Annex 3: Richard Hamilton-Williams – An Introduction to Training Information Systems

Overview

- What does a training information system (TIS) do?
- Who needs a TIS?
- Basic concepts of management information systems
- Overview of a training information system

Our target is to produce summary information about training. This chart is from an OECD collection.

<table>
<thead>
<tr>
<th>Mode of Study</th>
<th>Tertiary Type B 1999</th>
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<tbody>
<tr>
<td>Full-time</td>
<td>20%</td>
</tr>
<tr>
<td>Part-time</td>
<td>80%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>100%</td>
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<tr>
<td>New Zealand</td>
<td>0%</td>
</tr>
<tr>
<td>Norway</td>
<td>20%</td>
</tr>
<tr>
<td>Poland</td>
<td>80%</td>
</tr>
</tbody>
</table>

Summary information is simply putting together lots of data. We have to gather that data.

What does a TIS do?

- Gathers data in a structured way
- Provides administrative tools
- Makes record keeping easier
- Provides management and policy information
- Exchanges data with other systems

Gathering data

- A training information system gathers data about trainees and their training courses
- The data is stored in a systematic way
- It is important to gather the right data efficiently

Our target is to produce summary information about training. This chart is from an OECD collection.
Optical mark recognition uses a specially designed form and a scanner to capture data.

Administrative tools

- Let the computer do the work – especially repetitive tasks.
- The system can format and present data in different ways.
- It can keep records which can be audited.

Record keeping

A TIS allows us to:

- Keep accurate records
- Keep secure records
- Distribute records easily
- Standardise records

Information

- Management information – decisions now
- Policy information – decisions about the future
- Audit information – decisions about the past and about funding

It is important to have a common metric – a way of measuring the number of trainees.
Exchanging data

- With other in-house systems
- With other training providers
- With other types of organisation

Who needs a TIS?

- Policy makers and operational managers
- Administrators
- Trainees
- National agencies and government departments
- International organisations

Policy makers and operational managers

Information for:
- Planning purposes
- Budgets
- To measure progress
- To evaluate performance of managers

Administrators

Automated processes to:
- Store and organise data
- Do calculations
- Perform repetitive tasks
- Produce lists and simple reports

Trainees

The system is used:
- So personal information can be securely stored
- To obtain reliable transcripts
- So course evaluations can be processed
- To review curriculum options
- To obtain ID/library cards

Government

The system is used:
- For planning purposes and budgets
- To measure national standards
- To distribute funding
- To measure progress
- To evaluate performance of centres
International organisations

Use information:
- To build profiles
- To measure progress and to evaluate performance of countries
- To distribute funding

The objective of the UNESCO/OECD/EUROSTAT data collection on education statistics is to provide internationally comparable data on key aspects of education systems, specifically on the participation and completion of education programmes, as well as the cost and type of resources dedicated to education.

Management information systems

- How data is transformed into information
- How a database works
- Hardware – computers and networks
- Standards for hardware and for the definition and transfer of data

Data becomes information

- Data is lots of little facts
- Information is made of data that has been summarised and formatted
- A management information system makes information from data

Making information

How a database works

- Most management information systems use a relational database
- A relational database is a way of storing data in sets of related tables
- A database allows users to share data

Computers and networks

- A network connects individual computers
- Connected computers can share files
- Larger networks use a dedicated file server
Standards for systems

- Standards are important for systems to work together
- Well developed standards for operating systems, and hardware - computers and networks
- It is also vital to have standards for the definition of data items and for the transfer of data

Overview of the Tongan TIS

- Basic data sets: trainees, curriculum, enrolments, outcomes
- Lookup tables and system parameters
- Data entry
- Reporting: administrative schedules, management reports, and statistics

Basic data sets

- Persons
  - Trainees (students)
  - Teachers (lecturers)
  - Assessors
- Curriculum
- Enrolment
  - Academic
  - Placement
- Outcomes
  - Academic
  - Labour Market

Lookup tables and parameters

- Lookup tables
  - Improve data entry
  - Force data standards
- System parameters
  - Improve efficiency
  - Provide security and control

Data entry

- Simple clear screen design helps
- Datasheets and single record screens
- Administrative processes are important

Reporting

- Administrative schedules
- Management reports
- Statistics
  - Tables
  - Charts
Summary

- Managers need information.
- Good information is based on accurate and standard data.
- A training information system gathers data and produces information.