Modelling the impact of university ICT strategies on learning

Conference Item

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Modelling the Impact of University ICT Strategies on Learning

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This research explores the potential of certain Future Studies techniques (Barbieri Masini, 1994) to provide insight into the question of how developing countries might best exploit Information and Communication Technology (ICT) for higher education.

Three case studies:
- African Virtual University (AVU)
- Arab Open University (AOU)
- Syrian Virtual University (SVU)

Key variables modelled:
- Globalisation
- ICT Strategy (Table 1)
- Student Learning (Box 1)

These models were coordinated to generate possible scenarios for how ICT Strategy might influence Student Learning, making assumptions about “typical” usage. The aim was to explore limitations of broad-brush models - to see how they could be improved - rather than to make unchallengeable claims.

Box 1: ICT Strategy, based on generations of distance education (Taylor, 2001, and others)

<table>
<thead>
<tr>
<th>Generation</th>
<th>Characteristic technologies</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st generation</td>
<td>raw, post</td>
</tr>
<tr>
<td>2nd generation</td>
<td>fax, radio, audio/tape, video, CD, DVD</td>
</tr>
<tr>
<td>3rd generation</td>
<td>television, video-audio conferencing, simulcast, sharing, virtual labs</td>
</tr>
<tr>
<td>4th generation</td>
<td>multimedia-based e-learning, on-line content, virtual classrooms, client-server, virtual worlds, chat, e-mail, virtual reference libraries, knowledge-based tutoring, intelligent agents, second generation e-learning</td>
</tr>
<tr>
<td>5th generation</td>
<td>online multimedia learning object repositories, virtual interactive environments, virtual communities, web-based course development, standardised course representations</td>
</tr>
</tbody>
</table>

Box 2: Dimensions of student learning (based on Conole et al, 2004)

- Individual versus Social: the extent to which the individual is the focus of learning, or to which learning is explained through interaction with other people and the wider social context.
- Reflection versus non-Reflection: the extent to which learning arises through conscious reflection or through conditioning and memorisation.
- Information versus Experience: the extent to which the basis of learning is text, artefacts and bodies of knowledge on the one hand, or direct experience, activity and practical application on the other.
- Autonomy: the extent to which the learner is self-directed.

References

Further research
- a richer selection of variables
- more sophisticated models
- more detailed institutional data