

LEVELS OF COMPUTER COMPETENCY AMONGST IPBA STAFF: A REPORT

Lee Wan Chun

Jabatan Teknologi Pendidikan

ABSTRACT

The Educational Technology Department (JTP) of Institut Perguruan Bahasa-bahasa Antarabangsa (IPBA) has been conducting ICT in-house courses as part of its staff development programme. However, these courses have been conducted and taught as “just-in-time” fashion or assumed-to-be-needed manner. This survey aimed to answer the question, “What are the levels of computer competency amongst IPBA staff?” The findings showed that 23.1% of support staff did not use the computer while 46.2% of them did not use word processing. Most academic staff were found to have at least basic knowledge of file management. 53.3% of academic staff were found to be non-users of database, 35.6% did not use electronic spreadsheets and 11.1% were still non-users of electronic presentation. However, only 2.2% of academic staff were still non-users of network. This competency survey provided information on the levels of computer competency of IPBA staff, thus assisting JTP in assessing training given and identifying development needs towards designing future ICT courses for IPBA staff.

INTRODUCTION

The Educational Technology Department (Jabatan Teknologi Pendidikan, JTP) of Institut Perguruan Bahasa-bahasa Antarabangsa (IPBA) has been conducting ICT in-house courses as part of its staff development programme for the past 2-3 years. However, these courses have been conducted and taught as “just-in-time” fashion or assumed-to-be-needed manner. This survey aimed to answer the question, “What are the levels of computer competency amongst IPBA staff?” Hence, JTP had decided to carry out a simple computer competency survey in October–November 2004.

PURPOSE OF STUDY

As competency studies have become synonymous with training needs analysis, the information in this report is particularly valuable in following activities:

- to provide insight for the JTP into the levels of computer competency of the staff of IPBA

- to assist in assessing training and development needs
- to assist in designing succession planning processes.

METHODOLOGY

Sample

A set of computer competency rubrics was given out to each and everyone of the staff of IPBA. A total of 58 staff or 46% of the total staff population responded to the survey (see Table 1).

Table 1: Number of IPBA Staff

Group	Number of staff in IPBA (Oct 2004)	No. responded
Academic staff	90	45
Support staff	36	13
Total	126	58 (46%)

Instrument

Information in the report is based on an objective analysis of data collected through a simple set of rubrics (graduated performance indicators) which was modified and adapted from CODE 77 Self-Evaluation Rubrics for Basic Teacher Computer Use created by Johnson (2000).

There are seven rubrics or categories, namely:

- I. Basic Computer Operation
- II. File Management
- III. Word Processing
- IV. Electronic Spreadsheet
- V. Database
- VI. Electronic Presentation
- VII. Network Use

Each of the seven rubrics above has four levels of competency:

- Level 1: Non-user, to describe someone who does not use computer at all
- Level 2: Basic, to describe someone who is a beginner
- Level 3: Intermediate, to describe someone who uses computer on regular basis
- Level 4: Advanced, to describe someone who uses computer very regularly in collaboration, instructional tasks, work and leisure.

Using the rubrics, the staff was to judge their current level of computer skill attainment.

ANALYSIS

Simple graphs showing the percentage of respondents at each level of the seven rubrics are depicted below. For each category of the rubrics two graphs are presented. One is based on the total staff and the other shows the two groups of the staff (academic and support staff).

Basic Computer Operations

Figure 1a shows the percentage of level of use for basic computer operations among all the respondents. Figure 1b depicts graphically, the percentage of level of use for basic computer operations among the two groups of staff.

Fig. 1a: Levels of Basic Computer Operations

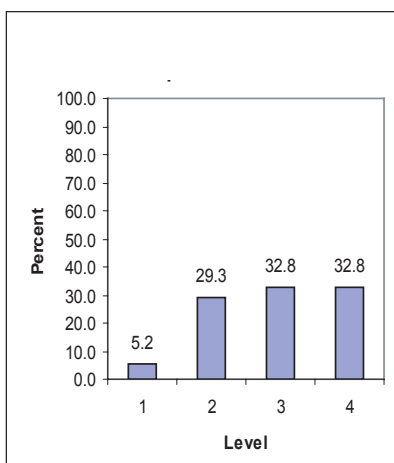
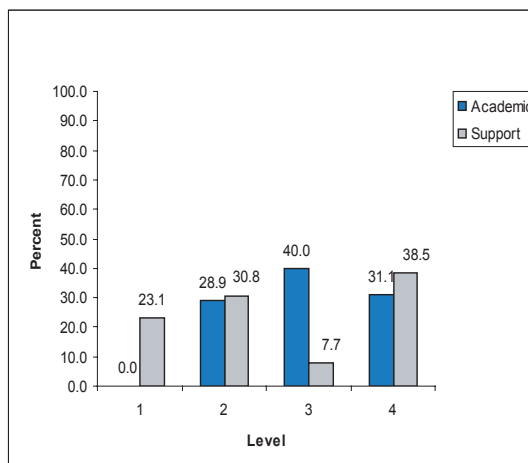


Fig. 1b: Levels of Basic Computer Operations



What is obvious here is that there is still 23.1 % of support staff who do not use the computer at all. All the academic staff knows at least the very basic of computer operations.

File Management

Figure 2a shows the percentage of level of use for file management among all the respondents. Figure 2b depicts graphically, the percentage of level of use for file management among the two groups of staff.

Fig. 2a: Levels of File Management

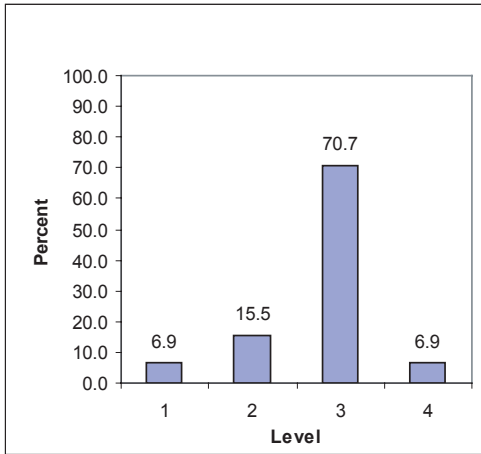
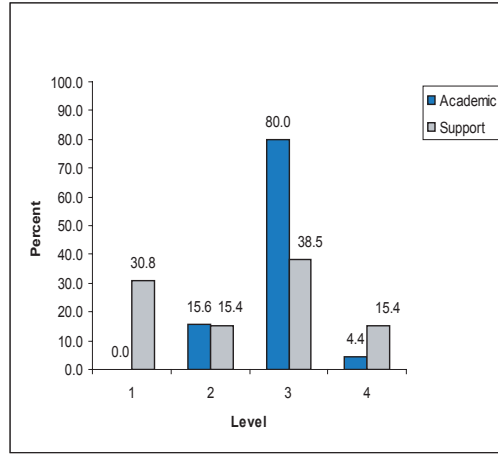


Fig. 2b: Levels of File Management



All the academic staff has at least basic knowledge of file management. However, 30.8% of the support staff has little or no filing system.

Word Processing

Figure 3a shows the percentage of level of use for word processing among all the respondents. Figure 3b depicts graphically, the percentage of level of use for word processing among the two groups of staff.

Fig. 3a: Levels of Word Processing

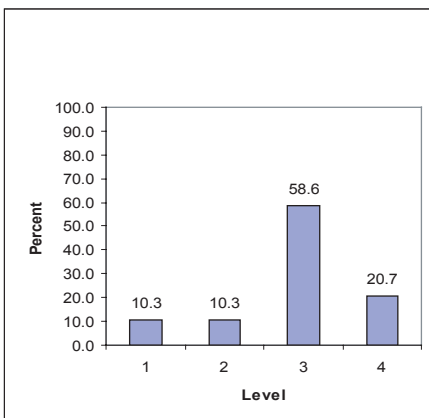
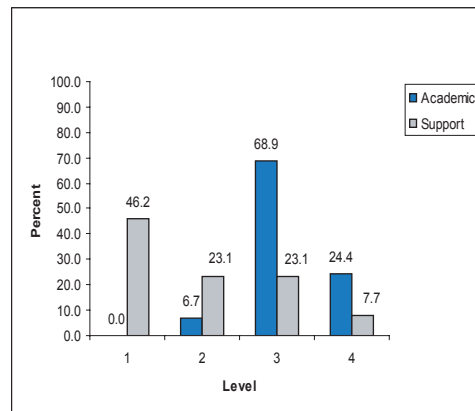


Fig. 3b: Levels of Word Processing



Among the academic staff, 93.3% use the word processor for nearly all their written professional work (i.e. in the intermediate level or advanced level). None falls in the non-user level. However, among the support staff, there is 46.2% who are non-users of the word processor and the rest have at least some basic in word processing.

Electronic Spreadsheet

Figure 4a shows the percentage of level of use for electronic spreadsheet among all the respondents. Figure 4b depicts graphically, the percentage of level of use for electronic spreadsheet among the two groups of staff.

Fig. 4a: Levels of Electronic Spreadsheet

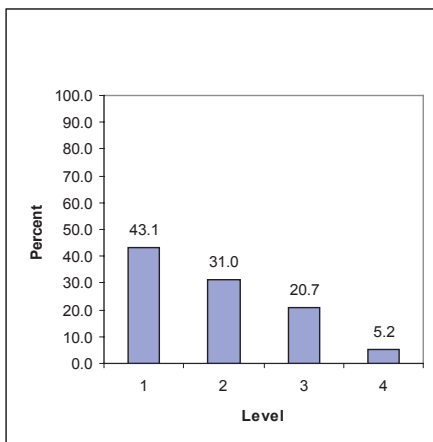
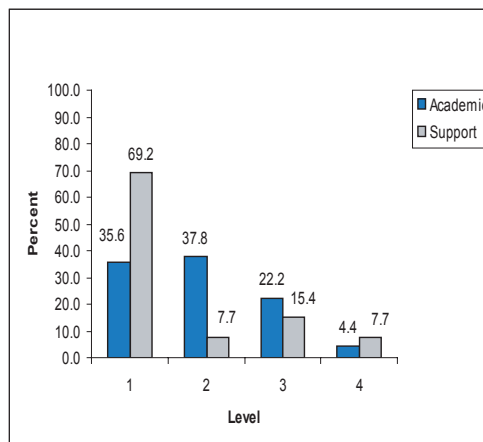


Fig. 4b: Levels of Electronic Spreadsheet



There is 35.6% of the academic staff who do not use the spreadsheet. 37.8% of them who are at basic level. The rest of them, 26.6%, are in either the intermediate or advanced level.

Among the support staff, a large percentage of 69.2% do not use the spreadsheet, 7.7% are in the basic level and 23.1% are in either the intermediate or advanced level.

Database

Figure 5a shows the percentage of level of use for database among all the respondents. Figure 5b depicts graphically, the percentage of level of use for database among the two groups of staff.

In the category of database, 53.3% of the academic staff is non-users. 28.9% of them fall into the basic level and the rest of 17.8% are at least in the intermediate level or above.

Among the support staff, 61.5% are non-users, 15.4% of them have basic skills, and a total of 15.4% of them are in the intermediate or advanced level.

Fig. 5a: Levels of Database

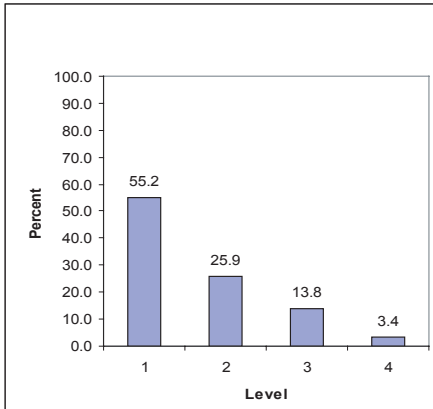
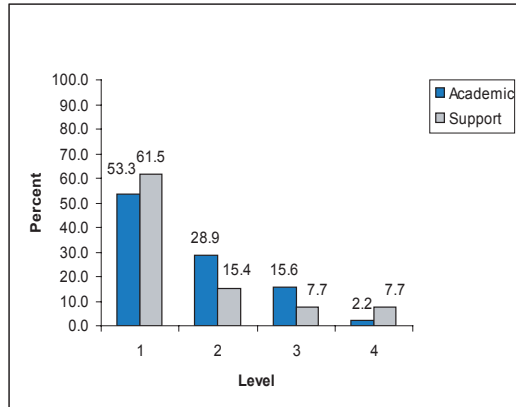


Fig. 5b: Levels of Database



Electronic Presentation

Figure 6a shows the percentage of level of use for electronic presentation among the respondents. Figure 6b depicts graphically, the percentage of level of use for electronic presentation among the two groups of staff.

Fig. 6a: Levels of Electronic Presentation

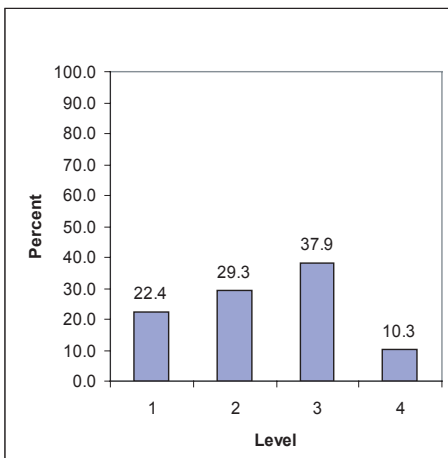
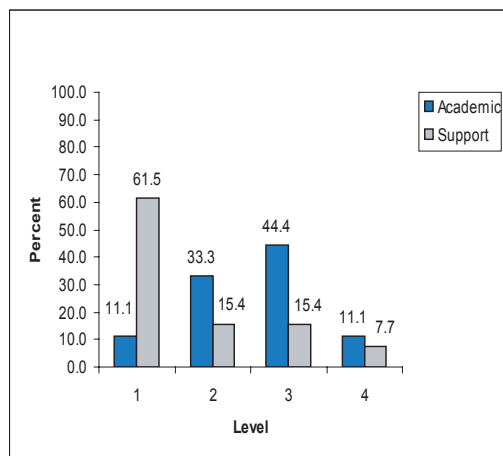


Fig. 6b: Levels of Electronic Presentation



There is still 11.1% of the academic staff who are in the non-user level of electronic presentation. 33.3% have basic skills and a total of 55.5% have at least intermediate or higher level of use of electronic presentation.

As for the support staff, 61.5% are non-users 15.4% have basic skills and a total of 23.1% have at least intermediate or higher level of use of electronic presentation.

Network Use

Figure 7a shows the percentage of level of use for network among all the respondents. Figure 7b depicts graphically, the percentage of level of use for network among the two groups of staff.

Fig. 7a: Levels of Network Use

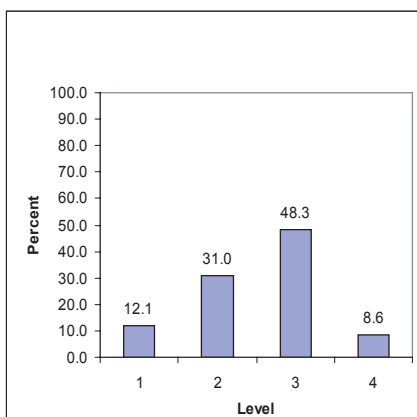
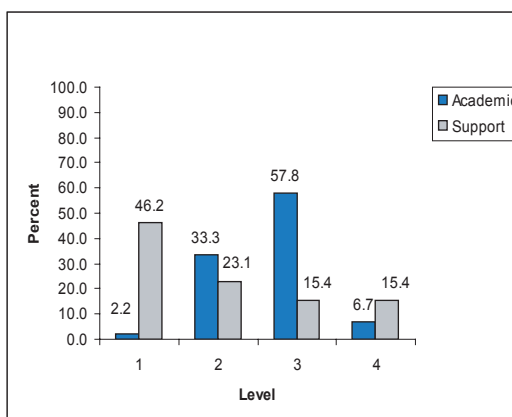


Fig. 7b: Levels of Network Use



There is small percentage of 2.2% of the academic staff who are in the non-user level of network. 33.3% have basic skills and a total of 64.5% have at least intermediate or higher level of use of electronic presentation.

As for the support staff, 46.2% are non-users 23.1% have basic skills and a total of 30.8% have at least intermediate or higher level of use of electronic presentation

DISCUSSION AND CONCLUSION

This survey findings show that in all the seven categories of computer use:

I. Basic Computer Operation

- The academic group may not need this in-house course urgently.
- The support group has a number who do not use the computer at all or computer is not needed in their daily work, home life or leisure.

II. File Management

- The academic group may not need this skill urgently to get by with their daily work.
- The support group has 30.8% who has very little concept of file management.

III. Word Processing

- The majority of academic group has enough skill in word processing.
- The support group has 46.2% who do not use the word processor.

IV. Electronic Spreadsheet

- 35.6% of the academic do not use the spreadsheet and 37.8% has some basic on it. Probably this suggests that some attention should be given to this category of computer use to provide some basic training and improve the level of use. All lecturers somehow or other have to key in marks in the grading system provided by Setiausaha Peperiksaan (SUP). The grading system is done by an electronic spreadsheet. Hence it is important for all lecturers to have at least some basic skill on spreadsheet.
- 69.5% of the support staff do not use the spreadsheet. It could be because their work does not entail the use of spreadsheet and hence have no exposure to its application.

V. Database

- 53.3% of the academic staff are non-users of database programme.
- 61.5% of the academic staff are non-users of database programme.
- Database programmes are not commonly used by the staff of IPBA. Those who use it regularly may be involved in some database application such as SISPEN, Sistem Maklumat Pelajar or Sistem Pergerakan Staf.

VI. Electronic Presentation

- Only 11.1% of the academic staff are non-users of electronic presentation.
- Whereas 61.5% of the support staff are non-users. This is understandable as the work of the support staff normally do not use electronic presentation in their daily work
- However, lecturers do need to present substantially in teaching and learning processes, courses, meetings or seminars. This tool can greatly enhance their presentation especially if they integrate multimedia elements in their presentations.

VII. Network Use

- Only 2.2% of the academic staff are non-users of the network and do not use online resources.
- 46.2% of the support staff are non-users of the network.
- As the Internet can be a tool for teaching and learning, research, telecommunications, discussion, collaboration, forum and a source of digital resources, it should be encouraged to be used among the staff of IPBA.

There is some limitation in this set of rubrics. The descriptions used in each level of the rubrics are more geared towards self-assessing a teacher or lecturer. The support staff may not identify themselves as a teacher when they read the descriptions in level 3 and level 4 of the rubrics.

A set of syllabus based on the analysis should be drawn up for future in-house courses that JTP intends to offer to the staff of IPBA. This will provided a more structured layout of the course both for the participants and facilitators. Modules can be prepared as according to the syllabus.

To avoid attending repetitive in-house course, the staff can have a look at the syllabus layout for different levels of skills. Then he or she can decide to follow which level of skills for a particular in-house course that is being offered. Maybe a brochure can be prepared to be circulated among the staff for their decision making action.

Finally, JTP will make use of these findings and play a decisive role to prepare an action plan for staff development in computer use to increase the productivity of the staff. JTP integrates its training programme and collaborates with the Staff Development Department (Latihan Pembangunan Staf, LPS) to plan out in-house computer courses annually.

Note: *This research was also presented at Seminar Penyelidikan Pendidikan IPBA 2005.*

BIBLIOGRAPHY

- ACT Department of Education and Training. (2001). *Development paths for e-learning*. Retrieved November 15, 2004, from http://www.decs.act.gov.au/publicat/expack/paths_elearning.htm
- Balanskat, A. (2005). *Assessment schemes for teachers' ICT competence – A policy analysis*. Retrieved November 15, 2004, from http://www.eun.org/insight-pdf/special_reports/PIC_Report_Assessment%20schemes_insightn.pdf
- Cole, I. J. (n.d.). *Computer literacy and skills system (CLaSS) a software development project into computer and information literacy for nursing students*. Retrieved October 15, 2004, from http://www.eaa-knowledge.com/ojni/ni/8_3/cole.htm
- Johnson, D. (2000). *The CODE 77 rubrics*. Retrieved September 30, 2004, from <http://www.doug-johnson.com/dougwri/Rubbeg.HTM>
- Leland, B., Dallinger, J., DeVolder, D., Isele, F., Kaul, T., Mathers, R., Murphy, J., & Stierman, J. (2000). *Report of the computer competency committee*. Retrieved October 15, 2004, from <http://www.wiu.edu/users/mfbhl/report.htm>