Prof Richard Kimbell

Technology Education Research Unit (TERU)
Goldsmiths University of London
<table>
<thead>
<tr>
<th>thinking skills</th>
<th>personal qualities</th>
</tr>
</thead>
<tbody>
<tr>
<td>creative thinking</td>
<td>responsibility</td>
</tr>
<tr>
<td>decision-making</td>
<td>self esteem</td>
</tr>
<tr>
<td>problem-solving</td>
<td>sociability</td>
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<td>seeing in the mind’s eye</td>
<td>self-management</td>
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<tr>
<td>knowing how to learn</td>
<td>integrity / honesty</td>
</tr>
<tr>
<td>reasoning</td>
<td></td>
</tr>
</tbody>
</table>

‘What Work Requires of Schools - A SCANS report for America 2000.’

US Govt Printing Office
M.G. Allen (1993)

‘Improving the Personal Skills of Graduates: a conceptual model of transferable personal skills.’

Sheffield Employment Department

- autonomous learning
- communication skills
- creativity
- critical thinking
- problem solving
- taking responsibility
- team working
- working effectively alone
Defining 21st century skills

Marilyn Binkley, Ola Erstad, Joan Herman, Senta Raizen, Martin Ripley with Mike Rumble
decisions by design

unpacking **wicked** tasks

**thinking as another** recursive, **iterative** thinking

**playing** with reality

**modelling** futures (balancing innovation and risk)

**managing** tasks over time

**living with** **uncertainty**

team working and **collaboration**
unpacking wicked tasks
testing as another
recursive, iterative thinking
playing with reality
modelling futures
managing tasks over time
living with uncertainty
team working and collaboration