of products would respond to their needs? Obviously, there are no easy answers. But we have found that data visualization, in its diverse forms, is helping us to find our voice and open a dialogue with our users.

III. Tapping an unknown audience

8. We know from user testing and Google Analytics that the UIS site has a relatively small but faithful audience. It receives about 65,000-70,000 visits per month, of which 35-40 percent are regular users (weekly and monthly visits). They are primarily government statisticians, researchers and program officers who come mainly to consult the database or to download a PDF

(450 downloads/day). They do not browse the site. They come for a specific reason and leave quickly. Analytics do not tell us whether they were satisfied with their visit, but a recent survey suggests that this segment of users come often enough to have learned how to find what they need.

9. There is a large segment of users (two-thirds) about whom we know very little. Most find the site via links to statistics or publications on UNESCO's main site (www.unesco.org).² Analytics can only tell us that they visit the site, not why they came, or whether they found what they were looking for. This group appears to include a broad spectrum of users, including students, educators, journalists and bloggers. We are trying to convert these new or occasional users into regulars by using a combination of data visualization, info-graphics and social media to engage them.

10. It is important to note that the UIS does not have its own social media channels. We have limited resources with which to build up or maintain a social media presence, so it is more practical to rely on UNESCO's channels. While this arrangement enables us to reach a huge audience, it means that UIS must compete for attention with other UNESCO initiatives, including programs that use and promote UIS data.

IV. Starting from Scratch

11. Visuals on the UIS website are sparse. The three-person communications and publications team does not include a graphic designer, so at best a web page is illustrated by an image created from Excel or extracted from a publication. In the absence of any expertise in the data visualization domain, in early 2012 we started working with a group of highly motivated education officers to come up with a plan for the creation of interactive graphics using free programming tools.

12. We agreed that the group would create pieces to accompany news articles timed to coincide with UIS education events and data releases. These are occasions when we know UIS data are in demand, and our colleagues in Paris are eager for graphics for the UNESCO website and social media channels.

13. These projects were taken on in the spirit of learning and experimentation. Our purpose was to bring data to life, but also to see if users responded positively. Our baseline measure, although not very sophisticated, was to persuade users to stay on a web page longer than our average 1.5 minutes. A secondary measure was the quality of the source traffic, such as back links to the UIS site.

² The UNESCO site exists in six languages and has 2 million visitors per month and 2.7 million pages of content.

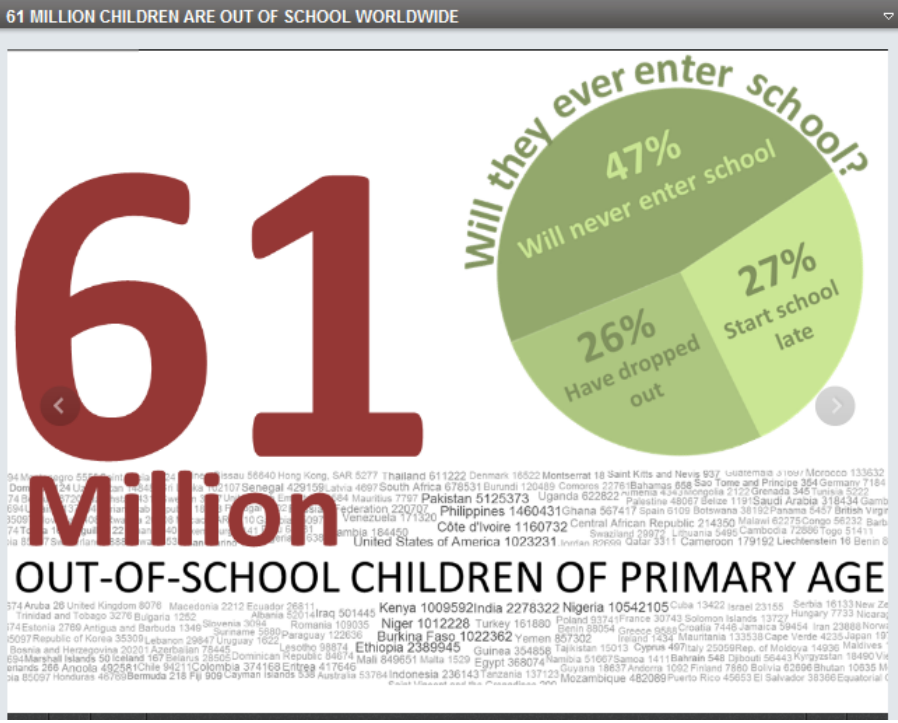
14. We did not expect professional graphics out of the starting gate. To be on the safe side, our first efforts were modest and focused on our core, data-oriented audience.³ We created interactive graphs in D3 (a JavaScript library to display digital data in dynamic graphical forms) to enable users to compare a limited set of indicators. The pieces were time consuming to produce because staff and developers were learning D3 on the fly. The response from site users was lackluster, but the response from UIS staff was enthusiastic, and gave the team momentum.

15. Our next efforts aimed to tell a stronger story, with broader appeal, without using complicated technology. Using PowerPoint, the team created a set of info-graphics for an online image gallery. This approach allowed us to showcase our data in simple, attractive graphics while telling a story for a very broad audience.

16. In a piece on out-of-school children⁴ we had a genuine news hook: the number of children not enrolled in school was stagnating rather than declining, a shocking reminder that efforts toward universal primary education were failing to reach the most vulnerable and marginalized children. The piece was released in partnership with UNESCO's Education for All team, which has a large, specialized audience. This helped attract visitors and the attention of media and education bloggers who referenced it on their sites. Another benefit of this initiative has been the integration of data galleries in other parts of the UIS site.

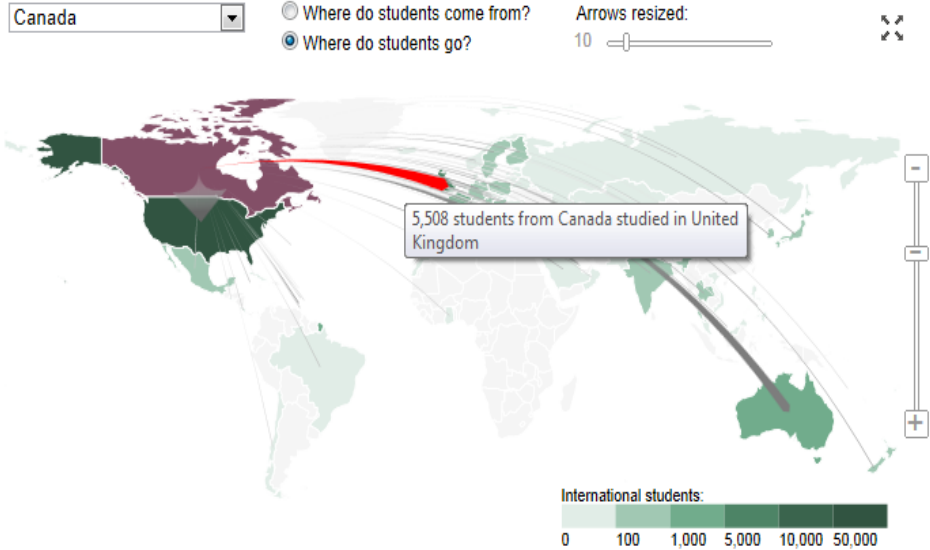
³ Example: "Early Childhood Care and Education: Children are missing out on critical early learning opportunities." (<http://www.uis.unesco.org/Education/Pages/global-action-week-data-viz-2012.aspx>) This visualization received 1,713 unique page views.

⁴ Example: "61 Million out-of-school children" (<http://www.uis.unesco.org/Education/Pages/reaching-oosc.aspx>) Page has received 5,766 unique views since it launched on June 6, 2012. Peak was 200 in one day once it was promoted by UNESCO and affiliates. It continues to garner steady traffic; about 400 page views/month.



17. However, not every data release is so compelling. Most of the time, the global numbers don't yield a big story. This highlights a major challenge for the UIS in terms of story-telling. By producing data for more than 200 countries, we don't have a captive national audience. However, we knew that exploratory tools could uncover smaller, regional or country-level findings that would be very interesting to users.

To explore the data select a country from the menu, or click on the map.



18. The UIS tracks the flow of tertiary students around the world. We are the only agency that provides data from developed and developing countries on the origins and destinations of students – data that has important policy implications for the loss, or gain, of human capital. Our team developed an interactive flow map⁵ in D3 showing students’ countries of origin and destination. Although there was no news hook, we knew it would have broad appeal because it invited the user to participate in the discovery of data that might affect them directly. They could see themselves in the story.

19. The flow map has been extremely popular with users. For the first time one of our visualizations broke through to Facebook and Twitter users, who generated the most traffic to our site. The diversity of sources sending traffic also surprised us. They ranged from the World Bank and The New York Times, to very specialized sites for international students, including universities. Users spent an average of 4.5 minutes with the tool, which marked a huge improvement over our average.

V. Gimmick or goldmine

20. At the beginning of 2013 we stepped back from the in-house creation of data visualizations. We recognized that our staff was capable of creating solid, bread-and-butter data tools using off-the-shelf technology aimed at a data-oriented audience. Along the way, we learned a great deal about our users and the potential use of social media. We also became more discerning about good and bad visualizations. But among our peers, the bar for communicating data to the general public has been set quite high. We could not expect a group of self-taught enthusiasts to deliver professional-quality visualizations in their spare time.

21. Our most recent initiatives have also been the most ambitious and much more costly. We worked with a professional designer to create innovative pieces around two critical dates in our communications calendar: the release of the Global Education Digest⁶, which is a statistical yearbook for education data, and International Women’s Day, when data on gender and education are in high demand.

22. Mind the Gap: Gender and Education⁷ tapped into the rise in popularity of educational games, allowing users to put themselves in the game by creating a persona. As they play, they

⁵ Example: The Global Flow of Tertiary Students (<http://www.uis.unesco.org/Education/Pages/international-student-flow-viz.aspx>). The page has been received 36,00,000 page views since it launched on Oct. 26, 2012. The peak was 1,600 on launch day.

⁶ Global Education Digest 2012 – Interactive data tool (<http://www.uis.unesco.org/Education/Pages/ged-2012-visualization.aspx>). Since its launch on Nov. 22, 2012, it has had approximately 6,970 unique page views. Traffic comes primarily from unesco.org and Google.

⁷ Example: Mind the Gap: Gender and Education (<http://www.uis.unesco.org/Education/Pages/mind-the-gap.aspx>) launched on March 8, 2012.

observe the gaps in school enrollment, and may “visit” other countries or travel back in time. This “gameified” approach to data raised hackles within the UIS, where some thought it too gimmicky given the scale and severity of the obstacles to girls’ education⁸. However, in the past decade there has been a rise in the number of youth-driven advocacy groups using technology, including games, to engage their peers in the fight for human rights. Mind the Gap was an attempt to equip this demographic of young educators and “global citizens” with a tool to engage their own audiences.



23. To spread the word, we secured the help of partners within UNESCO, and UNESCO field offices, as well as organizations that would offer us space on their sites or blogs to promote the game. The response from users has been excellent. Since we launched the site on March 5 in three languages, we have had nearly 18,000 unique page views and it continues to grow. We hit a new daily record of visits to the website on launch day with more than 6,000 visits⁹. The largest segment of visitors came to the site via Facebook posts –more than 1,500 in single day.

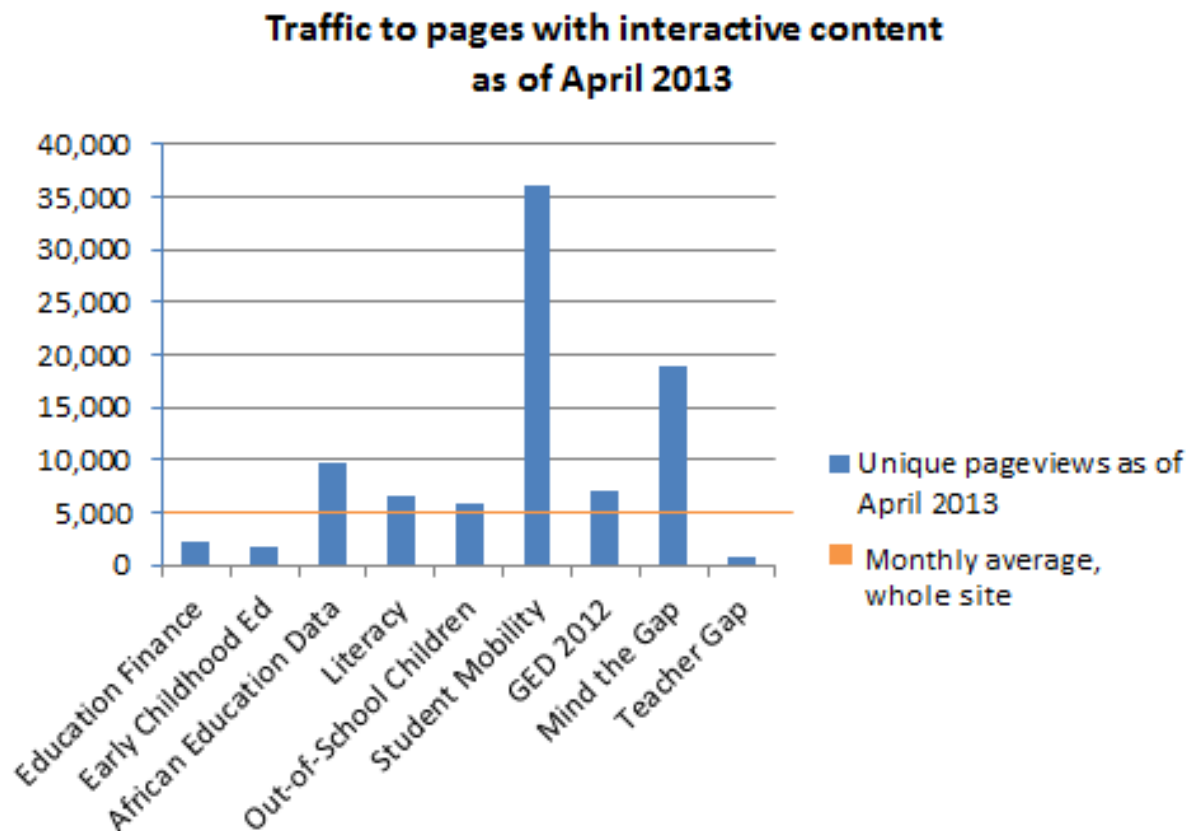
24. By way of comparison, a year earlier we had launched our first UNESCO Atlas of Statistics in Gender in Education, accompanied by a statement from the UNESCO Director General, Irina Bokova. This year’s International Women’s Day product surpassed those results by 3,000 visits, so far.

25. It is still too soon to say whether we will do any more data games of the sophistication of Mind the Gap. With school ending we will try to work with educators and schools to promote the game. There are hundreds of potential partners we have yet to approach. Despite criticism from

⁸ See Teachthought blog post: Literacy & Gender Equity: Developer Requests Ideas & Feedback (<http://www.teachthought.com/culture/literacy-and-gender-equity-developer-requests-ideas-and-feedback/>)

⁹Previous high reached in August 2012 with 4,000 visits. This was an anomaly. A link to the UIS database in an article on the Mother Jones website went viral.

statisticians, we have already found it a useful piece to have in our repertoire as we continue our outreach efforts with all kinds of audiences.



VI. Consolidating gains

26. If we look strictly at the numbers, in one year we have managed to increase site traffic by about 12 percent. Most of this has come via social media: Facebook and Twitter. Traditional sources of traffic have remained flat.

27. From a broader perspective, the past year has been an excellent experience. We have learned by doing, or dabbling. We have discovered new ways of communicating data. We have invested in the capability of staff to create ever more polished interactive graphics. We have persuaded our colleagues that visual data is not a nice-to-have, but a necessity. In a time of financial austerity, we realize we need to do more with less, and work with partners who can ensure our data finds a wider audience.

28. Our experience has implications for the way the UIS disseminates data generally. We are now looking into how the new database, using OECD.stat technology, could be used to power widgets providing live graphics for our site and data feeds to other UNESCO sites. We are also hoping to use this technology to create electronic atlases, as we seek to move away from PDF publications.

29. New questions have arisen which may point the way forward. Should we go broad or deep in our quest for engagement with users? While sophisticated tools like Mind the Gap do expand our reach, do we have the capacity to maintain these relationships? Should we apply our new found expertise to creating discovery tools that let users go deeper into data that could support new education policy-making debates as the deadline for the Millennium Development Goals looms? That we are in a position to ask these questions is a sign that we have come a long way in a relatively short time.