# LEVEL OF HANDLING COMPUTER AMONGST MALAYS AND CHINESE STUDENTS IN UNIVERSITY MALAYSIA OF SABAH

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**ABSTRACT**. *This article reports on the study of the differences in computer handling between Malay and Chinese students as an educational tool in the School of Science and Technology, University Malaysia Sabah. Sampling consisted of eighty three volunteered students comprising of 38 Malay students and the rest are Chinese. The students had to fill in the questionnaire given. The questionnaire contains information about their level of knowledge and skills in using and handling computers. The analysis used the t-test value from the SPSS software to compare the mean between both groups. The result showed differences in significant for the level of confidence $p<0.05$. The items include using the word processing (ex. MS word, Ampiro/Word pro, Word Perfect etc), statistics software MAC OS NOVELL operation system, Multimedia package (ex: MM Director, MM Author ware etc.), programming, mathematics software (ex: Mat lab and etc.), desktop publishing software (Publisher, PageMaker, etc). Other items that showed significant difference between both groups are recognizing each card connected to the motherboard and their functions (exp: display card, sound card, modem etc.) and also using NOVELL in networking. For all of the items that showed significant differences, Malay students' recorded higher mean compared to their counter parts, indicating a better perception regarding their computer knowledge and skills.*

**KEYWORDS**: computer knowledge and skills, ethnic difference

## INTRODUCTION

Due to the importance of identifying the types of application usage between the ethnic especially among Malay and Chinese students in UMS, this study aims to determine four aspects. The aspects that been study are the level of their knowledge in Information Technology Software, handling computer maintenance, skillful of managing a personnel computer), and also knowledge towards networking. The findings of this study should provide insight into Malays and Chinese imbalance in the use of computer applications. If such an imbalance exists, maybe either one of both groups of student learners will be at a disadvantage when computer applications are used as educational tool to support their learning activities.

Therefore this paper reviews the level of handling computer amongst students in University Malaysia of Sabah in terms of ethnic different. There are four main aspects that will be indicating, which is the level of knowledge in IT Software, the level of handling computer maintenance, the level of skillful of managing a PC and the level of knowledge towards networking.

As for Enss (1993) summaries that a range of studies on differences in 'ways of knowing'. She argued: "Age, social class, and ethnic differences may be as influential in defining differences as the gender-related explanation." The learning environments should not try to separate groups but to come more inclusive, and that by incorporating opportunities for students to think about their own goals and to "develop skills in planning, negotiating, evaluating and making decisions" all participants will become empowered (Enss, 1993).

By nature, computer environments are dramatically different from traditional learning environments. Traditional learning environments, such as textbooks or video cassettes, tend to dictate an establish order in which information is acquired and comprehend. As such, what information is learned and the manner in which this information is presented is controlled (Kimberly and Scott, 1997). Peat and Franklin (2002) added that universities are using computer more and more to deliver learning materials, to communicate with students and to deliver assessment. This shows that the using of computers as everyday tools in study especially to the students is very important to make the study more interactive, convenience and more meaningful.

Besides that students' attitude also plays an important role in the educational process (Muller et al., 1991). Specifically, attitudes towards the use of computers need to be evaluated to successfully implement technological advancements into the classroom (Stevens 1982). The idea that attitude toward technology affects implementation success not only makes intuitive sense but appears repeatedly in the literature (Choo & Cheung 1990-91). A positive attitude has been shown in several studies to correlate to successful implementation of computer usage.

Therefore this paper will reveal the different between two big ethnic that can be found in Malaysia specifically Malay and Chinese, and to see whether there's any significant difference between the two groups regarding to the four main aspects that will be the indicator in the main aspects.

## METHODOLOGY

The sample of this study consisted of university students enrolled in education programe at the School of Science and Technology, University Malaysia of Sabah (UMS), Kota Kinabalu, Sabah, for the 2004/2005 academic session. The questionnaire was distributed randomly among the student. A total 83 questionnaire were returned consist of 38 Malay and 45 Chinese student. The analysis of data involved extracting the frequency of the given prompts in terms of ethnic differentiation between Malays and Chinese, using SPSS Software. The null hypothesis for the analysis used is that there are no differences in terms of all the aspects that been chosen, which is the level of knowledge in IT Software (17 items), the level of handling computer maintenance (7 items), the level of skillful of managing a PC (5 items) and the level of knowledge towards networking (8 items).

A set of questionnaire will be given to students in the class session, and they have few minutes to fill in the questionnaire regarding to their level of handling computer. Every item followed with a

*Likert* Scale. Every *Likert* Scale indicates as *1-No Skill at all, 2- Less Skill, 3- Half Skill, 4-Skilfull, 5-Very Skilful.*

The sample consisted of 38 Malay and 45 Chinese students. Before we could compare the means of the two ethnic groups, we first perform a normality test to see whether the sample is normally distributed. From the analysis, we found that Malay and Chinese students are normally distributed, thus their means can be compared and hence determine any significant differences between the two.

## RESULT AND DISCUSSION

**Table 1: Mean different between Malay students and Chinese students for the *level of knowledge in IT Software.***

| Items | Malay (n=38) | | Chinese (n=45) | | t-test | Sig. |
|---|---|---|---|---|---|---|
| | Min | Std. | Min | Std | | |
| 1. Using the word processing (ex. MS word, Ampiro/Word pro, Word Perfect etc) | 3.76 | 0.883 | 3.38 | 0.684 | 2.239 | 0.028* |
| 2. Using electronic board (ex: MS Excel, Lotus 123 etc.) | 3.03 | 0.822 | 2.80 | 1.036 | 1.088 | 0.280 |
| 3. Using presentation software (ex: MS Power Point, Freelance etc.) | 3.39 | 0.887 | 3.09 | 0.874 | 1.578 | 0.119 |
| 4. Using data board (ex: MS Access, Dbase etc.) | 2.50 | 0.980 | 2.24 | 0.857 | 1.268 | 0.209 |
| 5. Using graphic software (ex: Corel Draw, Auto card, Harvard Graphics etc.) | 2.32 | 0.873 | 2.00 | 0.879 | 1.636 | 0.106 |
| 6. Using statistic software (ex: SAS, SPSS etc.) | 1.83 | 0.923 | 1.80 | 0.726 | 0.155 | 0.877 |
| 7. Using operation system | | | | | | |
| i. DOS | 1.78 | 0.886 | 1.89 | 0.859 | -0.544 | 0.588 |
| ii. Windows | 3.37 | 1.076 | 3.20 | 0.968 | 0.750 | 0.455 |
| iii. MAC OS | 1.95 | 0.899 | 1.56 | 0.659 | 2.286 | 0.025* |
| iv. UNIX | 1.71 | 0.802 | 1.49 | 0.589 | 1.449 | 0.151 |
| v. NT/MS2000 | 1.76 | 0.913 | 1.87 | 1.014 | -0.485 | 0.629 |
| vi. Novell | 1.74 | 0.795 | 1.42 | 0.543 | 2.132 | 0.036* |
| 8. Using utilities software (ex: Norton Anti-Virus, Norton Utilities etc.) | 3.32 | 0.973 | 3.18 | 0.886 | 0.713 | 0.478 |
| 9. Using Multimedia package (ex: MM Director, MM Author ware etc.) | 2.24 | 0.820 | 1.84 | 0.796 | 2.206 | 0.030* |
| 10. Programming (ex: C/C++, Java etc.) | 1.89 | 0.785 | 1.49 | 0.626 | 2.553 | 0.013* |
| 11. Using mathematics software (ex: Mat lab and etc.) | 2.34 | 0.938 | 1.80 | 0.894 | 2.690 | 0.009* |
| 12. Using desktop publishing software (Publisher, PageMaker, etc) | 2.43 | 1.144 | 1.89 | 0.935 | 2.369 | 0.020* |

As shown Table 1, from all 17 items, there are seven items noted significant different ($p<0.05$). The others even though indicated different, but not in significant different ($p<0.05$). The first item that shown significant different is using the word processing (ex. MS word, Ampiro/Word pro, Word Perfect etc), followed by using MAC OS operation system, using Novell operation system, using Multimedia package (ex: MM Director, MM Author ware etc.), Programming (ex: C/C++, Java etc.), using mathematics software (ex: Mat lab and etc.) and using desktop publishing software (Publisher, PageMaker, etc). All of the significant different items indicate that Malay student noted higher mean than Chinese student. For other items, such as using electronic board, using presentation software, using data board, using graphic software, using statistic software, using operation system, i.e. DOS, Windows, UNIX, NT/MS2000, and using utilities software there are no significant differences between the ethnics.

**Table 2: Mean different between Malays students and Chinese students for the *level of handling computer maintenance.***

| Software | Malay (n = 38) | | Chinese (n=45) | | t-test | Sig. |
|---|---|---|---|---|---|---|
| | Min | Std. | Min | Std | | |
| 1. Upgrading computers component (ex: memory, floppy disk, motherboard) | 2.34 | 1.047 | 2.18 | 0.936 | 0.755 | 0.453 |
| 2. Know and understand every specification needed before buy a unit of computer | 2.55 | 1.108 | 2.67 | 1.087 | -0.472 | 0.638 |
| 3. Manner how to install/using every equipment for a unit of computer such as monitor, CPU, mouse, CD ROM and key board. | 3.58 | 1.004 | 3.11 | 1.191 | 1.914 | 0.059 |
| 4. Recognizing each card that connected to the mother-board and every function of each one (exp: display card, sound card, modem etc.) | 2.76 | 1.300 | 2.18 | 1.029 | 2.252 | 0.027* |
| 5. Using scanner | 3.05 | 1.161 | 3.00 | 1.108 | 0.211 | 0.833 |
| 6. Using printer and plotter | 3.82 | 0.926 | 3.60 | 0.889 | 1.081 | 0.283 |
| 7. Using CD-RW | 3.58 | 1.200 | 3.44 | 1.013 | 0.554 | 0.581 |

As shown in Table 2, only one item shown significant different between Malay and Chinese student. The item is recognizing each card that connected to the mother-board and every function of each one. Once again Malay student noted higher mean compare to Chinese. The remaining items, such as upgrading computers component, know and understand every specification needed before buy a unit of computer, manner how to install/using every equipment for a unit of computer such as monitor, CPU, mouse, CD ROM and key board, using scanner, using printer and plotter, and lastly using CD-RW, there are no significance differences between the ethnics.

**Table 3: Mean different between Malay students and Chinese students for the *level of skillful of managing a PC (Personnel Computer).***

| Software | Malay (n=38) | | Chinese (n=45) | | t-test | Sig. |
|---|---|---|---|---|---|---|
| | Min | Std. | Min | Std. | | |
| 1. Organize computer maintenance (computer, maintenance, printer) | 2.92 | 1.105 | 2.71 | 1.100 | 0.834 | 0.407 |
| 2. Install application and software | 2.72 | 0.974 | 2.60 | 1.176 | 0.501 | 0.618 |
| 3. Troubleshooter (maintenance problem, software problem, virus problem and networking problem) | 2.28 | 0.944 | 2.31 | 1.104 | -0.144 | 0.886 |
| 4. Managing technology equipment and multimedia (ex: LCD projector, OHP) | 2.64 | 1.150 | 2.67 | 1.066 | -0.113 | 0.911 |
| 5. Using 'BIOS SETUP' | 1.86 | 0.867 | 1.84 | 0.706 | 0.095 | 0.924 |

As shown in Table 3, no significant differences are found. Nevertheless as noted from the table, three over five items indicated that Malay student noted higher mean than Chinese student.

**Table 4: Mean different between Malay students and Chinese students for the *level of knowledge towards networking*.**

| Software | Malay (n=38) | | Chinese (n=45) | | t-test | Sig. |
|---|---|---|---|---|---|---|
| | Min | Std. | Min | Std | | |
| 1. Using e-mel | 3.94 | 0.924 | 3.60 | 0.837 | 1.757 | 0.083 |
| 2. Surfing internet | 4.11 | 0.887 | 3.91 | 0.633 | 1.182 | 0.241 |
| 3. Microsoft Network | 3.14 | 0.990 | 2.96 | 0.903 | 0.870 | 0.387 |
| 4. Novell | 2.03 | 1.082 | 1.62 | 0.684 | 2.055 | 0.043* |
| 5. The different on using the external modem and internal modem | 2.06 | 1.094 | 2.27 | 1.176 | -0.828 | 0.410 |
| 6. Design a web page | 2.14 | 1.246 | 1.71 | 0.920 | 1.777 | 0.079 |
| 7. Using HTML/Javascript | 2.31 | 1.117 | 2.07 | 1.095 | 0.967 | 0.337 |
| 8. Uploading/Downloading file | 2.94 | 1.120 | 3.09 | 1.125 | -0.575 | 0.567 |

As shown in Table 4, no significant difference noted, except for item using Novell in networking. Malay students again perceived themselves to be more skillful than Chinese students. As for the rest items (using e-Mel, Surfing internet, Microsoft Network, The different on using the external modem and internal modem, The different on using the external modem and internal modem, Design a web page, Using HTML/Javascript, Uploading/Downloading file), there are no significant differences.

In the items that have been found to have significant difference in perception of computer knowledge and skills possessed, it is interesting to note that the items mainly relate to *more technical* aspects, where Malay students more skillful of technically-related skills.

## CONCLUSION

This study reveals those Malay students are more practical and concern about using computers as everyday tools for study compare to the Chinese student in certain aspects. Nevertheless, as an entire conclusion there's no massive different between Malays student and Chinese student in all of four aspects that been studied. All these will ensure that Chinese student gain as much experience and confidence as their Malays counterparts leading to their equal proficiency in computer usage. Schools and also universities play an important role in making Chinese students more competitive in computer-related skills so that they can face the future more confidently as computers are certainly going to dominate work lives.

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