May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

Soft Skills Management: Comparison among Pre-University Students Based on Gender and Class Streams

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Abstract
This survey aims to determine the effects of demographics on the soft skills of pre-university students. The demographic profile is reflected in terms of gender and class streams. In this study, soft skills include communication skills, time management, confidence, and motivation, ethics and morals. A total of 425 pre-university students from several schools in Perak participated in this study. Questionnaires are used to collect survey data, which are analysed using the SPSS 25.0 software. Findings show pre-university students have a high level of soft skills. The inferential analysis also shows that significant differences exist in the soft skills of pre-university students in terms of gender and class streams. Female students have a higher level of soft skills than their male counterparts. Generally, art students have a higher level of soft skills than science students. A significant implication for stakeholders in the field of education, especially for parents and teachers who provide sufficient support for students' growth. Support from their immediate environment will help increase young students' chances of a successful future.

Keywords; class streams, gender, pre-university students, soft skills

1. INTRODUCTION

In general, the Malaysian education system aims to produce students who excel in their academic performance and possess additional skills that will enable them to succeed in the real world [1]. One needs to have a competitive edge to survive in the real world. For example, soft skills have extensive values added to academic profile. Soft skills include generic aspects related to positive values, leadership qualities, teamwork, communication skills and lifelong learning. These skills must be cultivated from a young age particularly among primary and secondary school students. Guiding and shaping young people to practise such skills from school until they become consequential habits is practical and helpful for students as they continue their university education.

The Malaysian Examination Council has listed various soft skill aspects that are expected to be applied at the pre-university level. These skills include the ability to communicate verbally and in writing, collaborate with a group and organise tasks and work as a team, manage coursework activities effectively, manage time according to assigned work schedule and varying problems, work on tasks creatively, innovatively, honestly and in a trustworthy manner and be capable of enhancing self-confidence and self-motivation [1]. In [2] states that having monumental skills in the learning process can prevent misconduct and develop positive attitude among students. All students must be empowered with soft skills and not only those involved in business and management. These skills are significant, especially when they enter the real world after graduation. Excellence in education

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

alone does not guarantee the readiness of a student to jump into working life. Many have academic qualifications, but only a few are capable of excelling in their careers. This situation may take place when graduates fail to meet their employers' expectations and requirements. Therefore, students should not focus solely on facts, concepts and theories acquired from their learning process.

The main goal of having an education is not only to excel in the school premises but gain other life skills through the learning process [3]. Having other skills beyond academic competency will provide students with better competitive edge, which can contribute to their future success. Therefore, students must also be introduced with additional life skills, particularly soft skills. These skills play an equally important role in the classroom [4]. It can change students' attitudes and behaviours towards their improvement in terms of academic performance. Form Six education is under the modular system. Hence, in addition to the examination syllabus, coursework is compulsory for students to complete as the scores are accumulated in the overall STPM examination results. Soft skills are hidden curriculum embedded in the process of completing the course work.

Gender factor and class streaming are often discussed in the Malaysian education system. Studies have found significant differences between genders [5]. However, other studies also found insignificant differences between genders [6]. The diverse findings from previous studies have pushed researchers to explore the topic further by focusing on the gender factor. Other studies have claimed that students experience different learning process based on their class streams, which shows differences between art and science students. Science students are regarded as more realistic because they are influenced by theories, reasoning, research evidence and analytical, rational and logical thinking. By contrast, art students are regarded as more creative, emotional and imaginative. These differences are inevitable even if these students are exposed to the same school environment, use the same infrastructure and are taught by the same teachers [7]. Therefore, a study on pre-university students is vital particularly on soft skills and the existing gaps among students in terms of gender and class streams.

The main objectives of this study are (i) Determine the level of soft skills of pre-university students and (ii) Examine differences of soft skills among pre-university students in terms of gender and class streams.

2. METHODOLOGY

2.1. Research Design

This study adopted the survey method to collect information on soft skills from pre-university students. In [8] defined research design needs to be systematic in the process of collecting data, considering a network or relationship concept among the variables involved in a study. A questionnaire is a widely used data collection method. The items in the questionnaire are evaluated numerically. This research method is often used in social and psychological research [9].

2.2. Participants

A total of 425 pre-university students in the state of Perak, Malaysia were asked to participate in this study. Among 425 students, 180 (42.4%) were male and 245 (57.6%) were female, and 185 (43.5%) were enrolled in science courses and 240 (56.5%) in art courses. These students were selected using the simple random sampling technique. In [10] described simple random sampling as a process of selecting research objects to represent a large group. The sample size was determined based on the Krejcie and Morgan's [11] table.

2.3. Measurement

The instrument of this study was adapted from [12]. The questionnaire is composed of 18 items representing communication skills (six items), time management (six items), confidence and motivation (six items) and ethics and morals (six items). The students were asked to evaluate the questions based on a five-point Likert scale. The validity of the questionnaire was tested by referring to three content experts and two language experts. Improvements and adjustments were applied based on the experts' suggestions. A pilot study involving 150 pre-university students was conducted. The pilot study was conducted before the actual research to validate and ensure that the questionnaire was reliable for use as an instrument

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

[13]. The reliability of this instrument was confirmed by referring to the Cronbach's alpha value, which was greater than 0.60 [14]. All the soft skills have good internal consistency values (Cronbach's Alpha), i.e. the value for communication (0.854), time management (0.884), confidence and motivation (0.861) and ethics and morals (0.855). The overall value of Cronbach's alpha of the given soft skills was 0.927.

2.4. Data Analysis

Descriptive statistics based on mean and standard deviation were used to determine the level of soft skills of pre-university students. In the interpretation test was refer to [15] in a range of 1.00–2.33 (low), 2.34–3.66 (moderate) and 3.67–5.00 (high). Inferential statistics using a one-way MANOVA test was used to examine the differences in soft skills in terms of gender and class streams. The MANOVA test was conducted to identify differences from more than one dependent variable against one independent variable [16]. Before the MANOVA test, the researchers established that the requirements for conducting the MANOVA test were met, including sufficient sample size, data normality and homogeneity. Data analysis were calculated using the SPSS 25.0 software.

3. RESULTS AND DISCUSSION

3.1 Soft Skills of Pre-University Students

Results of this study reveal that ethics and morals (M = 3.94, SD = 0.57) has the highest level among the soft skills of pre-university students in Perak, followed by confidence and motivation (M = 3.80, SD = 0.68), communication (M = 3.79, SD = 0.64) and time management (M = 3.53, SD = 0.73). Overall, pre-university students in Perak had high level of soft skills (M = 3.76, SD = 0.54).

Table 1. Soft skills of pre-university students

Soft Skills	M	SD	Interpretation
Communication	3.79	0.64	High
Time Management	3.53	0.73	Moderate
Confidence and Motivation	3.80	0.68	High
Ethics and Morals	3.94	0.57	High
Overall	3.76	0.54	High

The findings show pre-university students have a high level of communication skills, indicating that students take this soft skill seriously. Communication skills can be observed in the way the students communicate with their teachers, peers, parents or the community. Students spend most of their time interacting with teachers and peers in the classroom. This skill is also reflected when students are presenting their works and communicating with group members. The findings of this study support a previous study by [17] that communication skills among students are at a high level. Students' ability to have good communication can affect their academic achievement and help them to interact in a bigger community. In [18] argued that having competent communication skills will help students to interact with various levels of society. Thus, these skills will be useful for future job market purposes.

Students have a moderate level of time management skills. This finding indicates they still have some difficulties in managing and balancing their time for learning and completing their course works. The main time management problems observed among the pre-university students are in completing assignments, delaying workload, and spending less time on exam preparation. Supported by [19] study on planning and time management among students who are at risk. The results of his study show that time management among students is moderate due to a poor understanding of how to manage their time efficiently. Failure to manage time well will have a negative effect on the students' future. Students are burdened with numerous assignments and course works at a time, subject revisions, preparation for tests and other activities. Therefore, students need to be exposed to time management workshops to equip themselves with time management skills.

Results of the level of confidence and motivation among the pre-university students also show a high level of skills. This finding supported

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

by [20]. They found a significant and positive relationship between students' attitude and motivations with 21st-century learning skills. Students have confidence and motivation to complete their pre-university programme successfully and graduate from the programme with great achievement. These findings indicate that the students received great support from teachers and the school because they are provided with appropriate student activities. Students also received assistance in planning their learning strategies and developing a better attitude and personality.

Generally, pre-university students have a high level of soft skills in terms of ethics and morals. Students conduct themselves well whether in the school environment or outside by holding to good morals and ethics. Good ethics and high morals are instilled by parents and teachers from early on. The results of this study are in line with the findings of [21] that students studying in teaching colleges have a high level of ethics and that their attitude is relevant to workplace behaviours. Contrary to these findings, in [22] found that numerous students are guilty of misconduct and thus need to enhance their work ethics. Some of these misconducts include cheating during the examination and while completing course works, plagiarism and coming late to school. Other major issues are piracy, computer abuse and breaking academic ethics [21].

3.2. Differences in Soft Skills in Terms of Gender

Before the MANOVA test, researchers met the pre-conditions to run the test. Data normality was determined using skewness and kurtosis statistics. The data are considered to be normally distributed and qualified when the skewness and kurtosis values are between −3.0 and +3.0. The statistical values of the skewness and *kurtosis* for soft skills among the pre-university students in Perak vary in terms of communication skills for male students (−0.64, 1.01) and female students (−0.98, 2.46). In terms of time management, the value for male students (−0.45, 0.36) also differ from that of female students (−0.55, 0.67). The values for confidence and motivation for males (−0.57, 0.65) differ slightly from that of females (−0.57, 0.44). The value of ethics and morals among male students (−0.50, 0.58) is different from that of female students (−0.61, 1.33).

Each value is in the range of −3 and +3. Therefore, the soft skills data among pre-university students in terms of gender are considered normal. Subsequently, the Box's M test showed the variance-covariance is homogeneous [F = 2.513 and sig = 0.005 (p>0.001)] [16]. The Wilks' Lambda test was conducted to observe overall significant differences [16]. The Wilks' Lambda test shows significant differences in soft skills among pre-university students in Perak based on gender (F [1, 423] = 6.052 and sig = 0.001 [p <0.05]). The eta-squared test signifies a value of 0.054. Thus, the effects of the differences are small [23]. The differences in soft skills in communication, time management, confidence and motivation and ethics and morals in terms of gender (in Table 2). The MANOVA test exhibits significant differences in soft skills in terms of communication (F = 14.842, sig = 0.001, p<0.05), time management (F = 11.644, sig = 0.001, p < 0.05), confidence and motivation (F = 21.279, sig = 0.001, p < 0.05] and ethics and morals (F = 14.054, sig = 0.001, p < .05) of pre-university students in terms of gender. The difference effects in these soft skills in terms of gender are referred to the partial eta squared values [16].

Table 2. MANOVA test results of the differences in soft skills in terms of gender

Dependent Variables	Type III SS	df	SS	F	Sig.	η^2
Communication	5.811	1	5.811	14.842	0.001	0.034
Time Management	6.038	1	6.038	11.644	0.001	0.027
Confidence and Motivation	9.369	1	9.369	21.279	0.001	0.048
Ethics and Morals	4.479	1	4.479	14.054	0.001	0.032

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

The partial eta squared values for the aspects of depth and size indicate the values for communication (0.034), time management (0.027), confidence and motivation (0.048) and ethics and morals (0.032). The values show a small effect size [23].

Table 3. Comparison of mean scores for soft skills in terms of gender

Dependent Variable	Gender	M	SE	95% Confidence Interval	
				Lower Bound	Upper Bound
Communication	Male	3.65	0.047	3.56	3.74
	Female	3.89	0.040	3.81	3.96
Time Management	Male	3.39	0.054	3.29	3.50
	Female	3.63	0.046	3.54	3.72
Confidence and Motivation	Male	3.63	0.049	3.53	3.73
	Female	3.93	0.042	3.85	4.02
Ethics and Morals	Male	3.82	0.042	3.74	3.90
	Female	4.03	0.036	3.96	4.10

Table 3 illustrates that female students (M = 4.89) have higher communication skills than male students (M = 3.65). Similarly, in terms of time management, female students (*M* = 3.63) have a higher mean score than their male counterparts (M = 3.39). The mean score for confidence and motivation of female students (M = 3.93) is also higher than that of male students (M = 3.63). Similarly, female students (M = 4.03) have a higher mean score for ethics and morals than their male counterparts (M = 3.82). This situation can be observed in student involvement in-class activities or during class presentations, wherein female students are more outstanding than male students. This finding is in agreement with the study of [12]. He found that female students have higher communication skills than male students. However, the studies of [24] contradict the findings of this study. This study also shows significant differences between genders in terms of time management, wherein female students have higher skills in time management than male students. This finding conforms with the findings of [25] who showed that female students have a higher maturity rate, are more competent and more skilled in time management than male students.

3.3. Differences in Soft Skills of Pre-University Students in Terms of Class Streams

Skewness and kurtosis statistics values for communication skills of science students (−0.85, 1.39) are lower than art students (−0.12, 0.36). In terms of time management, the values for science students (−0.47, 0.64) are slightly different from those of art students (−0.46, 0.04). In terms of confidence and motivation, science students (−0.32, 0.02) greatly differ from art students (−0.98, 2.43). For ethics and morals, the values for science students (−0.40, 0.88) vary from art students (−0.64, 1.37). Each value is still in the range of −3 and +3. Therefore, the soft skills of the pre-university students have met the normality criteria according to these guidelines. The Box's M test results show the variance-covariance of the dependent variables is homogeneous with *F* value = 3.561 and sig = 0.002 ($p > 0.001$) [16]. The Wilks' Lambda test results exhibit significant differences in all soft skills in terms of class streams with a value of (F [1, 423] = 21.849 and sig = 0.001 [$p < 0.05$]). The partial eta squared test result shows a value of 0.172. This means the difference effects are large [23]. Details of the test values and differences in soft skills in all aspects studied are shown in Table 4.

Table 4. MANOVA test results of the differences in soft skills in terms of class streams

Dependent Variables	Type III *SS*	*df*	*SS*	*F*	*Sig.*	η^2
Communication	22.966	1	22.966	65.440	0.001	0.134
Time Management	10.016	1	10.016	19.670	0.001	0.044
Confidence and Motivation	22.706	1	22.706	55.544	0.001	0.116

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

Ethics and Morals	15.899	1	15.899	54.503	0.001	0.114

Table 4 shows significant differences exist in soft skills in terms of communication skills (F = 65.440, sig = .001, p < .05), time management (F = 19.670, sig = .001, p < .05), confidence and motivation (F = 55.544, sig = .001, p < .05) and ethics and morals (F = 54.503, sig = .001, p < .05) of the pre-university students based on class streams. The difference effects for all soft skills are found by referring to partial eta squared values [16]. The partial eta squared test results in terms of depth and size show values for communication skills (0.134), time management (0.044), confidence and motivation (0.116) and ethics and morals (0.114), indicating that the effect sizes are small to medium [23].

Table 5. Comparison of group mean scores for soft skills in terms of class streams

Dependent Variables	Streams	*M*	*SE*	*95% Confidence Interval*	
				Lower Bound	*Upper Bound*
Communication	Science	3.52	0.044	3.44	3.61
	Art	3.99	0.038	3.91	4.06
Time Management	Science	3.35	0.052	3.25	3.46
	Art	3.66	0.046	3.57	3.76
Confidence and Motivation	Science	3.54	0.047	3.45	3.63
	Art	4.01	0.041	3.93	4.09
Ethics and Morals	Science	3.72	0.040	3.64	3.80
	Art	4.11	0.035	4.04	4.18

Table 5 shows that art students (M = 3.99) have higher communication skills than science students (M = 3.52). Similarly, the mean score for time management of art students (*M* = 3.66) is higher than that of science students (M = 3.35). The mean score for confidence and motivation of art students (M = 4.01) is slightly higher than that of science students (M = 3.54). For ethics and morals, art students (M = 4.11) have great difference with science students (M = 3.72). Thus, art students have higher mean scores than science students in all aspects of soft skills tested in this study. However, the findings of this study are not in agreement with the study conducted by [26] who found that science students are more prominent in the latter skills than art students. Findings of this study have implications for teachers, given that they have to plan learning activities that require science students to interact more with one another. Such opportunities will help these students to improve their communication abilities. Improvement in communication abilities will result in a higher confidence level for better academic achievement. In addition, teachers have to motivate their students continuously, especially science students, by letting them practise, revise and focus more on their learning subjects.

The findings of this study can make a path for future researchers, given that only the aspects of gender and class streams are explored to determine the level of soft skills of pre-university students. Future studies are hoped to work on identifying problems faced by pre-university students in their efforts to improve their soft skills. Further research can also be done by involving teachers and parents for more detailed information. The findings of this study contribute to the fact that soft skills among students are high. However, more efforts are needed to improve these skills among science students regardless of gender.

4. CONCLUSION

This study has proven that pre-university students have a high level of soft skills. However, in terms of gender, female students have higher soft skills than their male counterpart. In addition, art students have higher soft skills than science students. This study has significant implications for various parties and stakeholders in the field of education, especially those involved with pre-university students. Immediate actions are necessary to enhance soft skills among these students and prepare them before entering the

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

labour market. Future researchers are encouraged to find relevant soft skills model to assist the Ministry of Education in designing and planning training programmes or courses for teachers, parents and students. In this way, a more competitive generation will be raised.

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REFERENCES

[1]. Malaysian Examination Council. 2012. Kuala Lumpur: Malaysian Ministry of Education.

[2]. Azmi, N.I. and Hashim, M.H.M. 2012. Soft skills implementation in basic vocational education: Transformation of Malaysia education system. International Conference Active learning, pp. 325-329.

[3]. Appleby, D.C. 2001. The covert curriculum: Lifelong learning skills you can learn in college. *Eye on Psi Chi*. http://www.psichi.org/?page=053EyeSpring01dApple&hhSearchTerms=appleby.

[4]. Doyle, A. 2017. List of Soft Skills. https://www.thebalance.com/list-of-soft-skills-2063770.

[5]. Demirkan, H. and Demirbas, O. 2010. The effects of learning styles and gender on the academic performance of interior architecture students. Procedia-Social and Behavioral Sciences, 2, pp. 1390-1394.

[6]. Bayraka, B.K. and Altuna, S. 2009. Is there any difference between learning styles of student science teachers in relation to both their grade and gender? Procedia Social and Behavioral Sciences, 1, pp. 765–770.

[7]. Chong, O.S., Mahamod, Z. and Yamat, H. 2013. Factors of gender, races, class streaming and the relationship with emotional intelligence among students in learning Malay language subject. Malay Language Education Journal, 3(1), pp. 12-23.

[8]. Wiersma, W. 2000. Research methods in education: An introduction. London: Allyn & Bacon.

[9]. Singleton R.A. and Straits B.C. 2009. Approaches to social research. New York: Oxford University Press.

[10]. Idris, N. 2013. Research in Education. Kuala Lumpur: McGraw-Hill.

[11]. Krejcie, R.V. and Morgan, D.W. 1970. Determining sample size for research activities. Educational and Psychological Measurement, 30, pp. 607-610.

[12]. Yunus, H.M. 2016. Supports from school and classroom cultural environments in enhancing soft skills among students. Master thesis, Selangor: National University of Malaysia.

[13]. Merriam, S.B. 2001. Qualitative research and case study applications in education. San Francisco: Josey-Bass.

[14]. Konting, M.M. 1998. Teacher effectiveness: The beliefs of effective Bahasa Melayu teachers. Pertanika Journal of Social Sciences & Humanities, 6(1), pp. 1-12.

[15]. Nunnally, J.C. 1978. Psychometric theory. New York: McGraw-Hill.

[16]. Pallant, J. 2016. SPSS survival manual: A step by step guide to data analysis using SPSS program. London: McGraw-Hill Education.

[17]. Dazali, N.S.M. and Awang, M.I. 2014. Level of communication skills among bachelor of education students at the public higher learning institutes in northern peninsular of Malaysia. Journal of Malay Language Education, 4(2), pp. 44-56.

[18]. Ibrahim, M.Z. 2012. Level of soft skills among final year students of IKIP International College. Faculty of Technic and Vocational Education. Johor: Tun Hussein Onn University, Malaysia.

[19]. Mohamad, A.Y. 2002. A survey on time management practices among Malay students of diploma in civil engineering at polytechnic. Master thesis, Johor: Tun Hussein On University, Malaysia.

[20]. Kamarruddin, N.K.F. and Mahamod, Z. 2016. Attitude, motivation and 21st century learning skills among Malay Language students. Malay Language & Art Education Postgraduate Fifth Seminar, pp. 373-392.

[21]. Ahmad, A. and Jinggan, N. 2015. The impacts of teacher's competency and teaching skills on students' academic achievement in history subject. Journal of Asia Pacific Curriculum & Teaching, 3(2), pp. 1-11.

[22]. Jumoke, O.L.O. 2014. Best Practices in classroom management for today's university environment. 121st ASEE Annual Conference and Exposition, pp. 1-10

May-June 2020
ISSN: 0193-4120 Page No. 8964 - 8971

[23]. Cohen, J. 1988. Statistical power analysis for the behavioral sciences. New Jersey: Lawrence Erlbaum Associates Publishers.
[24]. Amin, H.M., Jaafar, J., Hood, Z., Saad, S. and Amin, H.M. 2013. Soft skills among undergraduate students: Analysis of gender differences. Journal of Technology, 6(1), pp. 19-25.
[25]. Misra, R. and McKean, M. 2000. College students' academic stress and its relation to their anxiety, time management, and leisure satisfaction. American Journal of Health Studies, 16, pp. 41-51.
[26]. Peng, C.F. and Nadaraja, S. 2014. implementation of creative and critical thinking skills in teaching and learning literature component in secondary schools. Journal of Malay Language Education, 4(2), pp. 10-24.