

Welfare or Wisdom?: Performance measurement of information skills education

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Abstract

This presentation covers a brief introduction to the “skills” agenda currently operating in most of the developed world, with specific references to the UK, the US and Australasia. The consequent development of concepts of “information literacy” are described, and related to the recent work of the UK Society of College, National and University Libraries (SCONUL) Information Skills Task Force. The main body of the paper is devoted to reporting the results of a series of workshops undertaken to define what is important about information skills education using a standard Critical Success Factors methodology. This will help to define a standard set of performance measures for this activity. In the final section the issue of outcome measures is addressed by proposing the development of a measurement system using the SCONUL Seven Pillars Model of Information Literacy.

The “Skills” Agenda

During the last decade most of the developed world has become explicitly concerned about the skills of its citizens, the development of these skills within educational programmes, and their subsequent application in the workplace. The main contextual driver in the UK was the desire for improved national performance and competitiveness in the global economy, and led to the desire to provide coherent packages for lifelong learning for UK citizens. These would develop a defined set of “key skills” for learning, for careers, and for personal life. Six skill areas were identified as:

- Number application
- Communication
- Information technology
- Working with others
- Improving own learning and performance
- Problem solving

When this approach was applied to UK Higher Education, the Dearing Report (NCIHE, 1997) identified a concept of “graduateness” defined by the following skills:

- Communication skills
- Numeracy

- Use of information technology
- Learning how to learn
- Subject specific skills

These may be compared with skills identified earlier in the US (SCANS, 1991):

Foundation skills

- Basic
- Thinking
- Personal

Competencies

- Resources
- Interpersonal
- Information
- Systems
- Technology

and with those from Australia (Mayer Committee, 1992):

Competency strands

- Collecting, analysing & organising information
- Communicating ideas and information
- Planning & organising activities
- Working with others in teams
- Using mathematical ideas and techniques
- Solving problems
- Using technology

In both the UK cases the concept of information skills is not recognised as a separate domain, in contrast to the US and Australian lists. This gap in the UK analysis leads to a failure to identify a requirement for information literacy, in spite of the recognition of a requirement for skills, which relate to information technology.

In my opinion this confusion has also led to a UK mindset in which the solution of the information skills problem is considered to be through providing “welfare” rather than in creating “wisdom”. Welfare may be defined as “organised efforts to improve conditions for the poor or disabled” (Oxford English Dictionary). The UK response has been to a perceived problem of IT

shortage and network inaccessibility, not to one of information illiteracy. The solution so far has consisted of organised efforts to put the technology in place, and training only those who host the technology. A government minister, Alan Howarth, highlighted this by suggesting, "Anyone with a library ticket can become a full member of the Information Technology society". The heart is in the right place and an important role for libraries is recognized, but the underlying assumption is that supplying the technology is sufficient to solve the problem.

Wisdom may be defined as "possession of expert knowledge together with the power of applying it practically". The information skills needed for modern societies and economies are much closer to being a "wisdom" rather than a "welfare" problem. The solution requires education rather than training, and an agreed framework on which to build sound information literacy programmes. Perhaps because the initial analyses were sounder elsewhere, workers in this field outside the UK have already constructed such frameworks for information literacy. Three of these are provided in Figure 1.

Figure 1:
Doyle's Information Literacy
(Doyle, 1992)

1. Recognizes that accurate and complete information is the basis for intelligent decision making
2. Recognizes the need for information
3. Formulates questions based on information needs
4. Identifies potential sources of information
5. Develops successful search strategies
6. Accesses sources of information including computer-based
7. Evaluates information
8. Organizes information for practical application
9. Integrates new information into existing body
10. Uses information in critical thinking and problem solving

Bruce's Conceptions & Definitions
Bruce, 1997)

1. IT conception: using IT
2. Information sources conception: finding information
3. Information process conception: executing a process
4. Information control conception: controlling information

5. Knowledge construction conception: building up personal knowledge in new areas of interest
6. Knowledge extension conception: working with knowledge and personal perspectives adopted to develop novel insights
7. Wisdom conception: using information wisely for the benefit of others

EDUCATE Objectives (Fjallbrant, 1996)

1. Awareness of sources available
2. Systematic search method
3. Develop database searching techniques
4. Citation searching
5. Cite bibliographic references
6. Construct personal bibliographic system
7. Compare and evaluate information from various sources

SCONUL Information Skills Task Force

In the UK, the most significant work in the field of information skills education (ISE) has been that of the SCONUL Information Skills Task Force (ISTF). The drivers and antecedents for the creation of this body were:

- The development of the web and related electronic information resources, and the consequent need to re-engineer "library induction" and "user education" programmes to incorporate the changes
- SCONUL recognising that in periods of rapid change a Task Force approach to some issues was needed, and that information skills were not addressed by any of its existing committees
- The substantial growth in ISE activity undertaken by library staff, demonstrated by the LISU database of SCONUL statistics
- Partnership issues between library and academic staff engaged in this activity
- Different forms and methods of approach in ISE, identified through the SCONUL benchmarking pilots (Town, 2000a)
- Issues which arose from overlap with IT skills training and education, especially in "converged" library and computing services

The objectives of the ISTF included the following:

- To define and demonstrate the importance of ISE
- To clarify the distinction to IT skills
- To clarify the scope of activity and of contributions to it

- To identify good practice
- To relate ISE to institutional and national strategies, including information literacy

Amongst the action lines and deliverables of the ISTF are:

- A Briefing paper and the Seven Pillars model (SCONUL, 1999)
- A UK Conference and published proceedings (Corrall & Hathaway, 2000)
- Relating the model to UK Quality Assurance Agency subject benchmarks
- Designing a generic skills course module, in association with the Open University
- Co-operation with the JCALT "Big Blue" ISE research project
- Developing performance measures for ISE

Performance Measures for Information Skills

Reporting progress so far on the last strand of action mentioned above forms the main body of this paper. In order to define performance measures for information skills education a standard critical success factors (CSFs) approach has been chosen (Oakland, 1993). This sets out to define what is important (those factors critical to the success of information skills education programmes) about the activity. This may then help to identify the key processes involved and thus some relevant measures. The SCONUL method has been to undertake the CSFs exercise with different groups of respondents in a variety of settings. This will incorporate as many stakeholder groups as possible.

Firstly the ISTF itself, representing a broad spectrum of UK HE institutions, suggested the following CSFs:

- "Satisfy our users"
- "Make a difference"
- "Integrate with academic programmes"
- "Achieve wide market penetration"
- "Use staff competent to deliver"
- "Be properly equipped to deliver"
- "Use the best value approach"

The SCONUL Annual Conference in Glasgow at Easter 2001 offered the opportunity to run a workshop involving leaders of UK academic libraries. Thirty-five participants were assigned to five groups on the basis of statistical clustering of the SCONUL membership. Resulting CSFs identified were as follows (Town, 2001):

Group A

- To ensure that academic programmes proceed in harmony with, and are supported by, our information skills programmes
- To get into learning and technology strategy at the highest level
- To make sure that teaching skills are central to recruitment, training and retention measures
- To make students feel that information skills training is relevant and helpful to current study progress and beyond
- To be properly organised and equipped to deliver
- Adequate funding for training and its many impacts

Group B

- To assess learning skills levels
- Accurate knowledge of what students need to know at what point
- Good relationships with academic staff and a policy supported by the institution
- Library staff to understand how to teach information skills and to be accepted as part of the learning and teaching team

Group C

- A programme for students
- The right attitude from academic staff
- Management of the programme
- A curriculum and delivery
- Resources

Group D

- A Policy statement agreed by the University and an implementation plan agreed for budgetary purposes
- Agreed curriculum delivery of information skills to agreed evaluative standards
- Co-operation between LIS and academic staff
- To define content based on pedagogic imperatives

Group E

- To develop a process to assess initial skills
- To develop differential routes

- To define purposes/measurable outcomes
- Representation on curriculum development groups
- An evaluation and feedback process
- To ensure materials are available
- A collections development policy
- A validation process linked to resources
- Materials and delivery fit for purposes
- To be able to motivate students

Staff at Southampton University also undertook the exercise, elaborating each CSF as follows:

- **Competent library staff**, with the skills, knowledge, understanding and motivation necessary to fulfil their education role e.g. IT and communication skills, professional knowledge awareness of teaching and learning issues, subject understanding and enthusiasm
- **Sufficient organisational resources** to deliver information skills e.g. adequate numbers and types of staff, allowing time for preparation and assessment as well as delivery; accommodation, equipment and materials fit for their purpose
- **Identifiable student outcomes** which are a formal course requirement and combine academic/study skills with the transferable skills needed for lifelong learning and employment (equated with the concept of “graduateness”)
- **Effective multi-dimensional partnerships** within and beyond the university e.g. with academic units, other service/skills providers, institutional partners and professional bodies
- **Institutional strategic framework** which embeds information skills in the curriculum and ensures parity of provision and equality of standards alongside other academic elements
- **Sustained pedagogic quality** manifested in programme designs, learning materials and delivery methods that are fit for purpose and meet the needs of a diverse student population

Specific Measures

The resulting measures, or perhaps more precisely areas in which to develop measures, from each exercise were identified as follows:

From the ISTF:

- Immediate after session satisfaction (or later?)
- Effect on library use, and/or wider impact

- Curriculum embeddedness, and relation to learning and teaching strategies
- Market definition and penetration
- Observation of sessions, and staff qualifications
- Training room equipment and environment
- Group teaching or packages?

At the SCONUL Conference time did not permit the full exercise to be completed, but the following suggestions for measures were made:

- User satisfaction
- Student/market participation rates
- Student skills level on arrival
- Student motivation
- Student time spent in information skills training
- Formal policies
- Academic staff attitude
- Visibility within Institutional plans
- Library Staff skills
- Library Staff time spent on information skills training
- Courseware quality
- Survey feedback
- Space, equipment, hours of use
- Budgets, business plans

From the Southampton results:

Competent Staff

- Institute of Learning & Teaching membership
- Teaching qualification
- Enquiry statistics
- Peer observation
- Self-assessment
- Student feedback via library via department

Resource

- Demand versus supply
- Staff stress levels
- Currency of materials
- Suitability of delivery
- Utilisation of facilities

Student Outcome

- Academic feedback

- Course assessment
- Employer feedback/careers service data
- Reports from professional bodies
- Graduate feedback

Partnership

- Inclusion of information skills in departmental and faculty plans
- Library membership of course teams
- Invitations to meetings, working groups

Strategy

- Reference to information skills in the university strategic plan, strategies for learning and teaching and widening participation, unit specifications, policy documents, quality frameworks

Pedagogic Quality

- Evidence of student progression
- Conformance to academic standards
- Feedback from academics and students
- Peer review

Further exercises will be undertaken with academic library staff involved in ISE on a regional basis. Five further workshops are planned and the results will be added to this corpus. At that stage a synthesis will be undertaken and some specific recommendations made, probably in the form of a briefing paper. For this reason no discussion of the results so far will be entered into here.

Outcome Measures

One key issue to be addressed in this field is how to measure the outcome of information skills education or information literacy programmes in the individual. This requires an understanding of what makes an individual “information literate”. The frameworks given above in Figure 1 seek to address this issue. The SCONUL Task Force was however keen to develop a distinctive model for UK higher education. This arose from the following drivers:

- A need for specific relevance to UK higher education students and staff
- A clear linkage to the knowledge production role of Universities
- A linkage to “graduateness” requirements of employers and stakeholders
- A linkage to existing UK skills lists (see above)

The SCONUL Seven Pillars model was developed and subsequently published in the Task Force briefing

paper (SCONUL, 1999) and elaborated (Town, 2000b) at the conference mentioned above. The make-up of the model is as follows:

The Seven Headline Skills

1. The ability to recognise a need for information
2. The ability to distinguish ways in which the information “gap” may be addressed
 - knowledge of appropriate kinds of resources, both print and non-print
 - selection of resources with “best fit” for task at hand
 - the ability to understand the issues affecting accessibility of sources
3. The ability to construct strategies for locating information
 - to articulate information need to match against resources
 - to develop a systematic method appropriate for the need
 - to understand the principles of construction and generation of databases
4. The ability to locate and access information
 - to develop appropriate searching techniques (e.g. use of Boolean)
 - to use communication and information technologies, including terms international academic networks
 - to use appropriate indexing and abstracting services, citation indexes and databases
 - to use current awareness methods to keep up to date
5. The ability to compare and evaluate information obtained from different sources
 - awareness of bias and authority issues
 - awareness of the peer review process of scholarly publishing
 - appropriate extraction of information matching the information need
6. The ability to organise, apply and communicate information to others in ways appropriate to the situation
 - to cite bibliographic references in project reports and theses
 - to construct a personal bibliographic system
 - to apply information to the problem at hand
 - to communicate effectively using appropriate medium
 - to understand issues of copyright and plagiarism
7. The ability to synthesise and build upon existing information, contributing to the creation of new knowledge

The model is generic in that it can be applied to most situations and contexts. It will require different interpretation when applied to different subject fields, and to differing levels of students, researchers or academic staff. One of the proposed applications is as a diagnostic tool for assessment of individual need, and some examples of this are provided in the paper mentioned above (Town, 2000b). Further work is required to develop an instrument for this form of measurement.

Acknowledgments and Further Work

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This work is ongoing, and comments and contributions are actively sought on any aspect. The Task Force is particularly interested in feedback on the Seven Pillars Model, and on examples of institutional objectives and measures for information skills education.

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