Differentiation in Access to, and the Use and Sharing of (Open) Educational Resources among Students and Lecturers at Ghanaian Universities

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Who Am I?

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• Lecturer and Research Coordinator at Tangaza University College, Nairobi Kenya
• Africa Co-ordinator for ROER4D project 2
• ROER4D is a large-scale study carried out to get a fair ‘OER Picture’ for the Global South.

• South America, South East Asia and Sub-Saharan Africa.

• GHANA – Sub-Saharan country surveyed
Sample

• 818 students

• 38 Lecturers

• University of Ghana, Cape Coast, Kwame Nkurume University Science & Technology and Catholic Institute of Business and Technology
Research Questions

• What is the state of connectivity and digital proficiency?
• What kind and level of use, re-use, creation, and sharing of educational resources (ER)?
• What is the level of awareness of licensing related to open educational resources (OER)?
• How do they perceive the value of openness in educational resources, its implementation opportunities, and its institutional context?
Digital Proficiency Students-Technical University

- Basic Digital Literacy: 5%
- Intermediate Digital Competence: 27%
- Advanced Digital Expertise: 68%

Digital Proficiency Students-Non Technical University

- Basic Digital Literacy: 12%
- Intermediate Digital Competence: 36%
- Advanced Digital Expertise: 52%
### Lecturer's Devices for Internet Access

<table>
<thead>
<tr>
<th>Device</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tablet</td>
<td>13.6%</td>
</tr>
<tr>
<td>Desktop computer</td>
<td>20.5%</td>
</tr>
<tr>
<td>Mobile phone</td>
<td>29.5%</td>
</tr>
<tr>
<td>Laptop computer</td>
<td>36.4%</td>
</tr>
</tbody>
</table>
Satisfaction with internet connectivity

Internet Connection for Students (Technical)

- Very dissatisfied: 25%, 28%, 27%
- Dissatisfied: 37%, 35%, 42%
- Unsure: 5%, 5%, 8%
- Satisfied: 25%, 22%, 15%
- Very satisfied: 8%, 10%, 8%

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Cont...

Internet Connection for Students (Non-Technical)

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>Cost</th>
<th>Speed</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very unsatisfied</td>
<td>9%</td>
<td>9%</td>
<td>11%</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>28%</td>
<td>33%</td>
<td>33%</td>
</tr>
<tr>
<td>Unsure</td>
<td>13%</td>
<td>11%</td>
<td>19%</td>
</tr>
<tr>
<td>Satisfied</td>
<td>40%</td>
<td>40%</td>
<td>33%</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>10%</td>
<td>7%</td>
<td>3%</td>
</tr>
</tbody>
</table>
Lecturers Tech.

Internet Connection for Lecturers (Technical)

- Very dissatisfied: 45% (Cost), 45% (Speed), 40% (Stability)
- Dissatisfied: 20% (Cost), 15% (Speed), 25% (Stability)
- Unsure: 15% (Cost), 15% (Speed), 5% (Stability), 5% (Stability)
- Satisfied: 15% (Cost), 20% (Speed), 30% (Stability)
- Very satisfied: 5% (Cost), 5% (Speed), 10% (Stability)

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Lecturers Non-Tech.

Internet Connection for Lecturers (Non Technical)

- Very dissatisfied: 6% (Cost), 11% (Speed), 11% (Stability)
- Dissatisfied: 11% (Cost), 17% (Speed), 17% (Stability)
- Unsure: 33% (Cost), 22% (Speed), 22% (Stability)
- Satisfied: 44% (Cost), 50% (Speed), 50% (Stability)
- Very satisfied: 6% (Cost)

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Student's assignment of licences

- No: 81.3%
- Copyright: 16.1%
- Open content license: 2.2%
- GNU GPL: 0.5%

Lecturer's assignment of licences

- No: 57.5%
- Copyright: 32.5%
- Creative Commons: 5.0%
- Open content license: 5.0%
Spectrum of processing of educational resources (ER) by the students

- Created my own
  - Office applications: 48%
  - Ebooks, lecture notes, quizzes, tutorials: 31%
- "as is" (copy)
  - Office applications: 41%
  - Ebooks, lecture notes, quizzes, tutorials: 25%
- Modified/edited or combined others'
  - Office applications: 12%
  - Ebooks, lecture notes, quizzes, tutorials: 10%
- Shared my own or modified versions with others
  - Office applications: 6%
  - Ebooks, lecture notes, quizzes, tutorials: 6%
- Never created, used, modified or shared
  - Office applications: 9%
  - Ebooks, lecture notes, quizzes, tutorials: 12%

Spectrum of processing of educational resources (ER) by the lecturers

- Created my own
  - Office applications: 60%
  - Ebooks, lecture notes, quizzes, tutorials: 24%
- "as is" (copy)
  - Office applications: 45%
  - Ebooks, lecture notes, quizzes, tutorials: 23%
- Modified/edited or combined others'
  - Office applications: 13%
  - Ebooks, lecture notes, quizzes, tutorials: 8%
- Shared my own or modified versions with others
  - Office applications: 5%
  - Ebooks, lecture notes, quizzes, tutorials: 4%
- Never created, used, modified or shared
  - Office applications: 3%
  - Ebooks, lecture notes, quizzes, tutorials: 4%
Sources from which lecturers would feel free to use ER for their teaching

- Anything on the internet: 3%
- Any online teaching courses (MOOCs, etc.): 9%
- Any teaching and learning materials on the internet: 15%
- Anything licensed (with CC, GPL or the like) for re-use, adapting, or editing for local use: 16%
- Anything on the internet, as long as the creator is acknowledged when using: 16%
- Any material produced by my colleague from the department: 19%
- Any research, teaching or learning materials covered by “fair use” regulations: 22%
Concluding Remarks

• Digital proficiency shows various patterns of differentiation. Lecturers and students at non-technical universities rate themselves clearly more ‘advanced’ than their colleagues at the technical universities.

• Scores: lecturers 22% Versus 15%; students 12% versus 5%.
• Level of satisfaction with the internet connection a partly alarming outcome comes up. No matter whether this relates to cost, speed, or stability, at the technical universities the dissatisfaction is very pronounced: around 64% for the students, and over 67% for the lecturers. At the non-technical universities the overall appreciation is reverse.

• Yes, there is a substantial digital differentiation in terms of internet connection and accessibility between technical and non-technical universities.
Cont...

• Open licensing does not receive proper attention. This appears from the question on the application of licenses, on the one hand to be assigned by respondents for their own materials to others, and on the other hand by respondents using open educational resources from others.
• In practice, & interestingly enough, both lecturers and students appear to act quite frequently with an attitude and behaviour of embracing those key OER attributes.
Recommendations

• A significant part of the lecturers at Ghanaian universities does not yet have the required ICT competencies as foreseen in the National ICT Policy, and because there is a significant digital proficiency differentiation (L & S) at technical and non-technical universities, the implementation of that ICT Policy is at stake and needs a strong boost from different stakeholders i.e. government.
Recommendations

• The alarmingly substantial digital differentiation in terms of internet access and accessibility and the extremely low level of satisfaction with the internet connection (cost, speed, and stability) at the technical universities as compared to the non-technical universities, puts a serious challenge on Ghana.....
Recommendations

• The overall awareness and appreciation of open licensing, let alone commitment to this approach, is low and therefore a hindrance in the adoption of the OER philosophy.
Recommendations

• The perception of ER’s value scored by both lecturers and students, can be useful also in the context of how to most effectively further OER in Ghana as a country and its educational institutions.
Thank You for your attention

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