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# Transformational Leadership Behaviours of Athletic Directors and Their Effects on Coaches' Job Satisfaction

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**Keywords: Transformational leadership, transactional leadership, job satisfaction**

**ABSTRAK**

Kajian ini menyelidik hubungan di antara gaya kepimpinan transformasi pengarah-pengarah sukan dengan kepuasan bekerja jurulatih-jurulatih di institusi-institusi NCAA Divisyen I dan III di Amerika Syarikat. Kajian ini juga menyelidik sama ada terdapat perbezaan di antara institusi Divisyen I dengan institusi Divisyen III dari segi tahap kepimpinan transformasi pengarah-pengarah sukan dan tahap kepuasan bekerja jurulatih-jurulatih. Data untuk kajian ini dikumpul daripada 618 jurulatih. Transformational Leadership Behaviour Inventory (Podsakoff, MacKenzie, Moorman & Fetter 1990) digunakan untuk mengukur persepsi jurulatih-jurulatih dari segi gaya kepimpinan pengarah-pengarah sukan. Kepuasan bekerja jurulatih-jurulatih diukur dengan menggunakan Minnesota Satisfaction Questionnaire (Weiss, Dawis, England & Lofquist 1967). Data dianalisis dengan menggunakan analisis pembezaan dan regresi logistik. Jurulatih Divisyen I didapati memberi penilaian yang lebih tinggi dari segi kepimpinan transformasi ketua mereka sekiranya dibandingkan dengan jurulatih Divisyen III. Jurulatih Divisyen I juga melaporkan tahap kepuasan bekerja yang lebih tinggi sekiranya dibandingkan dengan rakan mereka di Divisyen III. Kajian ini juga mendapati hubungan yang signifikan di antara gaya kepimpinan transformasi pengarah-pengarah sukan dengan kepuasan bekerja jurulatih-jurulatih di institusi NCAA Divisyen I dan Divisyen III.

**ABSTRACT**

This study examined the relationship between transformational leadership behaviours of athletics directors and job satisfaction of coaches at NCAA Division I and III institutions in the United States. In addition, this study also examined whether there are differences between Division I and III institutions with respect to the levels of transformational leadership behaviours of athletics directors and coaches' job satisfaction. Data for this study were collected from 618 coaches. The Transformational Leadership Behaviour Inventory developed by Podsakoff, MacKenzie, Moorman & Fetter (1990) was used to measure coaches' perception of the transformational leadership behaviours of their athletics directors. The job satisfaction of coaches was measured by using the Minnesota Satisfaction Questionnaire (Weiss, Dawis, England & Lofquist 1967). Data were analyzed by using discriminant analysis and logistic regression. It was discovered that Division I coaches evaluated their superiors higher in terms of transformational leadership behaviours than their counterparts in Division III. Division I coaches also reported a higher level of job satisfaction than coaches from Division III. The results also revealed that there was a significant relationship between transformational leadership behaviours of athletics directors and coaches' job satisfaction at both NCAA Division I and Division III institutions.

## INTRODUCTION

Interest in the study of leadership has been renewed by the emergence of a leadership paradigm known as transformational leadership theory. Burns (1978) noted that leadership has often been viewed as an exchange process in which a leader provides rewards to subordinates in the form of pay or prestige in exchange for

work done by subordinates. Burns (1978) labeled this type of leadership behaviour as transactional leadership.Using the framework provided by Maslow's (1954) hierarchy of needs theory, Burns (1978) distinguished transformational from transactional leadership by pointing out that, transactional leaders appeal only to subordinates' low level and basic needs such as the need for safety and security. The transformational leader, on the other hand, activates subordinates' higher order needs such as the need for self-actualization. Burns (1978) argued that by activating subordinates' higher order needs, transformational leaders are able to elevate subordinates' motivation. The outcome of transformational leadership behaviours is one of an inspired subordinate who is aiming for higher goals and who is willing to perform work beyond the minimum levels specified by the organization (Bass 1985).

Based on the studies conducted by Bass (1985), Bennis & Nanus (1985), Tichy & DeVanna (1986), Conger & Kanungo (1987), Kouzes & Posner (1987), Yukl (1994), and Yammarino & Bass (1990), it was discovered that transformational leaders are endowed with certain traits and skills such as charismatic personality, strategic vision, superior diagnostic and oratory skills, and the ability to recognize the needs of subordinates. The results of several studies conducted by Avolio & Bass (1988), Bass, Avolio & Goodheim (1987), Howell & Frost (1989) and Podsakoff, MacKenzie, Moorman, & Fetter (1990) showed that these traits are displayed in leadership behaviours which resulted in higher job performance and greater job satisfaction among employees of business and industrial organizations. Since job satisfaction and performance are criteria often used to measure leadership effectiveness (Bass 1990), it could be argued that transformational leadership behaviours are indeed related to effective leadership behaviours.

Sports administrators will certainly be interested in investigating the usefulness of the transformational leadership theory in sports settings. Specifically, if transformational leadership behaviours are indeed related to subordinates' job satisfaction in sports settings, perhaps sports administrators may be able to motivate subordinates to achieve higher goals and to do more for the organization with fewer resources. Certainly, the ability of sports administrators to motivate subordinates to perform work beyond the minimum levels required by the organization is important in sports today, especially in intercollegiate athletics in the United States where most programs are being burdened with increasing costs of running such programs and declining revenues (Armstrong-Doherty 1995).

## PROBLEM STATEMENT

Despite the positive evidence supporting the validity of the propositions of transformational leadership in business settings, there is a lack of research done on this theory in sports settings. The few research studies conducted in sports settings have obtained conflicting results. Specifically, in a study on Dutch national sports organizations, Pruijn and Boucher (1995) discovered no significant relationship between transformational leadership behaviours with subordinates' job satisfaction and commitment. In another study, Doherty and Danylchuk (1996) examined the relationship between the transformational leadership behaviours of Canadian university athletics administrators to coaches' job satisfaction. The authors discovered that transformational leadership behaviours of the athletics administrators were positively related to coaches' job satisfaction. Another study by Wallace and Weese of Canadian YMCA directors (1995) showed no significant relationship between transformational leadership behaviours with employee job satisfaction. In a study conducted by Langley and Weese (1995), the authors reported no significant difference in terms of employee job satisfaction between sports organizations led by high transformational leaders with organizations led by low transformational leaders. Bourner and Weese (1995) found evidence of transformational leadership behaviours among leaders of Canadian Hockey League organizations. However, the authors reported no significant relationship between transformational leadership behaviours and organizational effectiveness.

The conflicting results obtained on transformational leadership research in sports settings suggest the need for more research to test this theory in sports. Furthermore, considering that transformational leadership theory is a relatively new theory, the applicability of this theory in non-business settings needs to be addressed. Certainly, findings from sports

settings may provide a stronger validation of the propositions of the transformational leadership theory. Consistent with this need, the purpose of this study was to address the following question: Do transformational leadership behaviours have a significant relationship with subordinates' job satisfaction in sports settings? Specifically, this study investigated the relationship between transformational leadership behaviours of athletics directors and coaches' job satisfaction at NCAA Division I and III institutions.

## RESEARCH OBJECTIVES

This study was conducted with the following objectives :

1. To identify the relationship between transformational leadership behaviours of athletics directors and coaches' job satisfaction at NCAA Division I and III institutions.
2. To examine whether there are significant differences between NCAA Division I and III institutions with respect to transformational leadership behaviours of athletics directors and coaches' job satisfaction.

## METHODS

*Sample*

Data for this study were collected during the spring of 1998. Subjects were selected by using two procedures. First, a stratified random sample of 90 NCAA Division I and 90 Division III institutions was selected based on the 1997 National Directory of College Athletics. This directory contains the list of all NCAA Division I and III institutions, as well as the names of all head coaches and assistant head coaches at these institutions. Once the institutions were identified, a simple random sample of 10 coaches from the following sports was selected from each institution : (1) men's soccer, (2) women's soccer, (3) field hockey, (4) ice hockey, (5) men's volleyball, (6) women's volleyball, (7) men's baseball, and (8) women's softball.

A total of 1,800 subjects (900 from each division stratified according to 450 male and 450 female coaches) were randomly selected for this study using the selection procedures mentioned above. Survey packets were sent to the subjects, each packet containing a letter of introduction describing the study, directions for completing the survey, the survey instruments, and a postage paid envelope for returning the survey directly to this researcher. Follow-up letters were sent after one month to thank subjects for responding to the survey or reminding them if they had not done so. A total of 643 subjects responded to the survey representing a response rate of 35.7%. From this sample size, 25 subjects had more than 10% missing or incomplete responses and were excluded from the sample leaving a final sample size of 618 subjects (34.3%).

The final sample consisted of 310 subjects (50.2%) from Division I institutions while 308 subjects (49.8%) were from Division III. There were 313 males (50.6%) and 305 females (49.4%). The age range of the sample was 22-69 years with a mean age of 36.08 years. The majority of the subjects (n=490, 79.4%) were employed as full-time coaches while 496 subjects (80.3%) were head coaches. A total of 225 subjects (49.4%) reported performing administrative duties in addition to coaching while 259 subjects (36.4%) reported having teaching responsibilities. The number of years of coaching experience ranged from 1 year to 43 years with a mean of 11.83 years.

The determination of the sample size of 300 subjects (from each division) was based on a +/- 5.65 % tolerated sampling error. According to Backstrom and Hursh-Cesar (1981), using the formula $n = Z\ (PQ) / T$, where n is the required sampling size, Z is the Z deviate at 0.05 confidence level (1.96), T is the desired sampling error (5.65%), PQ is the heterogeneity of the main variables (50/50), a sample size of 300 subjects (from each division) drawn randomly from the population is associated with a tolerated error of +/- 5.65 %. The total sample of 600 is associated with a sampling error of +/- 4% at the 0.05 level of significance.

*Instrument*

The questionnaire used in this study was divided into three sections. The first section consists of the Transformational Leadership Behaviour Inventory developed by Podsakoff, MacKenzie, Moorman, and Fetter (1990). This instrument was used to measure the coaches' perception of the transformational leadership behaviours of their athletics director. The instrument has a reported internal consistency that ranges from 0.78 to 0.92 (Podsakoff, MacKenzie, Moorman, & Fetter 1990). The second section of the questionnaire measures the subjects' job

satisfaction. This section consists of the 20-item short form of the Minnesota Satisfaction Questionnaire developed by Weiss, Dawis, England and Lofquist (1967). The authors reported the internal consistency of the short-form MSQ to range from 0.77 to 0.92. In the final section of the questionnaire, the subjects were asked to respond to question items pertaining to demographic information such as age, gender, gender of athlete, type of sport, number of years of coaching experience, coaching status, employment status, win/loss record, teaching and administrative duties, and athletic affiliation.

*Data Analysis*

The data in this study were analyzed in two stages. First, discriminant analysis was used to examine whether significant differences exist between NCAA Division I and III institutions with respect to transformational leadership behaviours of athletic directors and coaches' job satisfaction. In the second stage of data analysis, sequential logistic regressions were used to examine the relationship between transformational leadership behaviours of athletics directors and coaches' job satisfaction, while controlling the effects of other variables.

## RESULTS

Table 1 shows the results of the discriminant analysis. It can be seen from this table that NCAA Division I and Division III institutions differed significantly ($p<0.05$) in terms of coaches' job satisfaction and athletics directors' transformational leadership behaviours. An examination of this table shows some interesting findings. First, athletic directors from Division I institutions were evaluated higher than their counterparts in Division III in terms of transformational leadership behaviours. Second, coaches from Division I institutions reported a higher level of job satisfaction than coaches from Division III. When taken together, these two findings suggest that coaches (from Division I) who evaluated their superiors higher in transformational leadership behaviours, reported a higher level of job satisfaction than coaches (from Division III) who evaluated their leaders lower in transformational leadership behaviours.

Since the results of discriminant analysis show a significant difference between Division I and Division III institutions, sequential logistic regressions were conducted separately by division. For the logistic regression analyses, the subjects were classified into one of two groups based on the median scores on job satisfaction. Specifically, subjects who scored below the median of 74.0 were classified as having low job satisfaction while those who scored above the median were classified as having high job satisfaction. All demographic variables (age, gender, coaching status, employment status, number of years coaching, administrative and coaching duties) were forced to enter the logistic regression model first. Next, in a second model, the variable under investigation (transformational leadership behaviours) was added to the logistic regression model. Comparison was made between the demographic (covariate) model with the full model. Any significant improvement in the full model indicates that adding the transformational leadership variable reliably improves the prediction of the dependent variable. This is the same as saying that there is a significant relationship between transformational leadership behaviours of athletics directors and the dependent variable, coaches' job satisfaction. Table 2 shows the results for the full model after the addition of the transformational leadership

TABLE 1
Variables which discriminate between Division I and Division III institutions

| Variable | Division I (Means) | Division III (Means) | Std Discrim Coefficient |
|---|---|---|---|
| Transformational Leadership | 73.28 | 71.59 | 0.24 |
| Job Satisfaction | 73.93 | 73.53 | -0.27 |

| Eigenvalue | Canonical | Lambda | Chi-Square | Df | Sig |
|---|---|---|---|---|---|
| 0.24 | 0.44 | 0.81 | 125.54 | 10 | $p<0.05$ |

Classification Rate: Div I 68.1% Div III 69.2%

variables for Division I institutions. An examination of this table shows that Model Chi-Square was significant ($p<0.01$), indicating a significant improvement in the prediction of the dependent variable from the previous model (covariate-only model). Transformational leadership was significant ($p<0.01$) with a positive logistic regression coefficient. The two findings suggest that adding the transformational leadership variable in the full model reliably improves the prediction of the dependent variable job satisfaction. In other words, there was a significant relationship between the variable under investigation (transformational leadership behaviour) and the dependent variable (coaches' job satisfaction). The classification accuracy rate was 67.38% for coaches with low job satisfaction and 73.25% for coaches with high job satisfaction. These suggest that this model successfully differentiates coaches with low job satisfaction from those with high job satisfaction.

TABLE 2
Sequential logistic regression analysis – transformational leadership
Division I institutions (full model)

| Variable Added to the Full Model | Coefficient (B) | Significance |
|---|---|---|
| Transformational Leadership | 0.051 | 0.01 |
| -2 Log Likelihood | 330.41 | |
| Goodness of Fit | 312.93 | |
| Model Chi-Square | 30.678 | p<0.01 |
| Improvement | 30.678 | p<0.01 |
| Classification Rate: | Low Satisfaction | 67.38% |
| | High Satisfaction | 73.25% |

As shown in Table 3, the results for Division III institutions were similar to those obtained for Division I. The significance level of Model Chi-Square ($p<0.01$) indicates that adding the transformational leadership variable in the full model reliably improves the prediction of the dependent variable from the covariate-only model. The predictor variable under investigation (transformational leadership) was significant ($p<0.01$) with a positive logistic regression coefficient. When taken together, the two findings suggest that transformational leadership behaviours of athletics directors were significantly related to coaches' job satisfaction at Division III institutions. In this model, 61.15% of the coaches were correctly classified as having low job satisfaction, while the correct classification rate for those with high job satisfaction was 75.0%.

TABLE 3
Sequential logistic regression analysis – transformational leadership
Division III institutions (full model)

| Variable Added to the Full Model | Coefficient (B) | Significance |
|---|---|---|
| Transformational Leadership | 0.034 | 0.01 |
| -2 Log Likelihood | 354.01 | |
| Goodness of Fit | 294.28 | |
| Model Chi-Square | 15.95 | p<0.01 |
| Improvement | 15.95 | p<0.01 |
| Classification Rate: | Low Satisfaction | 61.15% |
| | High Satisfaction | 75.00% |

## DISCUSSION AND CONCLUSION

On the basis of the results obtained in this study, it can be concluded that there was a significant relationship between transformational leadership behaviours of athletics directors and coaches' job satisfaction at both NCAA Division I and III institutions. Specifically, the results support the propositions that transformational leadership behaviour increases subordinates' job satisfaction. As Bass (1985) pointed out, a transformational leader conveys high expectations in terms of the ability of the subordinates to achieve the goals of the organization. By engaging in transformational leadership behaviours, Bass (1995) asserted that subordinates' self-confidence and job satisfaction are positively affected, to the extent that subordinates are willing to perform work beyond the minimum levels expected of them. On the basis of Bass's (1985) assertion, it can be argued that by increasing coaches' job satisfaction, transformational athletics directors are able to motivate coaches to perform beyond the minimum levels expected of them. Certainly, this ability to motivate subordinates to do more work with fewer resources is important in sports today, in view of the rising costs and declining revenues facing most sports programs today.

However, it is less obvious why there are differences between NCAA Division I and Division III institutions with respect to transformational leadership behaviours of athletics directors and coaches' job satisfaction. Specifically, the findings of this study suggest that coaches (from Division I) who evaluated their superiors higher in transformational leadership behaviours, reported a higher level of job satisfaction than coaches (from Division III) who evaluated their leaders lower in transformational leadership behaviours. Why are there differences between Division I and III coaches' job satisfaction and their evaluation of the transformational leadership behaviours of their athletics directors? It is possible that the nature of work situations and the levels of professionalization that exists in an institution might influence coaches' job satisfaction. A comparison between Division I and III institutions suggests that there are differences between the two divisions in terms of structure (Atwell, Grimes & Lopiano 1980), levels of professionalization and commercialization (Sack 1987), and levels of competition (Coakley 1986). Specifically, NCAA Division III institutions differ from Division I with respect to the following : (1) offer no athletics scholarships, (2) spend less money on athletics, (3) generate less revenue, (4) sponsor a fewer number of sports, and (5) employ fewer coaches. It should be pointed out that most coaches at Division III institutions have faculty appointments. As educators, Division III coaches are bound to consider teaching and good performance in the classroom as more satisfying than winning games or coaching. In addition, Division III coaches are more likely to be promoted and rewarded in the institution on the basis of their ability as good educators and not as winning coaches. For this reason, Division III coaches may consider the transformational leadership behaviours of their athletics directors as being less important to the coaches' job satisfaction. On the other hand, most Division I coaches have full time appointments and these coaches are promoted and rewarded on the basis of their ability to win games. Thus, coaches at NCAA Division I institutions may consider coaching, winning games, or transformational leadership behaviours of athletics directors as being important to their job satisfaction.

This study has important implications for practitioners and researchers in sports settings. The findings of this study suggest that sports administrators should display transformational leadership characteristics toward their subordinates, because by engaging in transformational leadership, transformational leaders were discovered to make a significant difference on subordinates' job satisfaction. Since job satisfaction has been suggested by Podsakoff, MacKenzie, Moorman, and Fetter (1990) to be positively related to high subordinates' performance, low job turnover, low absenteeism, and higher productivity, athletics directors who are transformational will make a significant difference in terms of the organization's performance and effectiveness. Further, since transformational leadership is a skill that can be learned (Yammarino and Bass 1988), training athletic directors, sports administrators, and coaches to be transformational leaders should be the top priority of sports organizations. On a related issue, it has been pointed out that transformational leadership "converts followers into leaders and may convert leaders into moral agents" (Burns 1978, p.3). According to Burns (1978), subordinates can be turned into leaders if the subordinates are encouraged to engage in transformational behaviours. This view has been supported by Bass, Waldman, Avolio and Bebb (1987) who suggested that transformational leadership can have the same effect as falling dominoes. The authors noted that transformational leadership of upper level managers can have an effect on the lower level managers. One implication from this suggestion is that sports organizations can create more transformational leaders by encouraging subordinates to exhibit transformational behaviours. One way of encouraging subordinates is by rewarding and promoting people on the basis of exhibiting transformational leadership characteristics. In addition, sports organizations should screen candidates for administrative positions on the basis of their potential to be transformational leaders.

From a theoretical standpoint, this study has provided evidence of the applicability of the transformational leadership theory in sports settings. The current findings support earlier research which showed that transformational leadership is not limited to world leaders (Hater and Bass 1985), but also can be found in educational and non-profit settings such as schools and universities (Trice and Beyer 1984;

Yammarino and Bass 1988). Specifically, this study demonstrated that the positive influence of transformational leadership on subordinates' behaviours is significant not only in business and industry, but also within the context of intercollegiate athletics.

## RECOMMENDATIONS AND SUGGESTIONS

The following research is recommended to build on the results of this study and to further improve our understanding regarding transformational leadership behaviours in sports settings :

1. Examine the relationship between transformational leadership with other criterion variables in sports settings (such as organizational citizenship behaviours, organizational commitment, or organizational culture). First suggested by Graham (1987), the relationship between organizational citizenship behaviours with transformational leadership behaviours has received some empirical support from a study conducted by Podsakoff, MacKenzie, Moorman, and Fetter (1990). In addition, transformational leadership behaviours have also been studied, in business and industry settings, in relation to organizational culture (Schein 1992) and organizational commitment (Hater & Bass 1988). Significant findings obtained in sports settings with respect to the relationship between transformational leadership with these criterion variables will provide further confirmation of the usefulness and the applicability of the transformational leadership theory in the sports context.
2. Conduct a qualitative study to find out the behaviours, traits, personalities and characteristics of leaders who are perceived by subordinates as transformational leaders in the sports context. Besides examining the antecedents of transformational leaders (in terms of traits and personalities), in a qualitative research, the actual behaviours of transformational leaders can also be determined. Specifically, such a study can investigate how transformational leaders interact with subordinates on a daily basis. The information gathered from such a study will be useful in terms of developing an instrument for measuring transformational leadership specifically for the sports context. In addition, the information gathered will be useful for sports administrators in designing programs to train athletics directors, coaches, and other sports administrators to be transformational leaders.
3. Replicate this study and compare the transformational leadership styles of the following : (1) athletics directors vs. other sports administrators, (2) athletic directors vs. sports coaches, (3) coaches of different sports, (4) leadership styles of different units within the Division of Athletics. Similar to the above suggestion, the findings from this research can be used towards developing an instrument for measuring transformational leadership, and to enable administrators to design training programs to create transformational leaders in sports settings.

## REFERENCES


ARMSTRONG-DOHERTY, A. 1985. Athletic directors' perceptions of environmental control over inter-university athletics. *Sociology of Sport Journal* **12:** 75-95.

ATWELL, R.H., B. GRIMES and D. LOPIANO. 1980. *The Money Game : Financing Collegiate Athletics.* Washington, D.C : American Council on Education.

AVOLIO, B.J. and B. BASS. 1988. Transformational leadership, charisma, and beyond. In *Emerging Leadership Vistas*, ed. J.G. Hunt, B.R. Baliga, H.P. Dachler, and C.A. Schriesheim. Lexington, Massachusetts : D.C. Heath.

BACKSTROM, C.H. and G. HURSH-CESAR. 1981. *Survey Research.* New York : John Wiley and Sons.

BASS, B. 1985. *Leadership and Performance Beyond Expectations.* New York : Free Press.

BASS, B. 1990. *Bass and Stogdill's Handbook of Leadership : Theory, Research, and Managerial Applications.* New York : Free Press.

BASS, B., B. AVOLIO and L. GOODHEIM. 1987. Biography and assessment of transformational leadership at the world class level. *Journal of Management* **13**: 7-20.

BASS, B., D.A. WALDMAN, B. AVOLIO and M. BEBB. 1987. Biography and the assessment of transformational leadership at the world class level. *Journal of Management* **13:** 7-19.

BENNIS, W.G. and B. NANUS. 1985. *Leaders : The Strategies for Taking Charge.* New York : Harper and Row.

BOURNER, F. and W.J. WEESE. 1995. Executive leadership and organizational effectiveness in the Canadian Hockey League. *European Journal of Sport Management* **2**: 88-100.

COAKLEY, J.J. 1986. *Sport in Society : Issues and Controversies.* St. Louis, Missouri : Mosby College Publishing.

CONGER, J.A. and R. KANUNGO. 1987. Toward a behavioral theory of charismatic leadership in organizational settings. *Academy of Management Review* **12**: 637-647.

DOHERTY, A.J. and K.E. DANYLCHUK. 1996. Transformational and transactional leadership in inter-university athletics management. *Journal of Sport Management* **10(3)**: 292-309.

HATER, J.J. and B. BASS. 1988. Supervisors' evaluations and subordinates' perceptions of transformational and transactional leadership. *Journal of Applied Psychology* **73**: 695-702.

HOWELL, J.M. and P.J. FROST. 1989. A laboratory study of charismatic leadership. *Organizational Behavior and Human Decision Processes* **43**: 243-269.

KOUZES, J.M. and B. POSNER. 1987. *The Leadership Challenge : How to Get Extraordinary Things Done in Organizations.* San Francisco, California : Jossey-Bass.

LANGLEY, W. and W. WEESE. 1995. Gender and leadership : The relationship to organizational effectiveness and employee job satisfaction in selected Canadian sport organizations. Unpublished manuscript.

PODSAKOFF, P.M., S.B. MACKENZIE, R.H. MOORMAN and R. FETTER. 1990. Transformational leader behaviors and their effects on followers' trust in leader, satisfaction, and organizational citizenship behaviors. *Leadership Quarterly* **1(2)**: 107-142.

PRUIJN, G. and R. BOUCHER. 1995. The relationship of transactional and transformational leadership to the organizational effectiveness of Dutch national sport organizations. *European Journal of Sport Management* **72**: 72-87.

SACK, A. 1987. College sports and the student athlete. *Journal of Sport and Social Issues* **11**: 31-48.

TICHY, N.M. and M.A. DEVANNA. 1986. *The Transformational Leader.* New York: John Wiley.

TRICE, H.M. and J.M. BEYER. 1984. Studying organizational cultures through rites and ceremonials. *Academy of Management Review* **9**: 653-669.

WALLACE, M. and W.J. WEESE. 1995. Leadership, organizational culture, and job satisfaction in Canadian YMCA organizations. *Journal of Sport Management* **9**: 182-193.

WEISS, D.J., R.V. DAWIS, G.W. ENGLAND and L.H. LOFQUIST. 1967. *Manual for the Minnesota Satisfaction Questionnaire. Minnesota Studies in Vocational Rehabilitation XXII.* Minneapolis, Minnesota : University of Minnesota Industrial Relations Center Work Adjustment Project.

YAMMARINO, F.J. and B. BASS. 1990. Transformational leadership and multiple levels of analysis. *Human Relations* **43**: 975-995.

YUKL, G. 1994. *Leadership in Organizations.* Englewood Cliffs, New Jersey: Prentice-Hall.

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# Profil Personaliti Pelajar-pelajar Program Matrikulasi Universiti Putra Malaysia

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**Kata kunci: Profil personaliti, tret personaliti, bidang pengkhususan, matrikulasi, jantina**

**ABSTRAK**

Kajian deskriptif ini dijalankan untuk mengenal pasti bentuk profil personaliti pelajar program matrikulasi, Universiti Putra Malaysia, Serdang, Selangor. Kajian ini juga bertujuan untuk menentukan sama ada wujud perbezaan personaliti antara pelajar lelaki dengan perempuan mengikut bidang pengkhususan. Subjek kajian terdiri daripada 340 pelajar yang telah dipilih secara rawak berlapis daripada 1475 pelajar matrikulasi Sains, Kejuruteraan, Perubatan, Perakaunan dan TESL. Alat kajian yang digunakan ialah Inventori Personaliti Sidek. Data-data yang diperoleh dianalisis menggunakan statistik deskriptif termasuklah min, sisihan piawai dan kekerapan. Dapatan kajian menunjukkan bahawa setiap bidang pengkhususan telah menunjukkan bentuk profil personaliti yang hampir sama. Dapatan kajian jelas menunjukkan bahawa tret-tret personaliti utama yang dikaitkan dengan personaliti pelajar institusi pengajian tinggi yang ideal seperti tret personaliti analitikal, intelektual dan ketahanan hanya di tahap sederhana sahaja sementara tret personaliti bersandar dan kritik-diri didapati agak tinggi. Dapatan kajian juga menunjukkan bahawa tidak terdapat perbezaan profil personaliti yang signifikan berdasarkan bidang pengkhususan dan jantina pelajar. Sehubungan dengan dapatan kajian yang diperoleh, beberapa implikasi dan cadangan telah dikemukakan.

**ABSTRACT**

This descriptive study was conducted to determine the pattern of personality profile amongst the students of matriculation programs in Universiti Putra Malaysia, Serdang, Selangor. This study also aimed to determine whether there were any differences in personality between male and female students according to specialization areas. The subjects of this study were 340 students who were selected using the stratified random sampling from a total of 1475 students of Science, Engineering, Medical, Accounting and TESL matriculation programs. The instrument used in this study was the Sidek Personality Inventory (IPS). The data obtained were then analysed using the descriptive statistic including the mean, standard deviation and frequency. The finding of this study was that each specialization area has shown the same personality pattern. The finding clearly indicated that some major traits of personality which were identified as the ideal personality for the student in higher education such as analytical, intellectual, and endurance traits were only at the medium level whereas for the dependent and self-critical traits, it was quite high. The finding also indicated that there were no significant differences in personality traits based on specialization area and gender of the students. Pertaining to the research findings, several implications and recommendations were put forward.

## LATAR BELAKANG KAJIAN

Menurut Allport (1971), personaliti adalah organisasi dinamis sistem-sistem psikofizikal dalam diri individu yang menentukan ciri-ciri tingkah laku dan pemikirannya. Guilford (1959) pula telah mentakrifkan personaliti sebagai satu pola tret-tret yang unik yang ada pada individu. Maddi (1989) mendefinisikan personaliti sebagai

satu set ciri dan kecenderungan yang stabil yang menentukan kesamaan dan perbezaan tingkah laku psikologi seseorang. Holland (1997; 1985; 1973) pula menyatakan bahawa minat adalah ekspresi personaliti.

Tret-tret personaliti lazimnya dapat dikenal pasti melalui kecenderungan individu terhadap subjek di sekolah, aktiviti-aktiviti rekreasi, hobi, dan pekerjaan; sementara minat vokasional boleh diertikan sebagai ekspresi personaliti (Brown & Brooks 1984). Daripada kenyataan ini jelas bahawa personaliti adalah suatu pembolehubah yang penting kerana mampu memperlihatkan pemikiran dan tingkah laku individu.

Kajian yang dijalankan oleh Sidek Mohd Noah (1996) di kalangan pelajar Bacelor Kejuruteraan Pertanian, Universiti Pertanian Malaysia (UPM) menunjukkan mereka mempunyai tret personaliti Introvert, Intelektual, Agresif, Ketahanan dan Analitikal yang tinggi di samping menunjukkan ciri-ciri personaliti yang rendah dalam tret personaliti Menolong, Autonomi, Ekstrovert dan Mengawal. Sementara itu pelajar Bacelor Sains (Kepujian), UPM, memperoleh skor yang tinggi untuk tret personaliti Intelektual, Pencapaian, Analitikal, Autonomi dan Introvert yang tinggi dan menunjukkan ciri-ciri yang rendah dalam tret personaliti Agresif, Menolong, Bergantung dan Mengawal.

Kajian yang sama juga menunjukkan bahawa pelajar Bacelor Pendidikan (TESL), UPM, memperoleh skor yang tinggi dalam tret personaliti Autonomi, Ekstrovert, Kepelbagaian, Analitikal dan Intelektual tetapi memperoleh skor yang rendah dalam tret personaliti Agresif, Menolong, Sokongan dan Struktur. Pelajar Bacelor Perakaunan, UPM, pula memperoleh skor yang tinggi dalam tret personaliti Struktur, Ketahanan, Bergantung, Analitikal dan Sokongan tetapi memperoleh skor yang rendah dalam tret personaliti Mengawal, Menolong dan Autonomi (Sidek Mohd Noah 1996).

Klien dan Wiener (1977) menyatakan bahawa setiap pekerjaan memerlukan seseorang pekerja memiliki tret-tret tertentu untuk berjaya, walaupun seseorang pekerja dengan ciri-ciri yang agak luas boleh juga berjaya dalam pekerjaan tersebut. Beliau seterusnya menjelaskan bahawa semakin hampir keselarasan antara ciri-ciri personaliti dengan keperluan dalam sesuatu pekerjaan, maka semakin besar kemungkinan seseorang itu akan berjaya (Klien & Wiener 1977). Sementara itu Holland (1997; 1985; 1973) menyatakan bahawa tingkah laku manusia yang meliputi motivasi, kepuasan kerja, pencapaian, produktiviti dan stabiliti adalah bergantung kepada darjah keselarasan antara jenis personaliti dengan persekitaran kerja.

Menurut Atan Long (1982) pula, pemilihan kerjaya mestilah selaras dengan minat kerjaya seseorang kerana pilihan yang dibuat adalah pilihan kerjaya untuk masa depan mereka. Beliau juga menyatakan bahawa masalah akan timbul apabila seseorang individu itu merasakan pekerjaan yang dibuatnya tidak bersesuaian dengan minat kerjaya dan personaliti yang dimilikinya. Keadaan ini boleh menimbulkan perasaan jemu dan kecewa. Seterusnya prestasi kerja individu tersebut akan terganggu (Atan Long 1982).

Terdapat banyak alat ukuran yang boleh digunakan untuk menentukan ciri-ciri atau tret-tret personaliti seseorang antaranya ialah Inventori Personaliti Sidek (IPS), *Sixteen Personality Factor Questionnaire* (16PF), *Junior Eysenck Personality Inventory* (JEPI) dan *The Tennessee Self-Concept Scale* (TSCS). Alat ukuran IPS yang dibangunkan oleh Sidek Mohd Noah (1998) boleh mengukur personaliti individu dan mengandungi 15 skala meliputi Agresif, Analitikal, Autonomi, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Kritik-diri, Mengawal, Menolong, Sokongan, Struktur dan Pencapaian. Kajian-kajian yang telah dilakukan oleh Sidek Mohd Noah (1999), Azliza Abdullah (1992), Normala Mohd (1992), Mohd Ali Jaamat (1997) dan Abi ak Baring (1997) menunjukkan IPS merupakan alat ukuran personaliti yang mempunyai kesahan dan kebolehpercayaan yang tinggi.

## PENYATAAN MASALAH

Kemasukan pelajar ke Program Matrikulasi adalah berdasarkan kepada beberapa syarat yang telah ditetapkan oleh Bahagian Akademik, UPM. Pelajar-pelajar pula akan memilih bidang pengkhususan sama ada Matrikulasi Sains, Matrikulasi Kejuruteraan, Matrikulasi Perakaunan, Matrikulasi TESL atau Matrikulasi Perubatan.

Syarat-syarat tersebut jelas menunjukkan bahawa kejayaan permohonan pelajar umumnya banyak bergantung kepada kelayakan akademik semata-mata tanpa mempertimbangkan sama ada personaliti pelajar itu bersesuaian atau tidak

dengan program pengajian yang dipohon. Sidek Mohd Noah (1996) berpendapat bahawa masalah akan timbul apabila individu merasakan program pengajian yang diikuti tidak selaras dengan ciri-ciri personaliti yang dimilikinya. Ini akan menyebabkan pelajar merasa tertekan, bosan dan kecewa yang akhirnya membawa kepada penurunan motivasi dan prestasi. Masalah lain yang mungkin timbul ialah ponteng kelas, tidak memberi tumpuan di dalam kelas serta mengganggu rakan-rakan sekelas yang lain.

Holland (1997; 1985; 1973) mengatakan bahawa keselarasan antara personaliti dengan persekitaran dapat menjamin kepuasan kerja seseorang individu. Ini bermaksud apabila personaliti seseorang itu selaras dengan persekitarannya maka hasilnya adalah kepuasan dalam kerjayanya. Apabila telah wujud kepuasan maka seseorang individu itu akan melaksanakan tugas dan tanggungjawabnya dengan bersungguh-sungguh, ikhlas dan jujur. Apabila keadaan seumpama ini wujud di kalangan pelajar, mereka akan belajar secara bersungguh-sungguh dan secara tidak langsung prestasi mereka akan meningkat. Dengan itu Pusat Pengajian Matrikulasi (PPM) khususnya dan Universiti Putra Malaysia amnya akan dapat menambahkan bilangan pelajar yang mencapai tahap kecemerlangan yang tinggi.

Persoalan yang timbul ialah apakah bentuk profil personaliti pelajar dan adakah profil ini selaras dengan bidang pengkhususan yang menjadi pilihan pelajar berkenaan? Bagi menjawab persoalan ini satu kajian bagi mengenal pasti profil personaliti pelajar matrikulasi berasaskan bidang pengkhususan perlu dilaksanakan. Melalui kajian ini profil personaliti pelajar akan dapat dikenal pasti dan seterusnya semakan tentang keselarasan antara personaliti dan bidang pengkhususan yang dipilih oleh pelajar dapat dilakukan. Holland (1997; 1985; 1973) juga menjelaskan bahawa bidang Realistik adalah bidang kerjaya tipikal bagi lelaki, sementara bidang Sosial pula adalah bidang kerjaya tipikal bagi perempuan. Dengan lain perkataan bidang kerjaya Realistik adalah dikuasai oleh lelaki, sementara bidang kerjaya Sosial pula adalah dikuasai oleh perempuan. Ini bermaksud bidang kerjaya tertentu akan menarik kumpulan jantina tertentu. Sehubungan itu kajian ini juga berminat untuk melihat sama ada terdapat perbezaan profil personaliti berasaskan jantina. Persoalan yang timbul di sini ialah adakah wujud perbezaan profil personaliti antara pelajar lelaki dengan perempuan berasaskan program pengkhususan?

## TUJUAN KAJIAN

Bersesuaian dengan dua persoalan kajian yang telah dikemukakan di atas, maka kajian kajian umum ini dijalankan dengan tujuan untuk mengenal pasti profil personaliti pelajar Program Matrikulasi Universiti Putra Malaysia, Serdang, Selangor. Secara khusus kajian ini dijalankan bertujuan untuk:

1. Menentukan sama ada terdapat perbezaan dari segi profil personaliti pelajar berdasarkan bidang pengkhususan Program Matrikulasi.
2. Menentukan sama ada terdapat perbezaan dari segi profil personaliti pelajar berdasarkan jantina pelajar.

## METODE KAJIAN

*Reka Bentuk Kajian*

Matlamat utama kajian ini dijalankan ialah untuk mengenal pasti bentuk profil personaliti pelajar-pelajar matrikulasi UPM mengikut bidang pengkhususan yang mereka ikuti iaitu sama ada Matrikulasi Sains, Matrikulasi Kejuruteraan, Matrikulasi Perakaunan, Matrikulasi Pengajaran Bahasa Inggeris sebagai Bahasa Kedua (TESL) atau Matrikulasi Perubatan. Bagi menjayakan kajian ini, reka bentuk kajian deskriptif telah digunakan.

Menurut Mohd Majid Konting (1993), kajian deskriptif adalah sejenis kajian yang bermatlamat menerangkan keadaan semasa sesuatu fenomena yang sedang berlaku, mendapatkan penjelasan dengan sempurna serta meneroka bidang yang belum dikaji untuk mendapatkan maklumat tepat. Ary (1990) pula menjelaskan bahawa kajian deskriptif adalah bertujuan menentukan keadaan sebenar yang berlaku semasa sesuatu kajian itu dijalankan. Oleh kerana kajian ini adalah untuk meneroka profil atau ciri-ciri personaliti pelajar matrikulasi yang belum lagi diperolehi, maka reka bentuk deskriptif adalah amat sesuai sekali.

*Tempat Kajian*

Kajian ini dijalankan di Pusat Pengajian Matrikulasi (PPM), Universiti Putra Malaysia, Serdang, Selangor. PPM dipilih sebagai lokasi kajian kerana di pusat inilah terdapatnya subjek kajian yang sesuai dan jika digunakan dapat

menjawab persoalan-persoalan kajian yang telah dikemukakan. PPM sehingga kini menawarkan sebanyak lima bidang pengkhususan iaitu Matrikulasi Sains, Matrikulasi Kejuruteraan, Matrikulasi Perakaunan, Matrikulasi Pengajaran Bahasa Inggeris sebagai Bahasa Kedua (TESL) dan Matrikulasi Perubatan.

*Subjek Kajian*

Populasi kajian adalah terdiri daripada pelajar matrikulasi semester satu yang mengikuti program Matrikulasi Sains, Kejuruteraan, Perakaunan, Perubatan dan pelajar semester tiga yang mengikuti program Matrikulasi TESL.

Pemilihan pelajar semester satu dibuat dengan andaian personaliti mereka masih tulen kerana mereka adalah pelajar baru dan belum dipengaruhi oleh persekitaran program. Sementara itu pelajar semester tiga dipilih kerana mereka adalah kumpulan terakhir yang mengikuti program Matrikulasi TESL sebelum program tersebut dihentikan oleh Kementerian Pendidikan Malaysia (KPM). Bilangan keseluruhan populasi kajian adalah 1475 orang dengan pecahan berasaskan bidang pengkhususan dan jantina seperti dalam Jadual 1.

Kajian deskriptif tidak mensyaratkan subjek kajian dipilih secara rawak. Namun demikian subjek dalam kajian ini dipilih secara rawak berlapis dengan mengambil kira pembolehubah program pengkhususan dan jantina pelajar bertujuan agar analisis statistik inferensi boleh dilaksanakan sekiranya perlu untuk menyokong dapatan kajian deskriptif yang diperoleh.

Untuk mendapatkan jumlah bilangan sampel minimum bagi kajian ini formula penentuan saiz sampel yang dikemukakan oleh Krejcie dan Morgan (dalam Isaac & Micheal 1984) dan Yamane (1967) telah digunakan. Dengan mengambil kira kedua-dua formula ini seramai 340 pelajar telah dipilih sebagai subjek kajian. Dengan saiz sampel ini, aras keyakinan dikekalkan pada tahap 95%.

Subjek kajian yang dipilih untuk mewakili program pengkhususan dan jantina pula dipilih secara rawak mudah. Dengan kaedah ini semua individu yang menjadi ahli populasi mempunyai peluang yang sama untuk dipilih sebagai sampel kajian. Walau bagaimanapun bagi kumpulan yang bilangannya kecil seperti kumpulan Matrikulasi Perubatan (lelaki dan perempuan) dan Matrikulasi TESL (lelaki) keseluruhan kumpulan tersebut dipilih sebagai subjek kajian untuk menjamin ketepatan dapatan kajian.

*Alat Kajian*

Alat kajian yang digunakan dalam kajian ini ialah satu set borang soal selidik yang terdiri daripada dua bahagian iaitu iaitu Bahagian A dan Bahagian B. Bahagian A soal selidik bertujuan untuk mendapatkan maklumat tentang pelajar seperti program pengkhususan dan jantina, sementara Bahagian B ialah Inventori Personaliti Sidek (IPS) yang digunakan untuk mengenal pasti profil atau ciri-ciri personaliti pelajar.

Inventori Personaliti Sidek (IPS) telah dihasilkan oleh Sidek Mohd Noah dari Fakulti Pengajian Pendidikan pada tahun 1987 (Sidek Mohd Noah 1998). Melalui inventori ini profil personaliti individu boleh dikenal pasti. Alat ukuran IPS mempunyai skala yang mampu mengukur 15 tret atau ciri personaliti individu iaitu Analitikal, Autonomi, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan,

JADUAL 1
Pecahan bilangan populasi dan sampel berasaskan bidang pengkhususan

| Matrikulasi | Bilangan Populasi | | | Bilangan Sampel | | |
|---|---|---|---|---|---|---|
| | Lelaki | Perempuan | Jumlah | Lelaki | Perempuan | Jumlah |
| Sains | 409 | 373 | 782 | 87 | 70 | 157 |
| Kejuruteraan | 143 | 42 | 185 | 30 | 9 | 39 |
| Perakaunan | 119 | 249 | 368 | 26 | 53 | 79 |
| Perubatan | 7* | 20* | 27 | 7* | 20* | 27 |
| TESL | 18* | 95 | 113 | 18* | 20 | 38 |
| Jumlah | 696 | 779 | 1475 | 168 | 172 | 340 |

*Nota:* * Semua pelajar dalam kumpulan ini dijadikan subjek kajian.

Kritik-diri, Mengawal, Menolong, Sokongan, Struktur dan Pencapaian. Maklumat lebih jelas tentang tret-tret yang diukur oleh IPS adalah seperti berikut:

- *Agresif*
  Tret personaliti yang menunjukkan individu terlalu kritikal terhadap orang lain, tegas, berani dan tidak suka dimanipulasi.
- *Analitikal*
  Tret personaliti yang menunjukkan individu sangat sensitif kepada persekitaran, suka membuat pemerhatian dan akan menganalisis sesuatu perkara sebelum membuat sesuatu keputusan.
- *Autonomi*
  Tret personaliti yang menunjukkan individu lebih sukakan kebebasan dalam tindakannya dan dapat mengawal dan menentukan aktiviti-aktiviti hariannya tanpa dikawal oleh orang lain.
- *Bersandar*
  Tret personaliti yang menunjukkan individu sangat bergantung kepada orang lain dalam menjalani kehidupan serta memerlukan bantuan orang lain dalam membuat keputusan khususnya keputusan-keputusan penting.
- *Ekstrovert*
  Tret personaliti yang menunjukkan individu adalah seorang yang sosial, suka dikelilingi, berinteraksi dan bekerja dengan orang ramai.
- *Intelektual*
  Tret personaliti yang menunjukkan individu berminat kepada aktiviti-aktiviti yang memberikan cabaran dari segi intelektual.
- *Introvert*
  Tret personaliti yang menunjukkan individu suka mengelak situasi-situasi yang akan memaksa mereka berkomunikasi di samping suka bersendirian menyelesaikan sesuatu tugas.
- *Kepelbagaian*
  Tret personaliti yang menunjukkan individu dapat menghayati berbagai-bagai situasi bagi mendapat pengalaman yang baru ke arah perubahan berterusan.
- *Ketahanan*
  Tret personaliti yang menunjukkan individu yang cekal dan bermotivasi untuk menghabiskan atau menyelesaikan semua tugas.
- *Kritik-Diri*
  Tret personaliti yang menunjukkan individu yang tidak stabil dari segi emosi dan psikologi.
- *Mengawal*
  Tret personaliti yang menunjukkan individu suka mengawal orang lain atau lebih suka memimpin daripada dipimpin.
- *Menolong*
  Tret personaliti yang dikaitkan dengan individu berminat dan berkeinginan untuk menunjukkan atau meluahkan simpati, kasih sayang juga memberi bantuan serta membuat kebaikan kepada orang lain.
- *Sokongan*
  Tret personaliti yang menunjukkan individu memerlukan perhatian, simpati dan ingin dikasihi oleh orang lain.
- *Struktur*
  Tret personaliti yang menunjukkan individu suka kepada kekemasan, kebersihan serta perkara-perkara yang berstruktur, berulang-ulang dan terperinci.
- *Pencapaian*
  Tret personaliti yang menunjukkan individu bermotivasi dan mahukan status yang tinggi dan suka persaingan.

*Kesahan dan Kebolehpercayaan Alat Ukuran IPS*

Alat ukuran IPS sering digunakan oleh kaunselor sekolah menengah di Malaysia dalam membantu klien mereka mengenal pasti personaliti mereka. Popularity alat ukuran ini menyebabkan Bahagian Sekolah, Kementerian Pendidikan Malaysia, memuatkannya dalam Buku Panduan Pelaksanaan Perkhidmatan Bimbingan dan Kaunseling Untuk Sekolah Menengah (Kementerian Pendidikan Malaysia 1993).

Alat ukuran IPS ini telah dikaji kesahan dan kebolehpercayaannya. Analisis item menggunakan analisis reliabiliti, model alpha yang dijalankan oleh Sidek Mohd Noah (1998) telah menghasilkan *standardized item alpha* yang bernilai lebih daripada .95. Keputusan ini memperlihatkan bahawa item-item yang terkandung di dalam inventori personaliti ini adalah homogenius, sekali gus memberi gambaran tentang kesahan kandungan inventori ini. Dengan nilai *standardized item alpha* yang diperolehi menunjukkan bahawa keseluruhan item yang terkandung dalam inventori personaliti adalah signifikan dari sudut statistik dan dengan

itu dapatlah dirumuskan bahawa item-item dalam IPS adalah baik dan bermutu.

Analisis faktor telah dijalankan ke atas 15 skala yang terkandung dalam IPS untuk mengenal pasti jumlah faktor yang akan dihasilkan. Untuk tujuan itu matriks korelasi 15 X 15 telah dianalisis menggunakan analisis faktor *varimax rotation.* Analisis faktor yang dijalankan dengan bantuan pakej komputer SPSS, sub-program *factor analysis* pula telah menghasilkan sembilan faktor. Enam daripada faktor yang terbentuk adalah dalam bentuk faktor bersama dan tiga daripadanya adalah faktor tunggal. Keputusan yang diperoleh umumnya telah menunjukkan kesahan gagasan alat ukuran IPS. Untuk keterangan yang lebih terperinci, sila rujuk Jadual 2.

Pekali kebolehpercayaan alat ukuran IPS ditentukan menggunakan kaedah kebolehpercayaan *Kuder-Richardson* atau *alpha Cronbach* kerana bentuk soalannya mempunyai format jawapan sama ada Ya atau Tidak dan masa untuk menyelesaikan menjawab alat ukuran ini adalah tidak dihadkan (Sidek Mohd Noah 1998). Nilai pekali kebolehpercayaan *alpha Cronbach* bagi alat ukuran IPS ialah .96. Analisis reliabiliti yang telah dijalankan ke atas semua 15 faktor yang terkandung dalam IPS telah menghasilkan pekali kebolehpercayaan *alpha Cronbach* yang bernilai antara .88 hingga .91. Nilai pekali kebolehpercayaan *alpha Cronbach* untuk skala Agresif (.89); Analitikal (.88); Autonomi (.88); Bersandar (.89); Ekstrovert (.89); Intelektual (.89); Introvert (.91); Kepelbagaian (.89); Ketahanan (.88); Kritik-Diri (.90); Mengawal (.91); Menolong (.88); Sokongan (.89); Struktur (.88); Pencapaian (.88); dan Kejujuran (.91) (untuk keterangan lanjut sila rujuk Jadual 3).

Nilai pekali kebolehpercayaan *alpha Cronbach* bagi alat ukuran IPS lebih tinggi berbanding nilai pekali kebolehpercayaan *alpha Cronbach* berasaskan faktor adalah disebabkan oleh bilangan item yang terlibat dalam pengiraan pekali kebolehpercayaan. Pengiraan pekali kebolehpercayaan alat ukuran IPS adalah berasaskan kepada jumlah item keseluruhan iaitu 150 item, sementara pengiraan pekali kebolehpercayaan berasaskan faktor hanya melibatkan 10 item. Ini adalah kerana setiap faktor yang terkandung dalam alat ukuran IPS ini diwakili oleh 10 item. Ini adalah selari dengan pandangan Anastasi (1988; 1983), Kerlinger (1986), Brown (1983), Tuckman (1978) dan Thorndike (1976) yang menyatakan pengurangan bilangan item akan menurunkan nilai pekali kebolehpercayaan.

JADUAL 2
Keputusan analisis faktor *varimax rotation* Inventori Personaliti Sidek

| Tret Personaliti | Faktor 1 | Faktor 2 | Faktor 3 | Faktor 4 | Faktor 5 | Faktor 6 | Faktor 7 | Faktor 8 | *Communlity* |
|---|---|---|---|---|---|---|---|---|---|
| Intelektual | .76* | .30 | .23 | .12 | .22 | .32 | .18 | .25 | .65 |
| Analitikal | .66* | .17 | .25 | .27 | .21 | .31 | .16 | .32 | .56 |
| Ketahanan | .17 | .67* | .11 | .16 | .18 | .21 | .23 | .28 | .61 |
| Kepelbagaian | .08 | .64* | .34 | .31 | .26 | .18 | .09 | .24 | .58 |
| Ekstrovert | .44 | .23 | .56* | .33 | .07 | .39 | .17 | .13 | .54 |
| Menolong | .37 | .28 | .57* | .41 | .19 | .32 | .23 | .19 | .57 |
| Pencapaian | .19 | .26 | .33 | .61* | .21 | .26 | .17 | .21 | .57 |
| Agersif | .11 | .23 | .19 | .54* | .11 | .15 | .13 | .19 | .71 |
| Mengawal | .20 | .18 | .12 | .56* | .19 | .21 | .15 | .13 | .43 |
| Bergantung | .13 | .17 | .23 | .23 | .52* | .11 | .33 | .17 | .56 |
| Sokongan | .19 | .23 | .17 | .27 | .56* | .17 | .31 | .21 | .51 |
| Autonomi | .17 | .14 | .36 | .37 | .23 | .57* | .11 | .18 | .72 |
| Struktur | .15 | .23 | .34 | .31 | .27 | .29 | .61* | .27 | .54 |
| Introvert | .41 | .17 | .26 | .31 | .17 | .09 | .11 | .51* | .49 |
| Kritik-Diri | .37 | .32 | .21 | .28 | .11 | .10 | .17 | .54* | .51 |

*Nota:* $h^2$ *Communality*

* Pembolehubah yang mempunyai *loading* melebihi .50

JADUAL 3
Pekali kebolehpercayaan *alpha Cronbach*, min dan sisihan piawai Inventori Personaliti Sidek berasaskan faktor

| Faktor | *alpha Cronbach* | Min | Sisihan Piawai |
|---|---|---|---|
| Agresif | .89 | 7.36 | 2.43 |
| Analitikal | .88 | 6.93 | 3.18 |
| Autonomi | .88 | 6.77 | 3.33 |
| Bersandar | .89 | 7.17 | 2.75 |
| Ekstrovert | .89 | 7.29 | 2.50 |
| Intelektual | .89 | 6.94 | 3.24 |
| Introvert | .91 | 7.53 | 2.23 |
| Kepelbagaian | .89 | 7.00 | 3.02 |
| Ketahanan | .88 | 6.86 | 3.41 |
| Kritik-Diri | .90 | 7.47 | 3.14 |
| Mengawal | .91 | 7.71 | 2.89 |
| Menolong | .88 | 6.63 | 4.03 |
| Sokongan | .89 | 6.97 | 3.28 |
| Struktur | .88 | 6.65 | 3.87 |
| Pencapaian | .88 | 6.38 | 4.63 |

*Sumber*: Sidek Mohd Noah (1999)

*Penganalisisan Statistik*

Data-data yang diperoleh daripada soal selidik telah dianalisis menggunakan statistik deskriptif dan inferensi. Statistik deskriptif yang digunakan termasuklah min dan sisihan piawai, sementara statistik inferensi yang digunakan ialah ujian-t dengan aras kesignifikanan a ditentukan pada .05 atau 95 peratus aras keyakinan.

Untuk tujuan mengenal pasti profil personaliti pelajar, min dan sisihan piawai telah digunakan. Sementara itu untuk menentukan sama ada terdapat perbezaan yang signifikan untuk tret-tret personaliti tertentu antara pelajar lelaki dengan perempuan, ujian-t dua-sampel tak bersandar jenis dua hujung telah digunakan. Secara keseluruhannya data-data telah diproses dengan menggunakan program *Statistical Package for the Social Sciences* (SPSS/PC+) (Norusis & SPSS 1993).

## DAPATAN KAJIAN

*Profil Personaliti Pelajar Matrikulasi Berasaskan Bidang Pengkhususan*

Data-data yang diperoleh daripada soal selidik telah dianalisis menggunakan statistik deskriptif untuk memperoleh profil personaliti pelajar matrikulasi mengikut bidang pengkhususan masing-masing. Keputusan yang diperoleh adalah seperti dalam Jadual 4, 5, 6, 7 dan 8.

Bagi Program Matrikulasi Sains, tiga tret personaliti yang mendapat skor min tertinggi ialah tret personaliti Pencapaian (77.81), diikuti oleh tret personaliti Menolong (74.05) dan tret personaliti Struktur (73.67). Sementara itu, tiga tret personaliti yang mendapat skor min terendah ialah tret personaliti Introvert (47.38), Intelektual (50.65) dan Mengawal (52.22) (sila rujuk Jadual 4). Bagi Program Matrikulasi Kejuruteraan, tiga tret personaliti yang mendapat skor min tertinggi ialah tret personaliti Autonomi (75.59), Pencapaian (73.46) dan Kepelbagaian (69.38). Sementara itu, tiga tret personaliti yang mendapat skor min terendah ialah tret personaliti Mengawal (44.59), Introvert (46.18) dan Intelektual (50.26) (sila rujuk Jadual 5).

Bagi Program Matrikulasi Perubatan, tiga tret personaliti yang mendapat skor min tertinggi ialah tret personaliti Menolong (78.70), diikuti oleh tret personaliti Pencapaian (78.11) dan tret personaliti Autonomi (74.70). Sementara itu, tiga tret personaliti yang mendapat skor min terendah ialah tret personaliti Introvert (42.20), Intelektual (49.67) dan Mengawal (52.59) (sila rujuk Jadual 6). Bagi Program Matrikulasi Perakaunan, tiga tret personaliti yang mendapat skor min tertinggi ialah tret personaliti Pencapaian (79.99), diikuti oleh tret personaliti

JADUAL 4
Profil personaliti pelajar Matrikulasi Sains, Universiti Putra Malaysia

| Ciri-ciri Personaliti | Min | Sisihan Piawai | Pangkatan |
|---|---|---|---|
| Agresif | 60.22 | 19.08 | 10 |
| Analitikal | 64.40 | 22.10 | 6 |
| Autonomi | 72.31 | 17.12 | 4 |
| Bersandar | 64.26 | 17.86 | 7 |
| Ekstrovert | 59.35 | 24.56 | 11 |
| Intelektual | 50.65 | 23.46 | 14 |
| Introvert | 47.38 | 23.09 | 15 |
| Kepelbagaian | 66.51 | 17.66 | 5 |
| Ketahanan | 59.05 | 19.99 | 12 |
| Kritik-diri | 60.93 | 19.89 | 8 |
| Mengawal | 52.22 | 24.54 | 13 |
| Menolong | 74.05 | 18.12 | 2 |
| Sokongan | 60.70 | 22.46 | 9 |
| Struktur | 73.67 | 15.76 | 3 |
| Pencapaian | 77.81 | 15.90 | 1 |

*Nota*: Pangkatan dibuat berdasarkan min tertinggi ke min terendah
n = 157

Struktur (75.99) dan tret personaliti Menolong (74.86). Sementara itu, tiga tret personaliti yang mendapat skor min terendah ialah tret personaliti Introvert (46.47), Intelektual (46.47) dan Mengawal (52.52) (sila rujuk Jadual 7).

Akhirnya, bagi Program Matrikulasi TESL tiga tret personaliti yang mendapat skor min tertinggi ialah tret personaliti Autonomi (78.80), diikuti oleh tret personaliti Menolong (73.20) dan tret personaliti Pencapaian (71.27).

JADUAL 5
Profil personaliti pelajar Matrikulasi Kejuruteraan, Universiti Putra Malaysia

| Ciri-ciri Personaliti | Min | Sisihan Piawai | Pangkatan |
|---|---|---|---|
| Agresif | 61.21 | 18.92 | 7 |
| Analitikal | 56.36 | 21.35 | 11 |
| Autonomi | 75.59 | 14.75 | 1 |
| Bersandar | 61.28 | 19.08 | 6 |
| Ekstrovert | 58.46 | 20.97 | 8 |
| Intelektual | 50.26 | 18.14 | 13 |
| Introvert | 46.18 | 19.89 | 14 |
| Kepelbagaian | 69.38 | 20.87 | 3 |
| Ketahanan | 54.31 | 23.94 | 12 |
| Kritik-diri | 57.97 | 22.08 | 9 |
| Mengawal | 44.59 | 28.31 | 15 |
| Menolong | 67.41 | 17.98 | 4 |
| Sokongan | 57.18 | 22.82 | 10 |
| Struktur | 64.31 | 24.40 | 5 |
| Pencapaian | 73.46 | 15.93 | 2 |

*Nota*: Pangkatan dibuat berdasarkan min tertinggi ke min terendah
n = 39

JADUAL 6
Profil personaliti pelajar Matrikulasi Perubatan, Universiti Putra Malaysia

| Ciri-ciri Personaliti | Min | Sisihan Piawai | Pangkatan |
|---|---|---|---|
| Agresif | 61.04 | 20.49 | 11 |
| Analitikal | 65.11 | 24.60 | 7 |
| Autonomi | 74.70 | 17.46 | 3 |
| Bersandar | 61.81 | 21.60 | 9 |
| Ekstrovert | 62.56 | 18.86 | 8 |
| Intelektual | 49.67 | 26.75 | 14 |
| Introvert | 42.26 | 22.35 | 15 |
| Kepelbagaian | 69.56 | 20.17 | 5 |
| Ketahanan | 67.26 | 22.41 | 6 |
| Kritik-diri | 61.07 | 22.52 | 10 |
| Mengawal | 52.59 | 25.36 | 13 |
| Menolong | 78.70 | 19.07 | 1 |
| Sokongan | 58.52 | 21.61 | 12 |
| Struktur | 71.81 | 20.71 | 4 |
| Pencapaian | 78.11 | 12.96 | 2 |

*Nota*: Pangkatan dibuat berdasarkan min tertinggi ke min terendah
n = 27

JADUAL 7
Profil personaliti pelajar Matrikulasi Perakaunan, Universiti Putra Malaysia

| Ciri-ciri Personaliti | Min | Sisihan Piawai | Pangkatan |
|---|---|---|---|
| Agresif | 56.71 | 17.30 | 12 |
| Analitikal | 59.19 | 27.18 | 11 |
| Autonomi | 72.97 | 16.10 | 4 |
| Bersandar | 64.15 | 18.60 | 6 |
| Ekstrovert | 59.61 | 23.15 | 10 |
| Intelektual | 46.47 | 26.19 | 14 |
| Introvert | 46.46 | 23.10 | 15 |
| Kepelbagaian | 64.25 | 17.78 | 5 |
| Ketahanan | 62.20 | 23.02 | 7 |
| Kritik-diri | 60.10 | 19.46 | 8 |
| Mengawal | 52.52 | 27.87 | 13 |
| Menolong | 74.86 | 19.57 | 3 |
| Sokongan | 59.97 | 22.32 | 9 |
| Struktur | 75.99 | 16.55 | 2 |
| Pencapaian | 79.99 | 15.72 | 1 |

*Nota*: Pangkatan dibuat berdasarkan min tertinggi ke min terendah
n = 79

JADUAL 8
Profil personaliti pelajar Matrikulasi TESL, Universiti Putra Malaysia

| Ciri-ciri Personaliti | Min | Sisihan Piawai | Pangkatan |
|---|---|---|---|
| Agresif | 57.63 | 20.39 | 11 |
| Analitikal | 57.27 | 23.50 | 12 |
| Autonomi | 78.80 | 17.64 | 1 |
| Bersandar | 64.33 | 18.13 | 5 |
| Ekstrovert | 61.67 | 22.61 | 9 |
| Intelektual | 39.37 | 24.15 | 15 |
| Introvert | 49.67 | 18.66 | 14 |
| Kepelbagaian | 62.60 | 22.00 | 8 |
| Ketahanan | 57.70 | 24.23 | 10 |
| Kritik-diri | 62.97 | 20.47 | 7 |
| Mengawal | 53.20 | 29.49 | 13 |
| Menolong | 73.20 | 19.17 | 2 |
| Sokongan | 65.57 | 22.84 | 4 |
| Struktur | 63.67 | 20.25 | 6 |
| Pencapaian | 71.27 | 20.54 | 3 |

*Nota*: Pangkatan dibuat berdasarkan min tertinggi ke min terendah
n = 38

Sementara itu, tiga tret personaliti yang mendapat skor min terendah ialah tret personaliti Intelektual (39.37), Introvert (49.67) dan Mengawal (53.20) (sila rujuk Jadual 8).

Hasil analisis ANOVA sehala yang dijalankan untuk melihat perbezaan profil personaliti berasaskan bidang pengkhususan menunjukkan bahawa tidak wujud perbezaan profil personaliti yang signifikan untuk semua tret personaliti kecuali untuk tret personaliti Struktur [$F$ (4, 336) = 4.752, $p < .05$]. Ini menjelaskan bahawa secara umumnya tidak terdapat perbezaan profil personaliti yang signifikan antara program Matrikulasi Sains, Matrikulasi Kejuruteraan, Matrikulasi Perakaunan, Matrikulasi Perubatan dan Matrikulasi TESL.

JADUAL 9
Keputusan analisis ANOVA sehala untuk melihat perbezaan profil personaliti pelajar berasaskan program pengajian Matrikulasi

| Tret Personaliti | Sumber | Jumlah Ganda dua | dk | Min Ganda dua | *F* | *Sig. F* |
|---|---|---|---|---|---|---|
| Agresif | Antara Kumpulan | 975.28 | 4 | 243.82 | .683 | .604 |
| | Dalam Kumpulan | 119992.8 | 336 | 357.12 | | |
| | Jumlah | 120968.06 | 340 | | | |
| Analitikal | Antara Kumpulan | 3722.07 | 4 | 930.52 | 1.669 | .157 |
| | Dalam Kumpulan | 187317.42 | 336 | 557.49 | | |
| | Jumlah | 191039.49 | 340 | | | |
| Autonomi | Antara Kumpulan | 1304.23 | 4 | 326.06 | 1.168 | .325 |
| | Dalam Kumpulan | 93785.53 | 336 | 279.12 | | |
| | Jumlah | 95089.76 | 340 | | | |
| Bersandar | Antara Kumpulan | 404.00 | 4 | 101.00 | .295 | .881 |
| | Dalam Kumpulan | 115136.68 | 336 | 342.67 | | |
| | Jumlah | 115540.67 | 340 | | | |
| Ekstrovert | Antara Kumpulan | 415.64 | 4 | 103.91 | .192 | .943 |
| | Dalam Kumpulan | 182083.60 | 336 | 541.92 | | |
| | Jumlah | 182499.23 | 340 | | | |
| Intelektual | Antara Kumpulan | 3751.96 | 4 | 937.99 | 1.638 | .164 |
| | Dalam Kumpulan | 192363.81 | 336 | 572.51 | | |
| | Jumlah | 196115.77 | 340 | | | |
| Introvert | Antara Kumpulan | 883.16 | 4 | 220.79 | .442 | .778 |
| | Dalam Kumpulan | 167688.28 | 336 | 499.07 | | |
| | Jumlah | 168571.44 | 340 | | | |
| Kepelbagaian | Antara Kumpulan | 1403.27 | 4 | 350.82 | 1.005 | .134 |
| | Dalam Kumpulan | 117303.53 | 336 | 349.12 | | |
| | Jumlah | 118706.80 | 340 | | | |
| Ketahanan | Antara Kumpulan | 3360.53 | 4 | 840.13 | 1.774 | .134 |
| | Dalam Kumpulan | 159122.17 | 336 | 473.58 | | |
| | Jumlah | 162482.70 | 340 | | | |
| Kritik-diri | Antara Kumpulan | 481.09 | 4 | 120.27 | .291 | .883 |
| | Dalam Kumpulan | 138669.25 | 336 | 412.71 | | |
| | Jumlah | 139150.34 | 340 | | | |
| Mengawal | Antara Kumpulan | 2149.63 | 4 | 537.40 | .777 | .541 |
| | Dalam Kumpulan | 232385.23 | 336 | 691.62 | | |
| | Jumlah | 234534.86 | 340 | | | |
| Menolong | Antara Kumpulan | 2351.77 | 4 | 587.94 | 1.697 | .150 |
| | Dalam Kumpulan | 116443.67 | 336 | 346.56 | | |
| | Jumlah | 118795.61 | 340 | | | |
| Sokongan | Antara Kumpulan | 1329.93 | 4 | 332.48 | .661 | .620 |
| | Dalam Kumpulan | 169114.74 | 336 | 503.32 | | |
| | Jumlah | 170444.67 | 340 | | | |
| Struktur | Antara Kumpulan | 6109.30 | 4 | 1527.32 | 4.752 | .001* |
| | Dalam Kumpulan | 107990.47 | 336 | 321.40 | | |
| | Jumlah | 114099.77 | 340 | | | |
| Pencapaian | Antara Kumpulan | 2298.29 | 4 | 574.57 | 2.214 | .067 |
| | Dalam Kumpulan | 87216.42 | 336 | 259.57 | | |
| | Jumlah | 89514.72 | 340 | | | |

*Nota*: * Signifikan pada aras keertian .05

*Profil Personaliti Pelajar Matrikulasi Berasaskan Jantina*

Data yang diperoleh daripada soal selidik juga telah dianalisis menggunakan statistik deskriptif yang melibatkan pengiraan min dan sisihan piawai mengikut bidang pengkhususan. Sebagai tambahan, ujian-t juga telah dilaksanakan untuk menentukan sama ada perbezaan min yang wujud antara pelajar lelaki dan perempuan signifikan ataupun tidak. Keputusan yang diperoleh seperti dalam Jadual 10, 11, 12, 13 dan 14.

Keputusan kajian menunjukkan bahawa tidak terdapat banyak perbezaan antara profil personaliti pelajar lelaki dan perempuan bagi program Matrikulasi Sains. Hanya dua tret personaliti yang perbezaan skor minnya agak besar iaitu tret personaliti Menolong dan Sokongan. Untuk tret personaliti Menolong, skor min untuk lelaki ialah 69.39 dan perempuan

JADUAL 10
Ciri-ciri personaliti pelajar lelaki dan perempuan Program Matrikulasi Sains

| Ciri-ciri Personaliti | Lelaki | | Perempuan | | Perbezaan Min | Nilai *t* | *p* |
|---|---|---|---|---|---|---|---|
| | Min | SP | Min | SP | | | |
| Agresif | 60.93 | 17.33 | 59.45 | 20.89 | 1.48 | .498 | .619 |
| Analitikal | 63.63 | 24.65 | 65.23 | 19.11 | -1.60 | -.464 | .643 |
| Autonomi | 73.76 | 18.93 | 71.19 | 15.51 | 2.57 | .816 | .416 |
| Bersandar | 65.34 | 18.43 | 63.10 | 17.27 | 2.24 | .805 | .422 |
| Ekstrovert | 59.48 | 25.98 | 59.21 | 23.09 | 0.27 | .069 | .945 |
| Intelektual | 51.17 | 24.63 | 50.09 | 22.28 | 1.08 | .297 | .767 |
| Introvert | 48.19 | 23.34 | 46.51 | 22.93 | 1.68 | .466 | .642 |
| Kepelbagaian | 66.67 | 18.18 | 66.33 | 17.20 | 0.34 | .127 | .889 |
| Ketahanan | 58.80 | 19.95 | 59.31 | 20.15 | -0.51 | -.164 | .870 |
| Kritik-diri | 60.55 | 19.23 | 61.35 | 20.68 | -0.80 | -.259 | .796 |
| Mengawal | 51.05 | 26.97 | 53.49 | 21.74 | -2.44 | -.639 | .524 |
| Menolong | 69.36 | 18.65 | 79.10 | 16.17 | -9.74 | -3.583 | .000* |
| Sokongan | 57.90 | 24.58 | 63.71 | 19.64 | -5.81 | -1.667 | .095 |
| Struktur | 73.65 | 15.76 | 73.70 | 15.86 | -0.05 | -.020 | .984 |
| Pencapaian | 77.74 | 16.67 | 77.89 | 15.13 | -0.15 | -.058 | .954 |

*Nota*: * Signifikan pada aras keertian.05, n = 157

JADUAL 11
Ciri-ciri personaliti pelajar lelaki dan perempuan Matrikulasi Kejuruteraan

| Ciri-ciri Personaliti | Lelaki | | Perempuan | | Perbezaan Min | Nilai *t* | *p* |
|---|---|---|---|---|---|---|---|
| | Min | SP | Min | SP | | | |
| Agresif | 62.67 | 18.56 | 57.67 | 20.83 | 4.60 | .635 | .530 |
| Analitikal | 56.27 | 22.69 | 56.67 | 17.32 | -0.40 | -.049 | .961 |
| Autonomi | 76.97 | 12.30 | 71.00 | 21.31 | 5.97 | 1.067 | .293 |
| Bersandar | 62.67 | 18.74 | 56.67 | 20.62 | 6.00 | .824 | .415 |
| Ekstrovert | 59.00 | 19.54 | 56.67 | 26.46 | 2.33 | .289 | .774 |
| Intelektual | 50.67 | 19.29 | 48.89 | 14.53 | 1.78 | .255 | .800 |
| Introvert | 49.67 | 19.91 | 34.56 | 15.63 | 15.11 | 2.085 | .044* |
| Kepelbagaian | 70.90 | 21.73 | 64.33 | 17.86 | 6.57 | .824 | .415 |
| Ketahanan | 55.93 | 23.74 | 48.89 | 25.22 | 7.07 | .770 | .446 |
| Kritik-diri | 60.67 | 20.67 | 49.00 | 25.48 | 11.67 | 1.408 | .167 |
| Mengawal | 45.97 | 29.83 | 40.00 | 23.45 | 5.97 | .549 | .586 |
| Menolong | 68.00 | 18.46 | 65.44 | 17.15 | 2.56 | .370 | .714 |
| Sokongan | 58.00 | 23.55 | 54.44 | 21.28 | 3.56 | .405 | .688 |
| Struktur | 65.97 | 23.96 | 58.78 | 26.48 | 7.19 | .771 | .446 |
| Pencapaian | 74.50 | 16.71 | 70.00 | 13.23 | 4.50 | .739 | .465 |

*Nota*: * Signifikan pada aras keertian .05, n = 39

ialah 79.10 iaitu perbezaan sebanyak 9.74. Sementara untuk tret personaliti Sokongan pula, skor min untuk lelaki ialah 57.90 dan perempuan ialah 63.71 iaitu perbezaan sebanyak 5.81. Ujian-t, dua-sampel tak bersandar; menunjukkan perbezaan skor min hanya signifikan untuk tret personaliti Menolong [$t$ (338) = -3.58, $p$<.05] (sila rujuk Jadual 10).

Bagi program Matrikulasi Kejuruteraan, perbezaan skor min yang agak jelas diperoleh untuk sepuluh tret personaliti iaitu Agresif, Autonomi, Bersandar, Introvert, Kepelbagaian, Ketahanan, Kritik-diri, Mengawal, Struktur dan Pencapaian. Perbezaan skor min paling ketara diperoleh ialah untuk tret personaliti Introvert (15.11) dan tret personaliti Kritik-diri (11.67). Ujian-t, dua-sampel tak bersandar yang dijalankan menunjukkan bahawa perbezaan skor min yang signifikan hanya diperoleh untuk tret personaliti Introvert [$t$ (338) = 2.085, $p$<.05] (sila rujuk Jadual 11).

Keputusan yang diperoleh bagi Program Matrikulasi Perubatan menunjukkan bahawa terdapat perbezaan skor min yang agak besar untuk enam tret personaliti iaitu Agresif, Autonomi, Bersandar, Mengawal, Menolong dan Sokongan. Perbezaan skor min paling ketara diperoleh untuk tret personaliti Bersandar (-17.88). Apabila perbezaan skor min untuk kesemua tret personaliti ini diuji dengan ujian-t, dua-sampel tak bersandar; keputusan yang diperoleh adalah seperti yang terkandung dalam Jadual 12. Walau bagaimanapun hasil analisis ujian-t menunjukkan bahawa tidak terdapat perbezaan profil personaliti yang signifikan antara pelajar lelaki dan perempuan.

Keputusan kajian bagi Program Matrikulasi Perakaunan pula menunjukkan perbezaan skor min yang agak jelas telah diperoleh untuk enam tret personaliti iaitu Agresif, Analitikal, Autonomi, Intelektual, Introvert dan Sokongan. Perbezaan skor min paling ketara diperoleh untuk tret personaliti Intelektual (12.09) dan Analitikal (11.42). Hasil analisis ujian-t, dua-sampel tak bersandar menunjukkan bahawa tidak wujud perbezaan profil personaliti yang signifikan mengikut jantina. Keputusan kajian juga menunjukkan bahawa pelajar lelaki memperoleh skor min yang lebih tinggi untuk sepuluh tret personaliti, sementara pelajar perempuan pula mempunyai skor min yang lebih tinggi untuk lima tret personaliti iaitu Bersandar, Kritik-diri, Sokongan, Struktur dan Pencapaian (sila rujuk Jadual 13).

Akhirnya, keputusan yang diperoleh bagi Program Matrikulasi TESL pula menunjukkan bahawa terdapat perbezaan skor min yang agak besar untuk 11 tret personaliti iaitu Agresif, Analitikal, Autonomi, Bersandar, Ekstrovert, Intelektual, Introvert, Ketahanan, Mengawal, Sokongan dan Pencapaian. Apabila perbezaan skor min untuk kesemua tret personaliti ini diuji

JADUAL 12
Ciri-ciri personaliti pelajar lelaki dan perempuan Matrikulasi Perubatan

| Ciri-ciri Personaliti | Lelaki | | Perempuan | | Perbezaan Min | Nilai $t$ | $p$ |
|---|---|---|---|---|---|---|---|
| | Min | SP | Min | SP | | | |
| Agresif | 65.71 | 17.18 | 59.40 | 21.69 | 6.31 | .695 | .494 |
| Analitikal | 64.14 | 30.82 | 65.45 | 22.97 | -1.31 | -.119 | .906 |
| Autonomi | 81.29 | 14.43 | 72.40 | 18.16 | 8.89 | 1.167 | .254 |
| Bersandar | 48.57 | 26.73 | 66.45 | 18.05 | -17.88 | -1.989 | .058 |
| Ekstrovert | 61.43 | 19.52 | 62.95 | 19.12 | -1.52 | -.180 | .858 |
| Intelektual | 48.71 | 28.84 | 50.00 | 26.76 | -1.29 | -.107 | .915 |
| Introvert | 42.86 | 26.28 | 42.05 | 21.57 | 0.81 | .081 | .936 |
| Kepelbagaian | 71.29 | 20.93 | 68.95 | 20.42 | 2.34 | .259 | .798 |
| Ketahanan | 66.86 | 28.32 | 67.40 | 20.83 | -0.54 | -.054 | .957 |
| Kritik-diri | 58.57 | 29.11 | 61.95 | 20.58 | -3.38 | -.336 | .740 |
| Mengawal | 58.57 | 10.69 | 50.50 | 28.74 | 8.07 | .718 | .479 |
| Menolong | 72.57 | 30.65 | 80.85 | 13.51 | -8.28 | -.988 | .333 |
| Sokongan | 51.43 | 24.78 | 61.00 | 20.49 | -9.57 | -1.009 | .323 |
| Struktur | 70.00 | 27.69 | 72.45 | 18.53 | -2.45 | -.265 | .794 |
| Pencapaian | 77.14 | 11.13 | 78.45 | 13.79 | -1.31 | -.225 | .823 |

*Nota*: Tidak signifikan pada aras keertian .05, n = 27

dengan ujian-t, dua-sampel tak bersandar; keputusan yang diperolehi adalah seperti yang terkandung dalam Jadual 14.

Perbezaan skor min paling ketara diperolehi untuk tret personaliti Intelektual (24.80), Sokongan (-14.35), Analitikal (12.95), Ketahanan (12.45), Bersandar (-11.00), Ekstrovert (10.85) dan Autonomi (10.50). Hasil analisis ujian-t yang dijalankan menunjukkan bahawa perbezaan skor min hanya signifikan untuk tret personaliti Intelektual. Keputusan yang diperolehi ialah [$t$ (338) = 2.994, $p$<.05]. Keputusan yang diperoleh juga jelas menunjukkan bahawa secara umumnya pelajar lelaki mempunyai skor min yang lebih tinggi berbanding pelajar perempuan melainkan untuk tiga tret personaliti iaitu Agresif, Bersandar dan Sokongan (sila rujuk Jadual 14).

JADUAL 13
Ciri-ciri personaliti pelajar lelaki dan perempuan Matrikulasi Perakaunan

| Ciri-ciri Personaliti | Lelaki | | Perempuan | | Perbezaan Min | Nilai $t$ | $p$ |
|---|---|---|---|---|---|---|---|
| | Min | SP | Min | SP | | | |
| Agresif | 60.77 | 17.19 | 54.72 | 17.16 | 6.05 | 1.472 | .145 |
| Analitikal | 66.85 | 29.82 | 55.43 | 25.24 | 11.42 | 1.778 | .079 |
| Autonomi | 77.58 | 15.40 | 70.72 | 16.09 | 6.86 | 1.806 | .075 |
| Bersandar | 61.15 | 20.46 | 65.62 | 17.63 | -4.47 | -1.004 | .319 |
| Ekstrovert | 62.62 | 23.29 | 58.13 | 23.16 | 4.49 | .807 | .442 |
| Intelektuaal | 54.58 | 26.35 | 42.49 | 25.43 | 12.09 | 1.962 | .053 |
| Introvert | 50.77 | 23.31 | 44.34 | 22.91 | 6.43 | 1.165 | .247 |
| Kepelbagaian | 64.96 | 14.67 | 63.91 | 19.24 | 1.05 | .247 | .809 |
| Ketahanan | 65.35 | 20.37 | 60.66 | 24.25 | 4.69 | .849 | .339 |
| Kritik-diri | 58.81 | 22.79 | 60.74 | 17.81 | -1.93 | -.412 | .682 |
| Mengawal | 54.96 | 31.22 | 51.32 | 26.32 | 3.64 | .543 | .589 |
| Menolong | 76.42 | 17.49 | 74.09 | 20.63 | 2.33 | .495 | .622 |
| Sokongan | 54.62 | 23.70 | 62.60 | 21.34 | -7.98 | -1.507 | .136 |
| Struktur | 73.35 | 20.23 | 77.28 | 14.45 | -3.93 | -.994 | .324 |
| Pencapaian | 78.73 | 19.33 | 80.60 | 13.78 | -1.87 | -.495 | .662 |

*Nota*: * Tidak signifikan pada aras keertian .05, n = 79

JADUAL 14
Ciri-ciri personaliti pelajar lelaki dan perempuan Matrikulasi TESL

| Ciri-ciri Personaliti | Lelaki | | Perempuan | | Perbezaan Min | Nilai $t$ | $p$ |
|---|---|---|---|---|---|---|---|
| | Min | SP | Min | SP | | | |
| Agresif | 51.00 | 18.53 | 60.95 | 20.90 | -9.95 | -1.274 | .213 |
| Analitikal | 65.90 | 26.61 | 52.95 | 21.18 | 12.95 | 1.449 | .158 |
| Autonomi | 85.80 | 11.48 | 75.30 | 19.33 | 10.50 | 1.576 | .126 |
| Bersandar | 57.00 | 23.12 | 68.00 | 14.36 | -11.00 | -1.608 | .119 |
| Ekstrovert | 68.90 | 17.73 | 58.05 | 24.28 | 10.85 | 1.251 | .221 |
| Intelektuaal | 55.90 | 26.15 | 31.10 | 18.72 | 24.80 | 2.994 | .006* |
| Introvert | 54.00 | 14.30 | 47.50 | 20.49 | 6.50 | .896 | .378 |
| Kepelbagaian | 63.00 | 20.58 | 62.40 | 23.20 | 0.60 | .069 | .945 |
| Ketahanan | 66.00 | 15.78 | 53.55 | 26.90 | 12.45 | 1.345 | .189 |
| Kritik-diri | 64.90 | 19.38 | 62.00 | 21.42 | 2.90 | .360 | .721 |
| Mengawal | 59.10 | 26.19 | 50.25 | 31.22 | 8.85 | .770 | .448 |
| Menolong | 74.80 | 19.87 | 72.40 | 19.29 | 2.40 | .318 | .753 |
| Sokongan | 56.00 | 21.19 | 70.35 | 22.62 | -14.35 | -1.671 | .106 |
| Struktur | 65.00 | 21.73 | 63.00 | 20.03 | 2.00 | .251 | .804 |
| Pencapaian | 77.90 | 18.00 | 67.95 | 21.35 | 9.95 | 1.264 | .217 |

*Nota*: * Signifikan pada aras keertian .05, n = 38

## PERBINCANGAN

*Profil Personaliti Pelajar Matrikulasi Berasaskan Bidang Pengkhususan*

Dapatan kajian menunjukkan bahawa pelajar program Matrikulasi Sains memperoleh skor tinggi untuk tret personaliti Autonomi, Kritik-diri, Menolong, Struktur dan Pencapaian. Mereka juga memperoleh skor sederhana untuk tret personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Mengawal dan Sokongan. Ini menunjukkan bahawa pelajar Matrikulasi Sains sukakan kebebasan, suka menolong orang lain, berstruktur tinggi dan berfokus kepada pencapaian. Walau bagaimanapun mereka cenderung untuk mengkritik diri dan ini merupakan satu kelemahan diri. Sebahagian ciri-ciri ini adalah selari dengan ciri-ciri personaliti Investigatif yang merupakan ciri-ciri utama pelajar dalam bidang sains (Holland 1997, 1985). Kekurangan yang jelas adalah daripada segi tret personaliti Analitikal, Intelektual dan Ketahanan yang berada hanya pada tahap sederhana. Pelajar aliran sains sepatutnya memperolehi skor yang tinggi untuk tret-tret ini yang merupakan ciri utama personaliti Investigatif (Holland 1997; 1985).

Pelajar program Matrikulasi Kejuruteraan memperoleh skor tinggi untuk tret personaliti Autonomi dan Pencapaian serta memperolehi skor sederhana untuk ciri personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Kritik-diri, Mengawal, Sokongan dan Struktur. Keputusan ini memberikan gambaran bahawa pelajar Matrikulasi Kejuruteraan juga sukakan kebebasan dan memberi keutamaan kepada pencapaian. Menurut Holland (1997; 1985), bidang kejuruteraan adalah bidang Realistik dan mereka selalunya menunjukkan ciri-ciri Analitikal, Agresif, Intelektual, Kepelbagaian, Ketahanan dan Introvert yang tinggi. Namun daripada keputusan yang diperolehi, tret-tret personaliti ini nampaknya hanya di tahap sederhana sahaja. Keadaan ini mungkin akan menimbulkan masalah kerana sebahagian besar ciri-ciri yang seharusnya ada pada individu Realistik tidak dimiliki oleh pelajar.

Dapatan kajian menunjukkan bahawa pelajar program Matrikulasi Perubatan memperolehi skor tinggi untuk tret personaliti Autonomi, Kritik-diri, Menolong, Struktur dan Pencapaian di samping memperolehi skor sederhana untuk tret personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Mengawal dan Sokongan. Keputusan ini jelas menunjukkan bahawa pelajar Matrikulasi Perubatan mempunyai ciri-ciri suka kepada kebebasan, suka menolong, mempunyai struktur yang tinggi dan berfokus kepada pencapaian (Holland 1997; 1985). Walaupun ciri-ciri ini adalah sebahagian daripada ciri individu Investigatif, namun kritikan-diri yang tinggi merupakan satu kekurangan dan kelemahan. Ini adalah kerana individu yang skornya tinggi dalam tret personaliti Kritik-diri dianggap bermasalah (Sidek Mohd Noah 1998) dan terlalu suka mengkritik diri sendiri. Skor yang hanya di tahap sederhana untuk tret personaliti Analitikal, Intelektual dan Ketahanan juga adalah kelemahan yang perlu diperbaiki.

Pelajar program Matrikulasi Perakaunan pula memperoleh skor tinggi untuk tret personaliti Autonomi, Kritik-diri, Menolong, Struktur dan Pencapaian di samping memperoleh skor sederhana untuk tret personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Mengawal dan Sokongan. Keputusan ini memberikan gambaran bahawa pelajar Matrikulasi Perakaunan yang dianggap oleh Holland (1997; 1985) memiliki jenis personaliti *Conventional* suka kepada kebebasan, menolong orang lain, berstruktur tinggi dan suka bersaing untuk mencapai sesuatu matlamat yang telah dikenal pasti. Walaupun sebahagian ciri ini menepati ciri-ciri yang disaran oleh Holland (1997; 1985), namun ciri-ciri seperti kritik-diri dan kebebasan tinggi adalah satu kekurangan yang mereka miliki. Kekurangan lain yang agak jelas adalah tret personaliti Analitikal, Intelektual dan Ketahanan yang hanya di tahap sederhana. Kepelbagaian dan Mengawal yang sederhana juga mungkin merupakan satu masalah kerana bidang *Conventional* memerlukan Kepelbagaian dan Mengawal yang rendah.

Akhirnya, bagi pelajar program Matrikulasi TESL mereka memperoleh skor tinggi untuk tret personaliti Autonomi, Kritik-diri, Menolong dan Pencapaian serta memperoleh skor sederhana untuk tret personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Introvert, Kepelbagaian, Ketahanan, Mengawal, Sokongan dan Struktur. Ini memberi gambaran bahawa pelajar TESL juga suka kepada kebebasan, suka menolong orang lain, berfokus kepada

pencapaian tetapi suka mengkritik diri sendiri. Menurut Holland (1997; 1985), pelajar TESL mempunyai ciri-ciri personaliti individu Artistik. Individu berpersonaliti Artistik seharusnya berautonomi tinggi, analitik, kepelbagaian tinggi serta kurang berstruktur. Keputusan yang diperolehi ini menampakkan kelemahan personaliti pelajar berbanding ciri-ciri personaliti yang seharusnya ada untuk bidang berkenaan.

*Profil Personaliti Pelajar Matrikulasi Berasaskan Jantina*

Dapatan kajian menunjukkan bahawa umumnya tidak terdapat perbezaan yang ketara dari segi personaliti antara pelajar lelaki dan perempuan program Matrikualsi Sains. Umumnya mereka memperoleh skor tinggi bagi tret personaliti Autonomi, Kritik-diri, Struktur dan Pencapaian serta memperolehi skor sederhana untuk ciri personaliti Agresif, Analitikal, Bersandar, Ekstrovert, Intelektual, Introvert, Kepelbagaian, Ketahanan, Mengawal dan Sokongan. Perbezaan personaliti yang signifikan hanya wujud untuk tret personaliti Menolong dengan pelajar lelaki memperolehi skor sederhana, sementara pelajar perempuan pula memperoleh skor tinggi. Keputusan yang diperoleh ini menunjukkan bahawa tidak wujud perbezaan dari segi personaliti antara pelajar lelaki dan pelajar perempuan program Matrikulasi Sains. Perbezaan hanya wujud untuk tret personaliti Menolong.

Dapatan kajian seterusnya menunjukkan bahawa walaupun wujud perbezaan skor min bagi kesemua tret personaliti antara pelajar lelaki dan perempuan Program Matrikulasi Kejuruteraan, namun perbezaan tersebut adalah tidak signifikan dari segi statistik. Perbezaan personaliti yang signifikan hanya wujud untuk tret personaliti Introvert. Keputusan ini menunjukkan bahawa umumnya tidak wujud perbezaan dari segi personaliti antara pelajar lelaki dan pelajar perempuan program Matrikulasi Kejuruteraan dan perbezaan hanya wujud untuk personaliti Introvert.

Keputusan yang diperoleh untuk program Matrikulasi Perubatan dan Matrikulasi Perakaunan pula menunjukkan bahawa walaupun umumnya terdapat perbezaan skor min untuk kesemua tret personaliti, tetapi tiada satu pun yang menunjukkan perbezaan yang signifikan dari segi statistik. Ini jelas menunjukkan bahawa tidak wujud perbezaan dari segi personaliti antara pelajar lelaki dan pelajar perempuan program Matrikulasi Perubatan dan Perakaunan.

Akhirnya dapatan kajian juga menunjukkan bahawa walaupun wujud perbezaan skor min antara pelajar lelaki dan perempuan program Matrikualsi TESL, namun perbezaan tersebut umumnya tidak signifikan dari segi statistik melainkan untuk tret personaliti Intelektual. Untuk tret personaliti ini pelajar lelaki memperoleh skor sederhana manakala pelajar perempuan memperoleh skor rendah.

Walaupun tidak terdapat perbezaan skor min untuk kesemua tret personaliti yang dikaji antara pelajar lelaki dan perempuan bagi semua program matrikulasi yang dikaji namun perbezaan skor min untuk beberapa tret personaliti tetap wujud tetapi tidak signifikan. Dengan itu bolehlah dirumuskan bahawa tiada perbezaan dari segi profil personaliti antara pelajar lelaki dan perempuan berasaskan bidang pengkhususan. Dengan kata lain, profil personaliti mereka sama sahaja melainkan untuk tret-tret tertentu seperti yang telah dibincangkan sebelum ini. Dapatan kajian ini selaras dengan dapatan kajian oleh Sidek Mohd Noah (1996), Ab. Aziz Mohd. Yatim (1991), Abdul Hanid Halid (1991), Azli Abdul Ani (1991), Jamaludin Ahmad (1991), Nazmi Md. Nor (1991) dan R. Soorya Prabah (1991).

## IMPLIKASI KAJIAN

Dapatan kajian yang diperoleh telah memberi kefahaman yang lebih jelas terutamanya tentang profil personaliti pelajar program matrikulasi UPM. Dapatan kajian jelas menunjukkan bahawa tidak wujud perbezaan yang signifikan dari segi profil personaliti berdasarkan program pengajian atau bidang pengkhususan dan jantina. Dapatan yang diperoleh ini nyata bercanggah dengan teori Tipologi Holland (Holland 1997; 1985) yang menjelaskan bahawa setiap bidang iaitu Realistik, Investigatif, Artistik, Sosial, *Enterprising* dan *Conventional* mempunyai ciri-ciri yang unik dan berlainan. Keadaan ini berlaku mungkin disebabkan pelajar telah memilih program pengajian atau pengkhususan yang salah atau pihak universiti tersalah menempatkan mereka ke dalam program-program pengajian tertentu.

Secara keseluruhan pelajar matrikulasi UPM telah memperoleh skor tinggi untuk personaliti Autonomi dan Pencapaian serta skor sederhana untuk personaliti Agresif, Analitikal, Bersandar,

Ekstrovert dan Ketahanan. Dari segi tret personaliti Intelektual didapati semua pelajar matrikulasi memperolehi skor sederhana kecuali pelajar perempuan Program Matrikulasi TESL yang memperoleh skor rendah.

Skor di bawah kategori rendah atau sederhana untuk tret personaliti Intelektual, Analitikal, Ketahanan dan Pencapaian adalah satu petanda yang kurang baik dan amat menyedihkan. Ini adalah kerana pelajar Matrikulasi UPM dipilih di kalangan pelajar yang umumnya memperoleh keputusan cemerlang dalam peperiksaan SPM. Mereka ini seharusnya memiliki tret personaliti Intelektual, Analitikal, Ketahanan dan Pencapaian yang tinggi. Ini mungkin merupakan salah satu faktor mengapa pelajar matrikulasi UPM kurang cemerlang dari segi pencapaian akademik. Ini jelas apabila jumlah bilangan pelajar yang mendapat status Amaran serta Gagal dan Diberhentikan agak besar.

Walaupun umumnya profil personaliti bagi lima bidang pengajian Matrikulasi UPM yang dikaji adalah sama, namun masih wujud perbezaan bagi sesetengah tret personaliti. Perbezaan ini pula umumnya bersesuaian dan selaras dengan program pengajian masing-masing berdasarkan saranan yang dikemukakan oleh Holland (1997; 1985). Misalnya pelajar program Matrikulasi Sains memperoleh skor tinggi untuk tret personaliti Autonomi, Menolong, Struktur dan Pencapaian sementara pelajar program Matrikulasi Kejuruteraan pula memperoleh skor tinggi untuk tret personaliti Autonomi dan Pencapaian.

Menurut Holland (1997; 1985) pelajar aliran Sains mempunyai personaliti Investigatif yang dicirikan dengan mereka sukakan kebebasan, menolong orang lain, berstruktur tinggi dan berfokus kepada pencapaian. Sementara itu pelajar aliran Kejuruteraan pula mempunyai personaliti jenis Realistik yang selalunya dicirikan dengan sifat analitik yang tinggi, agresif, intelek, mempunyai kepelbagaian yang tinggi, ketahanan yang tinggi serta introvert yang tinggi.

Dari segi perbezaan profil personaliti berasaskan jantina, nampaknya tidak terdapat perbezaan yang signifikan antara pelajar lelaki dan perempuan untuk semua program pengajian. Keputusan ini agak bercanggah dengan kenyataan Holland (1997; 1985) yang menyatakan bahawa sesetengah kerjaya dikuasai oleh jantina tertentu. Keadaan ini juga mungkin disebabkan oleh oleh pelajar telah tersalah pilih program pengajian atau pengkhususan atau pihak universiti tersilap dalam proses penempatan pelajar ke program pengajian tertentu.

Dari segi aplikasi praktikal, beberapa perkara boleh dipertimbangkan hasil daripada keputusan kajian yang diperoleh terutama dari segi proses dan prosedur pengambilan pelajar serta program-program perkembangan diri pelajar yang perlu dirancang dan dilaksana oleh universiti.

## CADANGAN-CADANGAN

Profil personaliti yang diperoleh bagi kesemua program pengajian matrikulasi UPM iaitu Matrikulasi Sains, Kejuruteraan, Perubatan, Perakaunan dan TESL telah memberi petunjuk yang jelas bahawa suatu usaha yang proaktif dan kolektif perlu dilakukan. Skor rendah atau sederhana untuk tret personaliti khususnya Analitikal, Intelektual dan Ketahanan perlu diberikan perhatian yang serius oleh pihak pengurusan universiti kerana tret-tret personaliti ini merupakan tret-tret personaliti yang penting yang dapat merangsang pencapaian dan kecemerlangan pendidikan khususnya di UPM. Tret-tret personaliti ini juga adalah antara tret-tret personaliti yang seharusnya dimiliki oleh semua pelajar universiti serta institusi pengajian tinggi.

Keselarasan antara individu dengan persekitaran atau personaliti dengan program pengajian telah dibuktikan mempunyai hubungan dengan pencapaian akademik (Holland 1997, 1985; Sidek Mohd Noah 1996). Oleh yang demikian selain daripada pencapaian akademik pelajar, aspek-aspek lain seperti personaliti, minat dan nilai pelajar juga perlu di ambil perhatian. Sehubungan itu beberapa langkah konkrit dan bersepadu perlu dilaksanakan terutama dari segi prosedur pengambilan pelajar bagi memastikan hanya mereka yang benar-benar sesuai sahaja diterima masuk ke dalam program pengajian tertentu yang telah ditetapkan. Misalnya pihak berwajib universiti dicadangkan mewajibkan agar semua calon pelajar mengambil ujian personaliti sebagai prasyarat sebelum dipertimbangkan untuk diterima masuk bagi mengikuti program pengajian matrikulasi yang tertentu. Ini adalah

untuk memastikan calon pelajar ditempatkan ke dalam bidang pengkhususan yang benar-benar selaras dengan personaliti mereka.

Pelajar yang memperoleh skor sederhana atau rendah dalam tret personaliti Analitikal, Intelektual dan Ketahanan serta memperolehi skor tinggi bagi tret personaliti Introvert, Bersandar, Sokongan dan Kritik-diri dijangka akan memperoleh banyak kebaikan daripada sesi kaunseling yang dijalankan kepada mereka sama ada dalam bentuk kaunseling individu mahupun kaunseling kelompok. Sehubungan itu dicadangkan agar Pusat Pengajian Matrikulasi khususnya dan Unit Kaunseling dan Kerjaya, UPM mengambil beberapa tindakan yang positif bagi membantu pelajar berkenaan. Program-program khusus yang boleh memperkembangkan tret-tret personaliti ini perlu dirancang dan dilaksanakan terutama oleh Unit Bimbingan dan Kerjaya, Bahagian Hal Ehwal Pelajar, UPM.

Berdasarkan dapatan kajian, beberapa kajian lanjutan boleh dijalankan. Antaranya kajian akan datang boleh mengkaji hubungan antara tret-tret personaliti dengan pencapaian akademik. Selain itu kajian yang serupa juga boleh dijalankan di Pusat Pengajian Matrikulasi yang terdapat di institusi pengajian awam atau swasta yang lain. Dengan cara ini keputusan kajian dapat dibandingkan dan profil personaliti bagi keseluruhan pelajar matrikulasi di Malaysia dapat dikenal pasti dan ditentukan.

## RUJUKAN


Ab. Aziz Mohd. Yatim. 1991. Kesesuaian kerjaya: Satu kajian di kalangan pelajar Bacelor Pendidikan (Pengajaran Bahasa Malaysia sebagai Bahasa Pertama) dan Bacelor Pendidikan (Pendidikan Jasmani) di UPM berdasarkan teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

Abdul Hanid Halid. 1991. Keselarasan kerjaya: Satu kajian di kalangan pelajar Bacelor Pendidikan (Pengajaran Bahasa Inggeris sebagai Bahasa Kedua) (TESL) dan Sains Rumah tangga (SRT) di UPM, berdasarkan teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

Abi a/k Baring. 1997. Profil personaliti kadet PALAPES: Satu kajian di kalangan kadet-kadet PALAPES Universiti Putra Malaysia. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

Allport, G.W. 1971. *Personality: A Psychological Interpretation.* London: Constable.

Anastasi, A. 1983. *Psychological Testing.* Edisi keenam. New York: MacMillan Publishing Company.

Anastasi, A. 1988. *Psychological Testing.* Edisi keenam. New York: MacMillan Publishing Company.

Azli Abdul Ani. 1991. Kesesuaian kerjaya: Satu kajian di kalangan pelajar-pelajar Veterinar dan Bacelor Sains di UPM berdasarkan teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

Azliza Abdullah. 1992. Keberkesanan penggunaan modul motivasi dalam meningkatkan motivasi pencapaian pelajar-pelajar di salah sebuah sekolah menengah di negeri Selangor. Kajian latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

Ary, P., L.C. Jacobs dan A. Razavieh. 1990. *Introduction to Research in Education.* Edisi keempat. Florida: Holt, Rinehart and Winston Inc.

Atan Long. 1982. *Psikologi Pendidikan.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

Brown, D. dan L. Brooks. 1984. *Career Choice and Development.* California: Jossey Bass Inc.

Brown, F.G. 1983. *Principles of Educational and Psychological Testing.* New York: Holt, Rinehart & Winston.

Guilford, J.P. 1959. *Personality.* New York: McGraw Hill Book Company.

Holland, J. L. 1997. *Making Vocational Choices: A Theory of Vocational Personality and Work Environment.* Odessa, Florida: Psychological Assessment Resources.

Holland, J. L. 1985. *A Theory of Vocational Personality and Work Environment.* Englewood Cliffs, New Jersey: Prentice-Hall.

Holland, J. L. 1973. *Making Vocational Choices: A Theory of Careers.* Englewood Cliffs, New Jersey: Prentice-Hall.

Isaac, S., dan W.B. Micheal. 1984. *Handbook in Research and Evaluation.* San Deigo: Edits Publisher.

Jamaludin Ahmad. 1991. Kesesuaian kerjaya: Satu kajian di kalangan pelajar-pelajar Diploma dan Bacelor Sains Komputer di UPM berdasarkan

teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

KEMENTERIAN PENDIDIKAN MALAYSIA. 1993. *Buku Panduan Pelaksanaan Perkhidmatan Bimbingan dan Kaunseling untuk Sekolah Menengah.* Kuala Lumpur: Bahagian Sekolah, Kementerian Pendidikan Malaysia.

KERLINGER, F.N. 1986. *Foundations of Behavioral Research.* Edisi ketiga. New York: Holt, Rinehart and Winston.

KLEIN, K.L., dan Y. WIENER. 1977. Interest congruency as a moderator of the relationship between job tenure and job satisfaction and mental health. *Journal of Vocational Behavior* **10:** 91-98.

MADDI, S.R. 1989. *Personality Theories.* Edisi kelima. Chicago: The Dorsey Press.

MOHD ALI JAAMAT. 1997. Keberkesanan modul motivasi terhadap peningkatan motivasi pencapaian pelajar Tingkatan 4, Sekolah Menengah Undang Jelebu Negeri Sembilan. Kajian latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

MOHD MAJID KONTING. 1993. *Kaedah Penyelidikan Pendidikan.* Kuala Lumpur: Dewan Bahasa dan Pustaka.

NAZMI MD. NOR. 1991. Kesesuaian kerjaya: Satu kajian di kalangan pelajar-pelajar Bacelor Pendidikan (Bimbingan & Kaunseling) dan Bacelor Pendidikan (Sains Pertanian) di UPM berdasarkan teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

NORMALA MOHD. 1992. Hubungan motivasi pencapaian dengan personaliti di kalangan pelajar matrikulasi Universiti Pertanian Malaysia. Kajian latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

NORUSIS, M.J. dan SPSS INS. 1993 *SPSS for Windows Base System User's Guide.* Chicago: SPSS Ins.

NOWAK, G.T. 1986. *Western Michigan University Career Guidance Inventory Manual.* Kalamazoo, Michigan: Western Michigan University Testing and Evaluation Services.

R. SOORYA PRABAH. 1991. Kesesuaian kerjaya: Satu kajian di kalangan pelajar-pelajar tahun satu program Bacelor Sains Perniagaantani, Bacelor Sains Ekonomi Sumber dan Bacelor Sains Perakaunan, Fakulti Ekonomi dan Pengurusan di UPM berdasarkan teori Holland. Latihan ilmiah yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

SIDEK MOHD NOAH. 1999. Kajian kesahan, kebolehpercayaan alat ukuran Inventori Personaliti Sidek (IPS) edisi 1999. Laporan Penyelidikan yang tidak diterbitkan. Fakulti Pengajian Pendidikan, UPM, Serdang.

SIDEK MOHD NOAH. 1998. *Pengujian dalam Psikologi dan Kaunseling.* Serdang: Perkhidmatan Pencetakan FPP.

SIDEK MOHD NOAH. 1996. Keselarasan Personaliti dan persekitaran latihan: Satu kajian di kalangan pelajar universiti berasaskan teori kongruens individu-persekitaran Holland. Tesis Ph.D yang tidak diterbitkan. Fakulti Sains Kemasyarakatan dan Kemanusiaan, UKM, Bangi.

THORNDIKE, L. 1976. *Educational Measurement.* Edisi kedua. Washington, D.C.: America Council on Education.

TUCKMAN, B.W. 1978. *Conducting Educational Research.* Edisi kedua. New York: Harcourt Brace Jovanovich, Inc.

TUCKMAN, B.W. 1988. *Conducting Educational Research.* Edisi ketiga. New York: Harcourt Brace Jovanovich, Inc.

YAMANE, T. 1967. *Elementary Sampling Theory.* Englewood: Prentice-Hall.

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# Use of the Virtual Class (VC) Application: A Survey among Students

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**ABSTRAK**

Kajian ini meneliti penggunaan aplikasi kelas maya oleh pelajar perakaunan di Fakulti Ekonomi dan Pengurusan (FEP). Dua isu utama yang dikaji adalah pola penggunaan oleh pelajar dan cadangan mereka untuk meningkatkan kebergunaan aplikasi bagi tujuan pembelajaran. Kajian menunjukkan bahawa di antara enam modul aplikasi kelas maya yang disediakan oleh FEP, modul "Tugasan dan Kuiz" adalah yang paling kerap digunakan oleh pelajar kursus Perakaunan Kewangan Pertengahan. Terdapat pelajar yang beranggapan aplikasi kelas maya sebagai memberi peluang untuk tidak hadir kuliah. Jangka masa yang diperlukan untuk mengakses aplikasi kelas maya dikatakan sebagai masalah utama dalam menggunakan aplikasi itu. Faedah utama menggunakan aplikasi kelas maya pula termasuklah keupayaannya untuk meningkatkan pengetahuan pelajar tentang sesuatu kursus dan juga membantu pelajar untuk berkomunikasi dengan pensyarah. Kebanyakan pelajar berpendapat aplikasi kelas maya perlu diluaskan kepada semua pensyarah di universiti. Cadangan untuk meningkatkan penggunaan aplikasi kelas maya termasuklah memperbaiki kemudahan komputer di kampus dan menyediakan nota yang lebih lengkap dalam aplikasi kelas maya.

**ABSTRACT**

This study investigates the use of the virtual class (VC) application by accounting students at the Faculty of Economics and Management (FEM). Two main issues examined are the pattern of usage by students and their suggestions to improve the usefulness of the application for their learning process. The study shows that among the six modules of the VC application offered at the FEM, the "Assignment and Quizzes" module was used most frequently by students in the Intermediate Accounting course. There were students who viewed the VC application as an opportunity to be absent from lectures. The length of time spent in accessing the VC application is cited as the main problem in using the application. The major benefits of using the VC application include its ability to enhance the students' knowledge of a course and assist students to communicate with lecturers. A majority of the students maintain that VC application should be extended to all lecturers in the university. Suggestions given to improve usage of VC application include improvement of on-campus facilities and provision of more complete sets of notes than currently available.

## INTRODUCTION

This paper focuses on students' pattern of usage of the Virtual Class (VC) application in the context of the Salleh *et al.* (2000) paper. The perceived benefits and pitfalls of using the application are also examined.

The VC application here refers to the environment in which lectures in the traditional manner are supplemented with the use of the software application as offered on the server of the Faculty of Economics and Management (FEM), Universiti Putra Malaysia (UPM). As

pointed out by Salleh *et al.*, the rationale underlying the use of VC at the FEM is mainly to overcome the constraints of location and time for communication between a lecturer and his or her students, more specifically in reference to a course.

*In essence, VC as applied in the FEM case, bridges the distance so that students can have access to a lecturer at any time and from any location outside the scheduled sessions of the physical classroom (Salleh et al. 2000, p. 2).*

Initially, when the VC application was first introduced, access to the module by lecturers and student access to the database was only through the Lotus Notes application.

A more recent development of the FEM server is the availability of lecturers' homepages that provide links to the VC application. Through this form of Web-based sites, the modules in the VC application of courses offered as managed by individual lecturers can now be accessed by students from almost everywhere within and outside the UPM campus through the Intranet and Internet systems. Given the rising trend among lecturers at the FEM to popularise the use of the VC application in their teaching, it is useful to learn whether such efforts and determinism are reciprocated by students' actual usage of the application.

Each of the six modules made available to students in the VC application: Students Registration; Course Plan; Course Notes; News and Announcements; Assignments and Quizzes; and Discussions[1] is included to meet specific purposes. In this regard, it is equally useful to observe the usage pattern among the modules so that appropriate measures can be taken to encourage the use of the other non-used modules. Considering that the provision of each module means the use of space available on the system, a particular module that is perceived as not being useful perhaps can be deleted from the system or replaced with other new modules.

This study, being exploratory, limits its scope to the usage of the VC application among students who have completed the first course in accounting, the Introductory Accounting course offered during the first semester of the accounting programme.

Since the first time the VC application was made available to students, it has been a practice of the instructor of the course to provide hands-on sessions on the use of the VC application to students during the first two weeks of the semester. Attendance, however, was not made compulsory. As with any new computer software application, knowledge about the availability of the application alone cannot ensure that users are motivated to use it. In fact, in many innovation exercises, overcoming prejudices against the new product becomes fundamental. For this reason and for the reason that it may be the lack of knowledge of the application that results in students not using the application, the instructor adopts the above approach. Nevertheless, providing such exposure to students involves time and effort on the part of the instructor, especially when the number of students usually exceeds five hundred. Hence, focusing on the usage of the VC application by this group of students can, in some ways, indicate whether the hands-on sessions have indeed contributed towards their willingness to use the application. For instance, if students indicate that exposure to the application through other media can be equally effective, then the instructor needs no longer continue with the hands-on sessions at the beginning of every semester.

Incidentally, findings from the Salleh *et al.* (2000) study on usage of the VC application among lecturers also indicate that the level of usage at the FEM was highest in courses offered by the lecturers of the Accounting and Finance department. It thus becomes more interesting to determine the pattern of VC application usage among students pursuing courses offered by this department.

The accounting literature, especially according to Bryant and Hunton (2000), offers relatively little research on the pedagogical benefits of using technology to deliver instruction. In reviewing studies on distance education, they also noted that there has been a lack of research encompassing newer

1 Except for the Discussion Module, other modules are non-interactive and unidirectional and function like bulletin boards. The discussion module is bidirectional and provides an asynchrounous discussion template between students and lecturer.

technologies such as non-interactive and interactive web-based delivery even in other areas of education. Hence, it is hoped that this study can reduce the dearth of the literature on this issue particularly in respect of accounting education.

To summarise, this study reports the level of usage of the VC application by students at the FEM and the benefits and problems that they experienced while learning under the VC environment. The section that proceeds provides a summary of the review of relevant literature on the issue of education via a VC environment. Since literature on the use of the VC environment in the teaching and learning of accounting is minimal, related studies in business and management education were cited. Next, the method applied in this study is discussed, followed by a report of the findings. Finally, the implications of the results and the conclusion arrived at are reported.

*Review of Relevant Literature*

In their paper, Salleh *et al.* (2000) found that various definitions have been assigned to describe the teaching and learning environment in which technology is used as a medium for communication as opposed to the traditional classroom setting. Overall, there seems to be no consensus on the terminology to describe the VC phenomenon. Despite the lack of agreement on what the most appropriate term is, many studies have been conducted on various aspects of the issue.

In terms of the usefulness of the VC application, a review of literature shows that many researchers claim that this form of technology integration is able to assist student learning especially through creating additional and flexible access avenue to information (Bradley 1999, Fetterman 1998, Funnel *et al.* 1998). It must be stressed that it is never the intent of this paper to question the usefulness of the VC application in terms of its communication role. But it should be borne in mind that most of these claims were made from the perspective of instructors. In order to obtain a more complete picture of the electronic learning scenario including its benefits, the views of the students should not be ignored.

Among the limited studies that include students' feedback on electronic learning is the study by Clements (1999). The study analysed results of two surveys that solicited feedback from first year students at the beginning and end of the basic marketing course at the University of Staffordshire in which a virtual learning environment, the Lotus Learning Space (LLS) similar to the VC platform of the FEM, was introduced in September 1998. Among other things, analysis of the results of the initial survey indicates that students were not necessarily prepared to work in a VC environment upon entry into university. Only about 87 respondents (20% of the population of 434) indicated that they were familiar with virtual group discussion although about 51% had searched the Web. About 76% of the respondents were worried about the new delivery method and thought that a traditional approach would be better.

These findings led Clements to conclude that structured guidance and hands-on practice have to be built into the course design especially in the induction period, a view also shared by Symons and Galpin (1998) and the lecturer of the Introductory Accounting course at UPM, among others. The end survey in Clements' (1999) study, though showing a marked improvement in the level of competency of the LLS application, still suggests that much more effort has to be expended into making it work. Only about 50% of the respondents indicated that they used the Group Discussion module.

Pybus and Sanderson (1999) carried out a pilot study to examine the potential of LLS to support distance teaching and learning of the BA in Business Management programme offered in October 1998 at the Nottingham Business School. The structure of the programme is such that students are required to be full-time students during their first year of study prior to the subsequent years of distance learning. It was during the full-time term that students were given familiarity sessions that included hands-on experience with the various modules of the software application. Concentrating especially on the discussion module or more specifically, the Course Room, Pybus and Sanderson discovered that the pattern of students' participation was influenced by the topic of discussion similar to the pattern described by Grudin (1994). Students' enthusiasm was found to be very high initially when all the twenty students in the BA in Business Management programme participated in the first electronic discussion on non-specific subject topics. Altogether, 120

comments were generated within a twenty-minute discussion session. Later, when the focus was changed to discussion of study-related topics, far fewer students contributed to the discussion.

Pybus and Sanderson next tried out, among others, a highly structured debate on the LLS. This time, students were given a week to research, reflect and prepare their initial posting so as to increase their confidence in contributing to the on-line discussion. Two topics were to be debated between four teams with two each debating on one particular topic. Each team debating a topic simultaneously made its first posting and then read that of their opposition. A response was required after 15 minutes. Next, the teams switched their attention to the other debate and all teams were invited to vote, giving a short explanation of which arguments had persuaded them. All students had access to the results of the vote. Feedback from students on this interesting experiment indicated that all of them enjoyed exploring a topic in this way. According to them, the highly structured nature of the on-line debate was useful in encouraging their contributions, they knew exactly what was required of them and it was easy to navigate. Based on the students' response, the conclusion the researchers made was that a VC environment as offered via the LLS can be a useful platform for distance education of the BA in a Business Management programme.

A more recent study on students' perception of the LLS was carried out by Arbaugh (2000) at the graduate management education level. In the study, among others, responses measured on a 7-point Likert-type scale on relevant VC learning issues were sought from a total of 108 students pursuing five Masters in Business Administration (MBA) courses. Only five students were enrolled in two of the courses while the rest had only one course each. Each course in the study was administered via its respective LLS Web site that provided a combination of the non-interactive "notice boards" and interactive discussion platforms, similar to the LLS of the above two studies by Clements (1999) and Pybus and Sanderson (1999) and the VC of the FEM. Except for one course (Course 2) that had half of its sessions conducted in a traditional manner, all other courses were conducted fully on the electronic medium. Within these four courses, three had on-site opening and wrap-up sessions while one had no physical meeting at all.

Among the findings of Arbaugh's (2000) study was that there were significant differences between the courses in ratings of perceived ease of use of the software. Additionally, the flexibility of the medium of instruction (VC application) and the ability to develop an interactive course environment were found to play a larger role in determining student satisfaction with the VC learning environment than the ease or frequency with which the medium can be used.

In another study of VC usage but within a pilot Intranet system at Brighton Business School in 1997/98 by Flowers *et al.* (1999), students initially viewed the provision of lecture materials as a diminution of the role of academics as providers of information and saw potential opportunities for the avoidance of attendance at lectures. Only with extensive and repeated discussions did students realise that the content or lecture slides play an important but only minor role in the lecture, hence, student education process. It is the lecturer who can help interpret, synthesise and map out the topology of a discipline as well as introduce students to the specialised language of a discipline area. Analysis of students'[2] usage of the VC application shows that the Discussion module and Social Chat Areas were largely ignored. The most heavily-used modules were those related to lecture notes/slides, past examination papers and module-specific websites.

The popularity of the VC application modules relating to lecture notes or slides among students was also demonstrated in the study by Collett *et al.* (1999). Nearly half of the student respondents in their study of the usage of the VC application within an Intranet system at the University of the West of England (UWE), Bristol used the Lecture Overheads module every week. However, more than a third of the respondents never accessed any module of the VC application at all, including the Course Outline, Assignment and Examination Papers modules. Unlike at the

2 Although the system was initiated during the beginning of the 1997/98 academic year, by the time it was implemented, it was a different batch of students who had the oppurtinity to use the application during the second half-year.

VC application of FEM, however, no discussion platform was made available within the VC environment of the UWE.

Fong (1999) investigated the perception of students in the Accounting Studies programme on the VC environment at the City University, Hong Kong, offered through the World-Wide-Web Course Tools (WebCT) application developed by the University of British Columbia. Although two surveys were meant to be conducted, first during the first few weeks of the semester and later approaching the end of the 14-week semester, his report covers only results of the initial survey. Unlike the findings in the initial study by Clements (1999) where the majority of the students were apprehensive about the usefulness of the electronic delivery platform, Fong found that students generally perceived the WebCT to be better than traditional course delivery methods. However students' acceptance of web-based course deliveries was found to be significantly influenced by accessibility to Internet-connected computers at home or in the office.

From the review of literature above, it appears that some modules within the VC applications such as those related to lecture notes and slides seem to be more popular than others. Equally, the pattern of usage of the VC application differs between the studies. Students' perception of the usefulness of the VC application in supporting their studies also appears to differ. With the above findings in respect to other studies, it would be interesting to observe what the pattern of usage of the VC application is by accounting students at UPM and what their perceptions are of the benefits and impediments of the VC application.

## RESEARCH METHOD

Data for this study were collected from students in the Intermediate Financial Accounting I class during the second half of the May 1999/2000 semester. This group of students had completed the Introductory Accounting course during the preceding semester, in which all were provided with the opportunity to attend the hands-on sessions provided earlier by the instructor of that course.

Questionnaires were distributed during one of the lecture sessions when 89 out of 120 students were present. Information sought in the questionnaires can be categorised into four main parts:

I) background information on computer usage in general;
II) specific information on actual usage of VC application during the preceding and current semesters;
III) information on the benefits enjoyed and problems encountered in using the VC application; and
IV) students' suggestions on how to improve the usefulness of the VC application.

With the exception of the questions on the access to and frequency of using computer facilities and the VC application (results indicated in Tables 1, 5, 6, and 8), multiple responses were allowed for all questions.

With the intention of this study being to observe the general pattern of usage of the VC application, including the perceived benefits and problems as opposed to establishing relationships between variables, data solicited from the questionnaire survey were analysed descriptively.

## RESULTS AND DISCUSSION

This section provides a report of the results and a discussion of the related issues in four parts in accordance to the research questions above.

### *General Computer Usage*

Table 1 shows the source of computer facilities generally used by students. It also provides information on students' ownership of computers. As can be seen below, slightly more than a third of the respondents own computers. Between those who indicated that they did not have access to personal computer facilities, more than half (33 out of 57) used other private facilities outside the university while the remaining used the facilities on campus.

The above findings provide an interesting disposition to the usually held perception about

TABLE 1
Access to computer facilities

| Source | Frequency | Percentage |
|---|---|---|
| Own/personal facilities | 32 | 36.0 |
| Other private outside facilities | 33 | 37.0 |
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students' willingness to use computers in relation to the facilities available at institutions of higher learning. For instance, in the study by Salleh *et al.* (2000), some lecturers perceived that lack of computer facilities at institutions of higher learning might have a negative influence on students' willingness to use computers, including the VC application, hence lecturers were reluctant to use the application themselves.

But responses in this study show that students do not rely totally on on-campus facilities. The situation could be that students used other facilities than on-campus because they prefer to do so. On the contrary, another possible reason why students who did not own computers resorted to other facilities off-campus could be because of the lack of facilities on campus itself. Due to the inconvenience of having to get access to on-campus facilities, students took the initiative to look for other sources. Whether the facilities available on campus are seen by students as adequate or not, only analysis of other relevant questions can show.

For students who used computer facilities on campus, Table 2 lists the locations where they accessed the facilities. A point to note with this question is that, as indicated above, students were allowed to provide more than one response. This means that total frequency need not make up 24, that is, the total number of respondents who used on-campus facilities.

TABLE 2
Locations of on-campus computer facilities accessed by students

| Location | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| The Computer Centre | 4 | 5.2 |
| Faculty laboratory | 7 | 9.1 |
| Library | 2 | 2.6 |
| Residential Colleges | 12 | 15.6 |
| On-campus "Cyber Cafes" | 50 | 64.9 |
| Others | 2 | 2.6 |

Responses to this question indicate that on-campus "Cyber Cafes" appear the most popular sites where students used computers. Despite the Computer Centre and individual faculties allowing students to use their computer facilities, these two sites appear not to be popular among students. Rather, the facilities at the residential colleges appear more used by the students. The library appears as the least-used site for computer access by students who do not have access to personal or other private computer facilities. Given that the questionnaires did not seek information on reasons for preferences for each site, it is unwise to speculate on why, for instance, students prefer the "Cyber Cafes" facilities to the Computer Centre or faculty laboratories despite having to pay for using the facilities at the "Cyber Cafes". The "Other" category consists of access to friends' computers on campus. As with the facilities at the library, not many students accessed computers in this manner.

During the first year of studies, students who registered for the Accounting, Accounting with Education, Business Administration and Economics programmes at the FEM were required to take the Computer and Data Processing course. This is to ensure that all students are familiar with computers and can appreciate how computers can assist their work whether as students or in future work environments. In this course, various computer software packages were introduced, including the spreadsheet, word processing, statistical packages and the use of the Internet facilities. Therefore, apart from questions on access to computers, a question on the types of software packages used by students was also included in the questionnaire. However, the use of VC application software is excluded here, since a question specifically on the issue is asked separately. Results on the use of the selected type of software packages are shown in Table 3.

TABLE 3
Use of computer software

| Software | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Word processing | 88 | 25.3 |
| Spreadsheet | 68 | 19.5 |
| Statistical package | 35 | 10.1 |
| Internet (surfing web sites) | 79 | 22.7 |
| E-mail | 78 | 22.4 |

As with responses to the question on location of computer facilities accessed by students, students were also allowed multiple responses to the question on the software packages used.

This is in view of the high probability that an individual student will use more than one type of software package.

From Table 3, word processing software appears to be widely used by the respondents with 88 of the students indicating so. Salleh and Williams (1997) observed a similar pattern when they surveyed the use of computers among Malaysian public universities. In their study, all the public universities in Malaysia surveyed at that time indicated that students were encouraged to prepare assignments using word processing facilities rather than submitting hand or typewritten scripts, hence word processing packages were widely used. The next most popular software among the packages used during the students' first year was for accessing the Internet, very closely followed by e-mailing software. Statistical packages were not widely used by the respondents. Given that Table 3 reflects usage of software during the first two semesters of study when students do not usually conduct research, it is not surprising that the level of usage of statistical packages is the lowest.

Another question included in the questionnaire survey is about the person whom students refer to when they faced problems related to computer use. Responses to this question are depicted in Table 4. Again, as with earlier questions, multiple responses to the category of persons are allowed.

TABLE 4
Category of reference person for help

| Category | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Lecturer | 1 | 1.1 |
| Laboratory technician | 1 | 1.1 |
| Demonstrator of lab. session | 3 | 3.2 |
| Staff of "Cyber Cafes" | 16 | 17.2 |
| Friends | 72 | 77.4 |
| Nobody | 0 | 0 |

From Table 4, it can be seen that students tend to refer to their friends for assistance when they need help regarding computer usage. Interestingly, students hardly refer to their lecturers or laboratory technicians or even laboratory demonstrators when they face difficulties with using computers. Rather, staff of "Cyber Cafes" tend to be more referred to as indicated by the results in Table 4. Given that most students who used on-campus facilities did so at "Cyber Cafes" perhaps it became most convenient for them to refer to the staff there rather than to wait until they met the lecturers or laboratory technicians or demonstrators. Another interesting finding depicted in Table 4 is that students always refer to someone whenever they face problems. This is indicated by the "zero" response to the "Nobody" category. Such an attitude of the students should be interpreted positively for it means that they do make an effort to consult someone when faced with difficulties although it could be only their friends who might know no more than they do.

Prior to providing responses to questions on the VC application usage during their first year, students were required to answer a question on the frequency of computer usage before attending the Introductory Accounting course. The purpose of the question was to seek an indication of the level of comfort of computer usage among students. Presumably, the more frequently a student uses the computer, the less likely it is that he or she is apprehensive about continued usage in the future.

Responses to the question on the frequency of usage of computers are shown in Table 5.

TABLE 5
Frequency of computer usage

| Duration | Frequency | Percentage |
|---|---|---|
| More than once a day | 6 | 6.7 |
| About once a day | 17 | 19.1 |
| About once a week | 38 | 42.7 |
| Hardly ever | 27 | 30.3 |
| Never | 1 | 1.1 |

Generally, more than a third of the respondents used computers about once a week prior to attending the Introductory Accounting course, in other words, prior to attending a hands-on session of VC usage and actual accessing of the VC application. It is worth noting that about 30% hardly used computers while 1% never used computers at all. Only about a quarter of them in total used computers every day. Given a generally low level of usage among students prior to being exposed to the VC application, it is interesting to observe the pattern of VC usage after that.

*Usage of the VC application*

The first question in this section acts as a check on students' knowledge of the way to access the VC application. Having attended the hands-on session at the beginning of the earlier semester during the Introductory Accounting course, the students were presumed to have acquired the knowledge to access the VC application. Nevertheless, from Table 6 below, about 2% of the respondents indicated that they did not know how to access the VC application.

TABLE 6
Knowledge on how to access the VC application

| Response | Frequency | Percentage |
|---|---|---|
| Yes | 87 | 97.8 |
| No | 2 | 2.2 |

Given that attendance during the hands-on sessions was not made compulsory, some students might not have attended the classes in the first place. Or, perhaps, even if they had attended the training sessions, they might not have learned or remembered what was taught.

To seek further indication on the effectiveness of the sessions, another question on the issue was posed in the questionnaire to the students. However, rather than asking for a direct response on whether the hands-on sessions had been effective or otherwise, students were required to indicate from whom they had learned to access the VC application. The idea of such a question is that if the majority of the students indicate that they learned to access the VC application from sources other than their lecturer, then hands-on sessions as conducted by the lecturer of the Introductory Accounting course need no longer be continued. Responses (multiple allowed) to this question from the 87 students who knew how to use the VC application are shown in Table 7.

TABLE 7
Source of knowledge on how to access the VC application

| Source | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Lecturer (Introductory Acc.) | 62 | 64.6 |
| Laboratory technician | 0 | 0 |
| Demonstrator of lab. session | 1 | 1.0 |
| Staff of "Cyber Cafes" | 0 | 0 |
| Friends | 28 | 29.2 |
| Self-taught | 2 | 2.1 |
| Others (not specified) | 3 | 3.1 |

As indicated in Table 7, the "Lecturer" category received the most number of responses. This implies that the majority of the respondents who had used the VC application learned to use the application during the hands-on sessions although there were some students who learned from their peers; from a laboratory demonstrator; from others as well as a few who were self-taught. Unlike the results in Table 4 where some students indicated that they referred to staff of "Cyber Cafes" when they had difficulty with computer usage, no student learned to access the VC application from staff of "Cyber Cafes".

In terms of the frequency of usage of the VC application by modules, Table 8 provides the results of responses by students who knew how to access the VC application only. This is because the two students who indicated that they did not know how to use the application also indicated that they did not use the application. Logically, one will not be able to use a software package if one does not know how to use it.

TABLE 8
Frequency of VC application by modules

| Frequency of Usage | VC Module used | | | | |
|---|---|---|---|---|---|
| | Stud. Reg. | Assign. & Quizzes | News & Announ. | Course Plan & Notes | Disc. |
| Everyday | 1 | 0 | 0 | 0 | 0 |
| Once a week | 2 | 13 | 11 | 7 | 6 |
| Once a fortnight | 2 | 20 | 14 | 13 | 6 |
| <Once a fortnight | 33 | 45 | 40 | 47 | 24 |
| Never | 49 | 9 | 22 | 20 | 51 |

From Table 8, it can be seen that among the six modules on the VC application at FEM, the "Assignment and Quizzes" module appears as the most referred to by students; more than a third of the respondents (33 out of 87) accessed it at least once a fortnight. Usage of this module surpassed that of the "News and Announcements" module (25 out of 87 or about 29%) although logically students should access the "News and Announcements" module as frequently as possible, preferably every day, in order to find out about the latest announcement on a course.

Interestingly, the modules regarding lecture plans and notes/slides which were represented in the questionnaire under "Course Plan and Notes" rather than separately were third in terms of frequency of access by students. Although these modules represent the contents of the course, the findings in this study are unlike those of Flowers *et al.* (1999) and Collett *et al.* (1999) where the modules related to course notes or slides were found to be used most by students. A browse of the actual contents of lecturers' "Course Notes" module during the May 1999/2000 semester revealed that most of the contents did not provide full lecture notes but various topic headings and sub-topics. Perhaps, students would find the "Course Notes" module more beneficial if full sets of notes were to be provided. It would be interesting to find out whether students had indicated that the benefits of VC could be increased if full sets of notes were provided. This is an issue to be discussed later from answers to the question on how to improve the usefulness of the VC application.

Pybus & Sanderson's (1999) study shows that students perceived that the use of the discussion platform has positive implications on their learning. Yet in this survey, the "Discussion" module was found not to be used as frequently as the other modules except for "Student Register". Nearly 60% never accessed the "Discussion" platform at all, quite similar to the findings by Flowers *et al.* (1999) where the module was found largely ignored by students. According to Doob (1995), research shows that students achieve more by participating in study groups out of class. The use of the discussion platform of the VC application at FEM should therefore be encouraged given the positive influence it could have on students' learning. One way to encourage the use of this module is perhaps to integrate some assignments into the module innovatively as was done by Pybus and Sanderson.

The "Student Register" module is a platform which provides on-line registration to students. At the same time, this module can serve as the record book where lecturers can post students marks for all assignments. In the study by Salleh *et al.* (2000), the "Student Register" was found to be the least-used module by lecturers. It is this module, too, that is found in this study to be the least frequently accessed by students, with only 5 of them accessing it at least once a fortnight. This is despite the fact that students in the Intermediate Financial Accounting I course were required to register their names through the "Students Register" module during the first two weeks of the May 1999/2000 semester. And indeed, all students did have their names registered. Yet, more than half of the respondents in this study indicated that they never used this application. An implication of the findings above is that their names were most probably keyed in by someone else, most probably their course mates. Another reason why this module did not appear popular with students could be because the lecturers hardly used this module to paste students' results over the semester. Thus, students might not see it beneficial to access this module.

*Problems and Benefits in Using the VC Application*

On the questions of problems faced while using the VC application and the benefits experienced from using it, the responses of students who used the VC application are as tabled in Tables 9 and 10. Although students were asked to list problems and benefits other than those proposed in the questions, only one other problem and benefit each was stated. Both of these responses (other problem and benefit) are listed last in Tables 9 and 10.

From Table 9, the main problem that students faced while using the VC application appears to be related to the time spent in accessing the VC application with 35 students indicating so. Problem of accessing, however, is not specific to the VC application software but more related to the connection between the students' terminals and the server. Given that a few parties are involved in the enabling of an on-line communication such as the network

TABLE 9
Problems faced while using the VC application

| Types of problems | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Time consuming to access virtual class | 35 | 35.7 |
| Unavailability of printers | 20 | 20.4 |
| Difficulty in getting help when needed | 27 | |
| Lack of understanding of instructions given on computer | 9 | 9.2 |
| No problem | 6 | 6.1 |
| Difficulty in getting access to computer | 1 | 1.0 |

provider and telecommunication companies whose policies and actions are beyond the control of a lecturer using the VC application, there appears little that an individual lecturer can do to improve the situation. As highlighted in the study by Salleh *et al.* (2000), the use of technology, especially new versions may be accompanied by some breakdowns of that technology. Perhaps, students should anticipate the problem relating to access time and develop strategies to reduce such impact. One possible way is to attempt to access the VC application during off-peak periods.

Other problems while using the VC application include difficulty in getting assistance when faced with difficulty and unavailability of printers. With respect to the former, it can be a frustrating endeavour for students who could not proceed with using the VC application if they could not consult anyone for help while accessing the application. On this issue, students were recommended to use the PCs at various laboratories to minimise such incidences. However, given that most students were found not to use on-campus facilities (Table 1), it is not surprising that assistance could not be sought when they faced difficulty relating to usage of the application.

The other problem of non-availability of printers, although it may appear insignificant to some, can have some bearing in situations where students are expected to download for hard copies. An example is the "Assignments and Quizzes" module where students are usually not provided with hard copies but expected to obtain the copies themselves. Absence of printers can be a nuisance. But this is a problem that can be easily solved. Students can always save into floppies to be printed elsewhere. Nevertheless, availability of printers for this purpose can help reduce the inconvenience.

Although there were students who had the problem of not understanding the instructions on the computer screen, the proportion is minimal. There were also a few students who had not experienced any problem at all. Interestingly, the problem of not getting access to a computer was only cited once.

With regard to the benefits that students identified from their experience of using the VC application, Table 10 reveals that among the main benefits of using the VC application is that it can enhance students' knowledge of a course (with 54 students identifying this as among the benefits). This is not surprising given that the VC platform is specifically designed to provide information on a particular course.

The other benefit is in terms of its role to assist communication. The VC application is said to help students communicate with their lecturers. This ability is especially handy in circumstances where lecturers' time to meet students does not coincide with that of students'. Inability to have face-to-face meetings with lecturers due to the above need no longer mean that students do not get access to lecturers. Rather, with the usage of the VC application, communication between lecturers and students

TABLE 10
Benefits from using the VC application

| Types of benefits | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Enhancement of knowledge on a course | 54 | 28.3 |
| Help to communicate with busy lecturers | 48 | 25.1 |
| Reduction of necessity to face lecturers | 43 | 22.5 |
| Ease of communication with lecturers from students' various localities | 45 | 23.6 |
| No benefit | 0 | 0 |
| Access to up-to-date information such as changes in examination dates | 1 | 0.5 |

can be effected wherever students are and whenever they desire so. For some students who are by nature apprehensive about meeting lecturers, they see the above as another benefit of VC. Related to its communication role, the VC is also said to assist students keep themselves informed of the latest changes or updates regarding a course. Although cited only once, the benefit listed last in Table 10 was also cited by lecturers in the study by Salleh *et al.* (2000). However in that study, the benefit was seen from the perspective of the lecturers who used the VC application where the VC application was said to assist lecturers disseminate information quickly to students.

Having given thought to the problems and benefits that they experienced in using the VC application, students then responded to the question of whether all lecturers at the university should integrate the VC application in their teaching of a particular course. This question was asked of all students regardless of whether they had used the VC application or not. Students were also required to provide their own reasons for selecting either the "yes" or "no" answer. Responses to the question of whether all lecturers at UPM should use the VC application are as those found in Table 11 while their reasons for selecting a particular answer, are in Tables 12 and 13. A point worth noting is that some students from both groups ("yes" and "no") provided more than one reason for preferring or not preferring to see the use of the VC extended to all lecturers.

TABLE 11
Should all UPM lecturers integrate the VC application in their course?

| Response | Frequency | Percentage |
|---|---|---|
| Yes | 74* | 83.1 |
| No | 15 | 16.9 |

* includes the two students who did not use the VC application

The inclusion of the question on the justification for recommending or non-recommending usage of the VC application by all lecturers at the university may appear repetitive given that students were earlier questioned on the benefits and problems of using the VC application. This, however, is not the case for it should be borne in mind that the earlier question on the benefits and problems were answered only by those who used the VC application whereas the question on the justification was answered by all students. This implies that although a student may not use the VC application (although only 2) he or she may feel that all lecturers should use the VC application as a result of experiencing some form of difficulties or for reasons learned from peers' experience. In this respect, it is interesting to observe, in particular, the response by the two students who did not use the VC application.

TABLE 12
Reasons why all lecturers should use the VC application

| Reasons | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Easier to refer to announcement | 13 | 13.8 |
| Easier to obtain tutorial questions | 4 | 4.3 |
| Easier to obtain lecture notes | 8 | 8.5 |
| Saves time | 8 | 8.5 |
| Enhances IT skills | 5 | 5.3 |
| Facilitates learning | 11 | 11.7 |
| Easier to contact lecturers | 29* | 30.9 |
| Need not go to lecture | 3 | 3.2 |
| No response | 13 | 13.8 |

*includes responses from the two students who did not use the VC application

TABLE 13
Reasons why all lecturers should not use the VC application

| Reasons | Frequency (multiple responses) | Percentage of total responses |
|---|---|---|
| Facilities inadequacy | 7 | 41.2 |
| No printer | 1 | 5.8 |
| Time consuming to access VC | 2 | 11.8 |
| Costly to access | 2 | 11.8 |
| Dislike VC | 1 | 5.8 |
| Face to face meeting is important for the lecturer to understand students' problem | 2 | 11.8 |
| No response | 2 | 11.8 |

Table 11 reveals that more than eighty percent of the respondents (74 out of 89 students) would like to see all lecturers in UPM use the VC application. Students in this category include the two who did not use the VC application.

Moving on to the reasons for their recommending that all lecturers use the VC application, from Table 12, it can be observed that, generally, again, the communication role of the VC environment appears the main reason why students perceived that it should be used. This too, was the reason given by the two students who did not use the VC application. Perhaps, by not using the VC application, they experienced difficulty in communicating with their lecturers or perhaps they perceived so after comparing notes with their peers.

Some other students felt that it should be used as it could facilitate their learning and enhance their IT skills. Only 3 students looked at the VC application as a means of not attending classes or opportunity to stay away from lectures. Although relatively minimal (only 3 students), there were students who did perceive the VC application as an opportunity to abstain from lectures, similar to some students in the initial survey of the Flowers *et al.* (1999) study. Some 13 other students did not provide justification for wanting all lecturers to use the VC application.

Among the 15 students who believed that the VC application need not be extended to all lecturers at the university, the main reason for their not preferring so was because of the difficulty of getting access to computers although one student indicated that it was for difficulty in getting access to printers. Given that more than a third of the students were found to have access to personal and private computer facilities as shown in Table 1, and that lack of computer facilities was cited by only one respondent as a problem faced in using the VC application (Table 9), perhaps, this reason may not appear strong enough for not wanting to extend the use of the application to other lecturers.

A few students also perceived that since the use of the VC application was time-consuming and costly, the use of the VC should not be extended to other lecturers at the university. One student appeared to have a negative attitude towards the VC application and so believed that because of his dislike to the VC application, all lecturers should not use it. Another two respondents suggested that the VC application should not be used by all lecturers because they (the students) believed that lecturers should meet students face-to-face to be able to understand students' problems better. With regard to this issue, it must be remembered that the FEM has always insisted that the use of the VC application is not a replacement for lectures or meeting students face-to-face. It is to be used as a complement to the traditional teaching approach. Two students did not provide reasons for not wanting the VC application to be used by all lecturers.

Having provided a discussion of the benefits, problems and reasons for/against suggesting an extended usage of the VC application to other lecturers at the university, this paper examines students' suggestions on how to improve the usefulness of the VC application in the next section. In the light of the pattern of usage of the VC application modules as depicted in Table 8, especially that of a non-frequent usage of modules relating to course notes and slides, students' suggestions on ways to improve the application become more interesting.

*Suggestions on How to Improve the Usefulness of the VC Application*

As shown in Table 14, 26 students did not provide any suggestion on how to improve the usefulness of the VC application. Out of the remaining 63 students, 74 suggestions were obtained indicating that some students provided more than one suggestion. Table 14 consists of two parts:

A: suggestions of measures viewed as able to improve the usefulness of the VC application by students who actually know how to use and who actually used the application and

B: suggestions by those who did not know how to use and did not actually use the application.

From the suggestions in Table 14A, most (21 out of 63) students indicated that the VC application would be more useful to them if lecturers were to provide more complete sets of lecture notes. In some ways, this implies that students still have the perception that the VC application should replace lectures. Given that the philosophy for the usage of the VC application at FEM is to supplement rather than

TABLE 14A
Suggestions on how to improve the usefulness of the VC application (by students who used the VC application)

| Reasons | Frequency | Percentage of total responses |
|---|---|---|
| No suggestion | 26 | 26.5 |
| Include more complete notes | 21 | 21.5 |
| Increase computer facilities at FEM | 17 | 17.4 |
| Make compulsory the use of VC in all courses | 6 | 6.1 |
| Update information on VC application regularly | 5 | 5.1 |
| Increase speed of access | 4 | 4.1 |
| Make VC application more interesting | 4 | 4.1 |
| Introduce and train students to use VC | 3 | 3.1 |
| Students take initiative to learn to use VC | 3 | 3.1 |
| Introduce and train students to use VC earlier | 2 | 2.0 |
| Include model questions and answers | 2 | 2.0 |
| Others | 5 | 5.0 |

TABLE 14B
Suggestions on how to improve the usefulness of the VC application by students who did not use the VC application

| Reasons | Frequency | Percentage |
|---|---|---|
| Increase computer facilities on campus | 1 | 50.0 |
| UPM subsidises students' purchase of computers | 1 | 50.0 |

supplant lectures, perhaps it has to be emphasised further and extensively, too, to the students that it is the lecturer who can help interpret, synthesise and map out the topology of a course, not the lecture notes. In the study by Flowers *et al.* (1999), similar efforts to change the perception of students on the role of lecturers and lecture notes under a traditional approach of teaching and learning were reportedly conducted after discovering the over reliance of students on course notes.

The next most suggested measure to improve the usefulness of the VC application is to improve the computer facilities specifically at the FEM. Although difficulty in getting access to computers was not cited as a major problem in using the VC application in Table 9, improvement in the facilities at the FEM in particular, can enhance the VC usefulness.

Although many other suggestions to improve the usefulness of the VC application were provided by respondents as shown in Table 14A, these suggestions appear not to represent the views of the majority. Two students suggested the inclusion of model questions and answers. If the usage of a particular module of the VC application is an indication of the usefulness of that module, based on the study by Flowers *et al.* (1999), then model questions and answers should indeed be included since the module was found to be heavily used. On the contrary though, Collett *et al.* (1999) reported that in their study, the module on past questions was hardly accessed by students.

One student suggested that in order for the VC to be viewed as more useful, students should be provided with free access to the application. This is in fact already the case if students are to access the VC application through the Intranet Lotus Notes system at the FEM. In relation to the second most popular suggestion where students suggested that more facilities should be provided at the FEM, perhaps the reason for suggesting so was cost-related. But, given that students did not provide reasons for suggesting so, such a suggestion remains a speculation.

Suggestions by the two students who did not use the VC application as shown in Table 14B were also related to computer facilities and cost. The suggestions, however, do not appear specific to the VC application only. Both suggestions naturally lead to better access to computers, which means that general usage of computers and its implication can be enhanced.

## SUMMARY AND CONCLUSION

This study examines issues on the use of the VC application by students at the FEM. Four areas looked into are the pattern of usage of computers in general, including source of computer access; usage of the VC application; problems and benefits in using the VC application; and students' suggestions on ways to improve the usefulness of the application.

In terms of the facilities used by students, findings in this study show that only slightly

more than a quarter of the total respondents used on-campus computer facilities. Among those who used on-campus facilities, more appeared to use the facilities provided at cyber cafes. Such a pattern of usage could be a result of many reasons. For instance, because students realised that the facilities available on campus were insufficient, they resorted to using other facilities such as borrowing other people's computers outside or using facilities at cyber cafes rather than trying to access facilities at the faculties' laboratory, the university's computer centre, the halls of residence or the library. Or, it could be that students prefer not to use on-campus university facilities because they already own personal computers or have access to other sources.

Judging from further students' responses, although students did not unanimously perceive that non-access to on-campus university facilities was a hindrance to their ability to use the VC application, they believed that one way to improve the usefulness of the VC application was to increase the on-campus university facilities. Students also indicated that computers were mostly used for purposes of word processing and accessing the Internet and e-mail. Whenever they faced problems with computers, students were found to refer mostly to their peers or staff at cyber cafes rather than lecturers. Additionally, prior to being exposed to the VC application during the semester preceding the May 1999/ 2000 semester, most of the respondents used computers about once a week.

Feedback from respondents showed that only about 2% of them did not know how to use the VC application, hence, did not use it at all. The majority of those who indicated that they knew how to use the VC application and indeed did use the application, obtained the knowledge from the lecturer during the hands-on sessions. There were some who learned from their peers. Among the modules in the VC application at the FEM, the "Assignment and quizzes" module was most popular and most regularly used. The "Students register" and "Discussion" modules were the least popular.

The main problem that students faced while using the VC application was the length of time spent to get access to the VC application. Difficulty in getting help when faced with problems was another problem cited by students. The benefits that students believed they had experienced in using the VC application were in relation to information on the course. Through using the VC application, students perceived that their knowledge of a particular course was enhanced. However, on aggregate, it seemed that the main benefit of the VC application was perceived to be the role it played in the communication process between students and lecturers.

When asked whether the use of the VC application should be extended to all lecturers in the university, more than 80% of the respondents would like this to happen, including the two students who had never used the VC application. Their main reason was because most of them believed that the VC application could help their communication with lecturers. Such a perception was also held by the two students who did not use the application. Those students who did not want to see the usage extended to all lecturers at the university cited inadequacy of computer facilities as the main reason.

In order to enhance the usefulness of the VC application, students suggested that lecturers provide more complete sets of notes than currently available. Some others believed that the on-campus university facilities, especially at the FEM premise, should be improved.

The findings in this study as highlighted above have implications on the future approach of education in general and at the FEM in particular. The VC application can be a useful approach to learning if used appropriately. Students' responses show that generally, the use of the VC application at FEM can still be considered low with the average usage of about less than once a fortnight. The use of the "Discussion" module, for instance, which educators believe can be a useful platform to enhance learning, was found to be rare. Given the availability of vast room for improvement, measures have to be taken to encourage further usage. Of equal importance is to emphasise the overall role of the VC application in relation to students' learning process. It has to be stressed that the VC application is never intended to supplant traditional lectures so that students should never view usage of the VC application as an opportunity to be absent from lectures. It is indeed unfortunate that the majority of the students perceived that among ways to enhance the VC application usefulness, lecturers should provide more complete sets of notes. Problems

highlighted by students on usage of the VC application that they faced should not be dismissed without further consideration. Likewise some of the suggestions made by students should be deliberated upon. It should always be remembered that if the VC application is not perceived as useful to them, students may be reluctant to use it. With the investment cost involved in providing the VC application facilities, it would indeed be wasteful if these facilities were not utilised.

In terms of its contribution to the literature, it is also hoped that this study will provide the impetus for future research in the area. Given that it is only exploratory, further work involving a larger sample size and students from other disciplines and examining other issues on the usage of the VC application is needed to obtain a more comprehensive picture of the VC learning environment. Nevertheless, as it is, this study does meet its particular objectives.

## REFERENCES


ARBAUGH, J.B. 2000. Virtual classroom characteristics and student satisfaction with internet-based MBA Courses. *Journal of Management Education* **24(1)**: 32-54.

BRADLEY, R. 1999. Comparing Methods of Electronic Communication: Listserve and Netforum. (*http://www.west.asu.edu/iseta/connexions/bradley102.html*, 1 September, 2000)

BRYANT, S.M. and J.E. HUNTON. 2000. The use of technology in the delivery of instruction: Implications for accounting educators and education researchers. *Issues in Accounting Education* **15(1)**: 129-162.

CLEMENTS, M. 1999. Introducing a virtual learning environment into an undergraduate business programme: Using Lotus Learning Space. *Selected Proceedings 10th Annual CTI-AFM Conference*, p. 18-23, April. Brighton.

COLLETT, R., C. DUGDALE, D. DUGDALE and N. ROBSON, 1999. The development and evaluation of electronic databases for student and staff use at a UK University. *Selected Proceedings 10th Annual CTI-AFM Conference*, p. 50-57, April, Brighton.

FETTERMAN, D. 1998. Teaching in the Virtual Classroom at Stanford University. (*http://horizon.unc.edu/TS/cases/1998-08.asp*, 1 September, 2000)

FLOWERS, S., B. NEWTON and C. PAINE. 1999. Building a business school intranet: Lessons and directions. *Selected Proceedings 10th Annual CTI-AFM Conference*, p. 24-28, April, Brighton.

FONG, S.C.C. 1999. Integration of WebCT into an accounting module: Studies of Hong Kong sub-degree students. *Selected Proceedings 10th Annual CTI-AFM Conference*, p. 81-86, April, Brighton.

FUNNEL, S.M., P.D. ONIONS, M. KNAHL, P.W. SANDERS, U. BLEIMANN, U. GOJNY and H.F. RÖDER. 1998. A Security Framework for Online Distance Learning and Training. *Internet Research: Electronic Networking Applications and Policy, 8 (3)*. (*http://www.emerald-library.com/brev/16515dc1.html*, 1 September, 2000).

GRUDIN, J. 1994. GroupWare: Eight challenges for developers. *CACM* **37(1)**.

PYBUS, L. and P. SANDERSON. 1999. Preparing to teach & learn from a distance: Can Lotus Learning Space support us? *Selected Proceedings 10th Annual CTI-AFM Conference*, p. 71-80, April, Brighton.

SALLEH, A. and B.C. WILLIAMS. 1997. A survey of computer use in accounting education in Malaysian universities. *ACCOUNT, The Journal of the Computer in Teaching Initiatives - Accounting, Finance and Management* (CTI-AFM) **9(1)**: 18-24.

SALLEH, A., A. YUSOF, B. MINAI, B.A. AMIN NORDIN and H. ISMAIL. 2000. Use of Virtual Class (VC) Lotus Notes computer application at the Faculty of Economics and Management (FEM), Universiti Putra Malaysia. Paper presented at the *International Association for Accounting Education & Research (IAAER)*, 6-7 October.

SYMONS, J. and F. GALPIN. 1998. Beyond electronic Postcards: A tutor's guide to facilitating a network learning group using Lotus Notes. *ACCOUNT, The Journal of the Computer in Teaching Initiatives - Accounting, Finance and Management (CTI-AFM)* **10(1)**.


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# Music Preferences of Malaysian Students and KBSM Curriculum Implications

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**ABSTRAK**

Pilihan muzik segolongan pelajar remaja telah dikaji dari segi muzik Malaysia yang mempunyai asas etnik dan yang bebas daripada pengaruh etnik, termasuk kesan terpilih ciri-ciri pendengar iaitu kebiasaan dengan muzik dan latihan kemuzikan. Sepuluh klip muzik Malaysia yang mempunyai asas etnik dan dua puluh klip muzik yang tidak mempunyai kaitan etnik yang terdiri daripada sepuluh klip muzik popular dan sepuluh klip muzik klasik barat telah digunakan. Penilaian 139 pelajar remaja yang dipilih secara rawak dari dua sekolah kerajaan di Serdang terhadap pilihan muzik, kebiasaan dengan muzik dan latihan kemuzikan telah dikumpulkan. Hasil kajian ini menunjukkan bahawa pelajar remaja amat menyukai muzik yang bebas daripada pengaruh etnik, khasnya muzik popular. Kebiasaan dengan muzik telah ditunjukkan banyak mempengaruhi pilihan muzik terhadap muzik Malaysia yang mempunyai asas etnik dan bebas daripada pengaruh etnik. Implikasi penemuan ini adalah dalam bentuk cadangan untuk memperkenalkan strategi baru dalam pendekatan kaedah pengajaran dan persediaan bahan mengajar untuk subjek muzik di bawah Kurikulum Bersepadu Sekolah Menengah iaitu KBSM.

**ABSTRACT**

Preferences were investigated of a sample of teenage students for ethnic-based and non ethnic-related Malaysian music, and the effects of selected listener characteristics: familiarity and musical training. Ten excerpts of ethnic-based Malaysian music and twenty excerpts of non ethnic-related music comprising ten popular music excerpts and ten Western art music excerpts were utilised. Ratings of preferences, familiarity, and musical training were gathered from 139 randomly selected teenage students of two public schools in Serdang. The results showed that the teenage students had a strong preference for non ethnic-related music especially popular music. Familiarity proved to be a significant determinant of preferences for both ethnic-based Malaysian music and non ethnic-related music. Implications of these findings include the proposal of new strategies in teaching approaches and preparation of learning materials for the music subject of the Malaysian Integrated Secondary School Curriculum or KBSM.

## INTRODUCTION

The curriculum of school-based music education in Malaysia has always been based on music examples selected by Education Ministry officials, without taking into consideration music preferences of the target learner groups. The officially documented objectives (Ministry of Education 1998) of the Malaysian secondary school music education curriculum are as follows:

- To enable students to express their perceptions, feelings and ideas through speech, writing and creative behaviour.
- To develop communication and interaction abilities as well as to build musical skills and understanding through performance.
- To widen the scope of awareness and sensitivity towards what is seen, heard, touched, felt and experienced.
- To appreciate, value, analyse and discuss musical compositions and performances.
- To increase students' knowledge of the folk music of the communities in Malaysia and related cultures, including music from other cultures.

In the light of these objectives, it is expected that the content and approaches of the music curriculum of the *Kurikulum Bersepadu Sekolah Menengah* or Integrated Secondary School Curriculum, popularly known as KBSM, would be geared towards effectively fulfilling the specific targets.

Two primary factors should be considered when selecting the actual music examples to be used as teaching material within the school music curriculum: firstly, what elements actually constitute the music culture of the community concerned (Chan 1998), in this case what exactly makes Malaysian music Malaysian; and secondly, what music do the students listen to in reality, in other words what is their actual music preference (Temmerman 2000). When these two factors have been addressed, then only can an effective curriculum be developed.

This paper presents the results of a survey done on music preferences of teenage students in Malaysia, with specific reference to ethnic-based and non ethnic-related Malaysian music, including the effects of the selected listener characteristics of familiarity and musical training. It is hoped that the results obtained through this research will be useful in future KBSM music curriculum reviews, for reasons presented in the following section.

*Review of Related Literature*

Asmus (1989) found that affect for music was one of five factors that significantly explained motivation in music learning; the other four were effort, background, classroom environment and musical ability. Consequently, an important objective in the planning of any musical programme is to acknowledge the learners' interests in and attitudes to different musical activities (Temmerman 2000). Fung (1995) concluded that music preference acts as a mediating agent in the process of music learning or as a springboard for further music learning so that a novice may develop into a musically educated individual with sound aesthetic judgement. This indicates that the knowledge of music preferences is important to music educators. However, other than research done by Yeoh (1999), little has been published on music preferences of Malaysians.

To return to the objectives of the KBSM music curriculum, it is apparent that knowledge of Malaysian students' music preferences would greatly aid in motivating students in the learning of music, specifically in attaining the first four objectives listed in the officially documented KBSM objectives. In terms of the fifth objective listed, that is to increase students' knowledge of the folk music of the communities in Malaysia, something of the background of Malaysian musical culture must first be presented before a concrete plan to fulfil this objective can be effectively drawn up.

That Malaysia is truly a multi-cultural society is evident from the peaceful co-existence of its different major ethnic communities, each adhering to its own distinctive cultural practices while yet attaining a degree of integration and assimilation. These distinctive cultural differences are apparent in food, clothing, reading material, religious practices, and of course, music. The various Malaysian music genres have been discussed at length by Matusky and Tan (1997), Ang (1998) and Ang *et al.* (1998) and will not again be presented here. Suffice to say, the music of Malaysia, as is also true of other cultural elements of Malaysia, has long been divided along ethnic lines. This division is also apparent in the fifth of the officially documented KBSM music curriculum objectives, which highlights the fact that there are indeed different communities in Malaysia, each with their own different folk music. In view of this, it is reasonable for this study to focus on the music preferences of teenage Malaysian students in terms of 'ethnic-based' and 'non ethnic-related' music.

One other significant point must be considered when studying the music preferences of any group of listeners. It has been found that

familiarity and musical training both significantly influence musical preferences. (Siebenaler 1999; Finnas 1989; LeBlanc 1982, 1987). These two factors must thus be considered when studying the music preferences of teenage Malaysian students.

## METHODOLOGY

The research involved three active stages. The first stage was the development of the Listening Test on Compact Disc (CDLT) to contain the music stimuli. Ten excerpts of ethnic-based Malaysian music were randomly selected: *Gamelan, Dikir Barat, Ulik Mayang, Dondang Sayang, Joget, Keroncong, Ghazal, Dangdut,* a Chinese Classical and an Indian Classical piece. Twenty excerpts of non ethnic-related music were also used, ten each of Western art music and popular music. The former were classified according to conventional divisions based on historical eras: Baroque, Classical, Romantic, Early Twentieth Century and Contemporary. Similarly, popular music was represented by a variety of genres: Jazz, Country, Latin, Disco, Metal Rock, Western Pop and Malaysian Pop. The excerpts were randomised so that subjects would not receive an expected flow of music examples of one type after another. The length of the CDLT was limited by the concentration span of expected respondents. A previous study (LeBlanc *et al.* 1988) has shown that subjects tend to be restless if listening tests exceed 30 minutes. The running time for all 30 excerpts was therefore set at 22 minutes. Each excerpt ranged from 23-54 seconds, with an average length of 40 seconds, depending on the logical ending of the musical phrase.

Stage Two was the administration of the CDLT on the randomly selected subjects from two secondary schools in Serdang. Their ages ranged from 12 to 14 years (n=139), the sex ratio was 66 male to 73 female and the ethnic composition was 41 Malays, 78 Chinese and 20 Indians. The respondents provided information concerning music preferences, familiarity and musical training. Preference was anchored at 1 ('hate it') to 7 ('love it') with 4 signifying a neutral score; familiarity was on a 3-point scale of 1 ('not familiar'), 2 ('somewhat familiar') and 3 ('know it well'). 'Total Preference' was a summation of preference scores for all 30 excerpts of a respondent. Mean Preference values, 'Preference Ethnic' and 'Preference Non Ethnic', were calculated for ethnic and non ethnic-related music, by dividing the first summation of preferences of a respondent for ethnic music excerpts by ten, and the second summation of preferences for non ethnic-related music excerpts by 20 since there were ten excerpts of the former and 20 of the latter.

The extent of musical training of the respondents was defined and calculated in the following manner. 'Musical Training' is a summation of the number of years of each area of training (general primary school music or 'KBSR', co-curriculum, and instrumental) added to the grade attainment of practical plus theory examinations plus an extra point if the subjects availed themselves of informal training. The assumption here is that students with formal instrumental and theory lessons are expected to be more extensively trained than those with only a cursory knowledge of music theory, and that students who took and passed formal music examinations would have more intense training than those who did not enrol for such examinations. Other studies that used a similar method to measure musical training were Rawlings *et al.* (1995) and Yeoh (1999).

The third stage was the data analysis. Since the sample passed the Kolmogorov-Smirnov Test of Normality for 'Total Preference', 'Preference Ethnic' and 'Preference Non Ethnic' (the Kolmogorov-Smirnov Statistic values were .050, .072, and .056 respectively, corresponding to Sig. values of .200, .072, and .200), it was concluded that the whole random sample came from a normally distributed population. The reliability for music preference and familiarity for all 30 excerpts were consistently high and acceptable (Preference: n = 139, Alpha = .8464; Familiarity: n = 139, Alpha = .8799).

## RESULTS

The results showed that the respondents had a strong preference for non ethnic-related music (mean=4.4363, S.D.=0.7048) as compared to ethnic-based Malaysian music (mean=3.1799, S.D.=1.0499). The top ten preference ranks were for non ethnic-related music, eight for popular music and two for Western art (Table 1). Respondents rated ethnic-based Malaysian music less favourably. Eight of the ten least-preferred excerpts were ethnic-based Malaysian items, while two were Western art excerpts. A t-test showed that the difference in the mean values of ethnic-

TABLE 1
Music excerpts and preference rankings

| Order | Title | Composer/Performer | Mean | Rank |
|---|---|---|---|---|
| Non-ethnic (Popular) | | | | |
| 1 | The Power of Love | Celine Dion | 5.65 | 2 |
| 4 | Coward of the County | Kenny Rogers | 4.63 | 8 |
| 7 | Star Wars | John Williams | 5.37 | 4 |
| 10 | When The Saints Go Marching In | Louis Armstrong | 4.96 | 6 |
| 14 | Bad Seed | Metallica | 4.57 | 9 |
| 16 | Night fever | B, R and M Gibb | 5.42 | 3 |
| 18 | Beat It | Michael Jackson | 6.02 | 1 |
| 22 | Didn't We Almost Have It All | Whitney Houston | 5.3 | 5 |
| 25 | Getaran Jiwa | P. Ramlee | 3.67 | 19 |
| 29 | *Rhumba De Burros* | Ignatius Jones | 4.20 | 11 |
| Non-ethnic (Art) | | | | |
| 2 | Brandenburg Concerto No. 4 in G | J.S. Bach | 3.73 | 18 |
| 5 | *Livre Pour Cordes* | P. Boulez | 2.69 | 29 |
| 8 | Excerpt from *La Boheme* | Puccini | 3.17 | 23 |
| 11 | Excerpt from *Die Zauberflote* | W.A.Mozart | 4.17 | 13 |
| 19 | Excerpt from Nutcracker Suite | Tchaikovsky | 4.17 | 13 |
| 23 | Three American Pieces | Lukas Foss | 4.26 | 10 |
| 26 | Symphony No. 5 in C Minor | L.Beethoven | 4.75 | 7 |
| 27 | Bassoon Concerto in E Minor | Vivaldi | 4.09 | 15 |
| 28 | Fanfare for the Wedding of Princess Elizabeth | Bax | 3.86 | 17 |
| 30 | Children's Corner Suite | C. Debussy | 4.02 | 16 |
| Ethnic Malaysian | | | | |
| 3 | *Ulik Mayang* | Rohani Aziz | 3.30 | 22 |
| 6 | *Irama Gamelan Kyaipranaja* | Minni Ang | 3.46 | 21 |
| 9 | *Joget Pahang* | Saloma | 3.60 | 20 |
| 12 | Dangdut: *Hati yang luka* | Amelina | 3.13 | 24 |
| 13 | Indian Classical: *Tal Posta* | Zakir Hussain | 3.02 | 25 |
| 15 | *Dikir Barat* | Kumpulan Kijang Emas | 2.99 | 26 |
| 17 | *Seri Mersing* | Sharifah Aini | 2.45 | 30 |
| 20 | Keroncong: *Bengawan Solo* | Hetty Koes Endang | 2.95 | 27 |
| 21 | Chinese Classical: *Yu Da Ba Jiao* | Anonymous (Folksong) | 4.19 | 12 |
| 24 | *Dondang Sayang* | Rahim Jantan | 2.70 | 28 |

*Note.* 'Mean' is the Preference Mean for the music excerpt, with '1' for 'Hate It' and '7' for 'Love It'. 'Rank' is the Preference Rank; there is a tie at position #13.

based and non ethnic-related music was significant (t = -11.715, p = .0001, two-tailed).

The Pearson product-moment correlation analyses showed that musical training did not correlate significantly with music preferences of teenage students, although a previous study carried out on undergraduate subjects showed slight positive correlation between the extent of musical training and preference of non-ethnic related music (Yeoh 1999). However, Familiarity showed a positive correlation, with r at .302, between 'Total Preference' and 'Total Familiarity'; a stronger correlation between 'Preference Ethnic' and 'Familiarity Ethnic' with r at .574; and a positive correlation, r at .239, between 'Preference Non Ethnic' and 'Familiarity Non Ethnic' (Table 2). The study has confirmed familiarity as an important variable affecting preferences for ethnic-based Malaysian music and non ethnic-related music.

The study has provided answers to the two main questions: 'What types of music are preferred by teenage Malaysian students?' and 'Did musical training or familiarity influence music preferences of teenage Malaysian students?' To the first, respondents indicated a strong preference for non ethnic-related music especially popular music, while preference for

ethnic-based Malaysian music was just below the neutral range. As for the second question, musical training did not show correlation with music preference but increasing familiarity did seem to correspond with increasing music preferences (Table 2).

## DISCUSSION

*Familiarity and Preference*

Positive correlation between familiarity and preference in this research is consistent with previous research (Fung 1996; Siebenaler 1999). Students liked what they knew, and liked less what they were not familiar with. Preference for non ethnic-related music, that is popular and Western art music (Table 1) is consistent with previous studies (Larsen 1987; LeBlanc 1979, 1981; LeBlanc *et al.* 1996; Webster and Hamilton 1981). Preference for popular music could be due to liking for the romantic content of the lyrics (LeBlanc 1981), or admiration of famous artistes like Michael Jackson and Celine Dion, but is most likely due to the high level of familiarity the students had with this type of music. Popular music is music of the mass media. In Malaysia, this type of music is prevalent over all radio stations and television channels. It is played incessantly in shopping malls and hawker centres, and on public transportation vehicles such as buses and taxis. Indeed, other kinds of music are rarely heard over any of the media mentioned here. It is no wonder then that Malaysian teenagers, indeed Malaysians of all age groups, are most familiar with popular commercial music. This familiarity thus, significantly influences Malaysian teenagers' preference for popular music.

As for ethnic-based Malaysian music, the most preferred seemed to be the Chinese Classical piece, followed by Joget Pahang, Gamelan and Ulik Mayang. It must be noted however that out of the 30 excerpts played in total, 9 of the 10 ethnic-based music excerpts occupied positions 21 to 30 in terms of students' preferences, indicating a marked dislike of this music by the teenage students. Given the fact that although the sample population passed the test of normality with regards to music preferences ('Total Preference', 'Preference Ethnic', and 'Preference Non Ethnic'), the sample was also not proportionately representative of the ethnic composition of the country. Four intact classes from two schools were randomly selected for the test, and the three major races were represented within the sample. However, where the national ratio of Malays to Chinese to Indians is approximately 55:35:10 the corresponding ratio of the sample population was 30:56:14. The result could thus be due to the influence of familiarity: since the Chinese were disproportionately represented it might be expected that of the ethnic-based music presented, the Chinese Classical example would be the most preferred of the entire selection as the greatest proportion of the sample population were familiar with music of a similar genre. Besides this, there is a possibility of the influence of instrumental timbre (a variable not considered within this study) since both the Chinese Classical piece and Gamelan are instrumental excerpts. The preference for instrumental over vocal timbre has been documented in non-Western music (Fung 1995). All these points having been discussed, it is nevertheless true to say that the sample population of teenage Malaysian students did not in general prefer ethnic-based Malaysian music. This result was of course also influenced by the students' lack of familiarity with this type of music. Again, this lack of familiarity is not surprising given the fact that it is not easy in

TABLE 2
Correlations between music preferences and familiarity

| Pearson Correlation | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1. Total Preference | - | | | .302** | | |
| 2. Preference Ethnic | | - | | | .574** | |
| 3. Preference Non Ethnic | | | - | | | .239** |
| 4. Total Familiarity | | | | - | | |
| 5. Familiarity Ethnic | | | | | - | |
| 6. Familiarity Non Ethnic | | | | | | - |

*Note.* **. Correlation is significant at the p = 0.01 level (2-tailed).

Malaysia to hear these ethnic-based music pieces in everyday life.

*Understanding Malaysian Musical Culture*

Random observations of Malaysian lifestyles reveal that music making as an activity is carried out by only a very tiny fraction of the Malaysian population. Singers and musicians are not found ubiquitously as in many other countries such as in Europe or Latin America. Malaysians generally listen to their music, not perform or sing it. In this context, it can be easily understood why popular or commercial music has dominated Malaysian musical culture - this is the music that is available for listening, available through the mass media - this is the music that wants to be heard so that it can be sold. Folk music, which is essentially what ethnic-based Malaysian music is all about, is, on the other hand, essentially a music of the people for the people. It is a music to be practised, to be sung, to be performed, and not merely to be listened to through recordings. It does not generate huge profit, and is thus not promoted by the mass media. Given the fact that most Malaysians do not in general sing, perform and practice music as a part of their everyday living, it is no wonder then that ethnic-based music is not easily heard and is is thus unfamiliar to many Malaysians, teenage students in particular.

*The Significance of Music Characteristics*

This research did not take into account the influence of specific music characteristics on music preferences; however, results gained were indicative that these characteristics did influence preferences. This conclusion may be drawn from the fact that in spite of the lack of familiarity of the respondents with Western art music, these excerpts received reasonably high preference rankings (mostly below 20). Of these, the Baroque, Classical and Early Romantic excerpts gained the highest preference ratings among the respondents.

The significant factor differentiating this music from others (popular and ethnic-based music) is the complexity of the music. Popular music comprises a main melody accompanied harmonically and rhythmically by a small group of instruments; ethnic-based folk music consists of simple heterophonic structures while ethnic-based popular music is similar in style to mainstream pop, but with certain ethnic elements added. Art music consists of melodies, counter-melodies, contrapuntal movement and other intricate melodic, harmonic and rhythmic complexities. Add these complexities to the pleasing consonance of Baroque, Classical and Early Romantic well-defined musical forms and timbres - even Malaysian teenage students lacking familiarity with the music indicate a mild preference for it, apparently due to these significant musical characteristics.

## CONCLUSION

*Implications for the KBSM Music Curriculum*

We have seen the results of the survey on the music preferences of teenage Malaysian students, and we have discussed at length the meaning of these preferences and its causes. What remains is to draw implications from these results and discussions for the KBSM music curriculum.

Let us once again return to the objectives set by the Malaysian Ministry of Education for music education within the Malaysian school system. The first four objectives mentioned are all to do with general music abilities including appreciation, knowledge and performance skills, while the fifth objective deals specifically with improving appreciation, knowledge and presumably skills related to ethnic-based Malaysian folk music.

We have already seen that teenage Malaysian students prefer popular music over any other sort of music, but that this preference is strongly influenced by their familiarity with the music. In contrast, and in direct confrontation with the fifth objective of the KBSM music curriculum, teenage Malaysian students do not like and are not familiar with ethnic-based Malaysian music.

To attain the objectives of the KBSM music curriculum, strategies based on these research findings must therefore be ascertained. Broad strategies are thus proposed here and have significant implications on the teaching approaches and the learning materials used in the KBSM curriculum.

*Strategies*

The first strategy proposed is to use the vocabulary of the familiar, which is also the preferred, (in other words to use popular commercial music as classroom learning material) to teach the basic concepts of expression, communication and interaction while building musical skills and understanding (KBSM

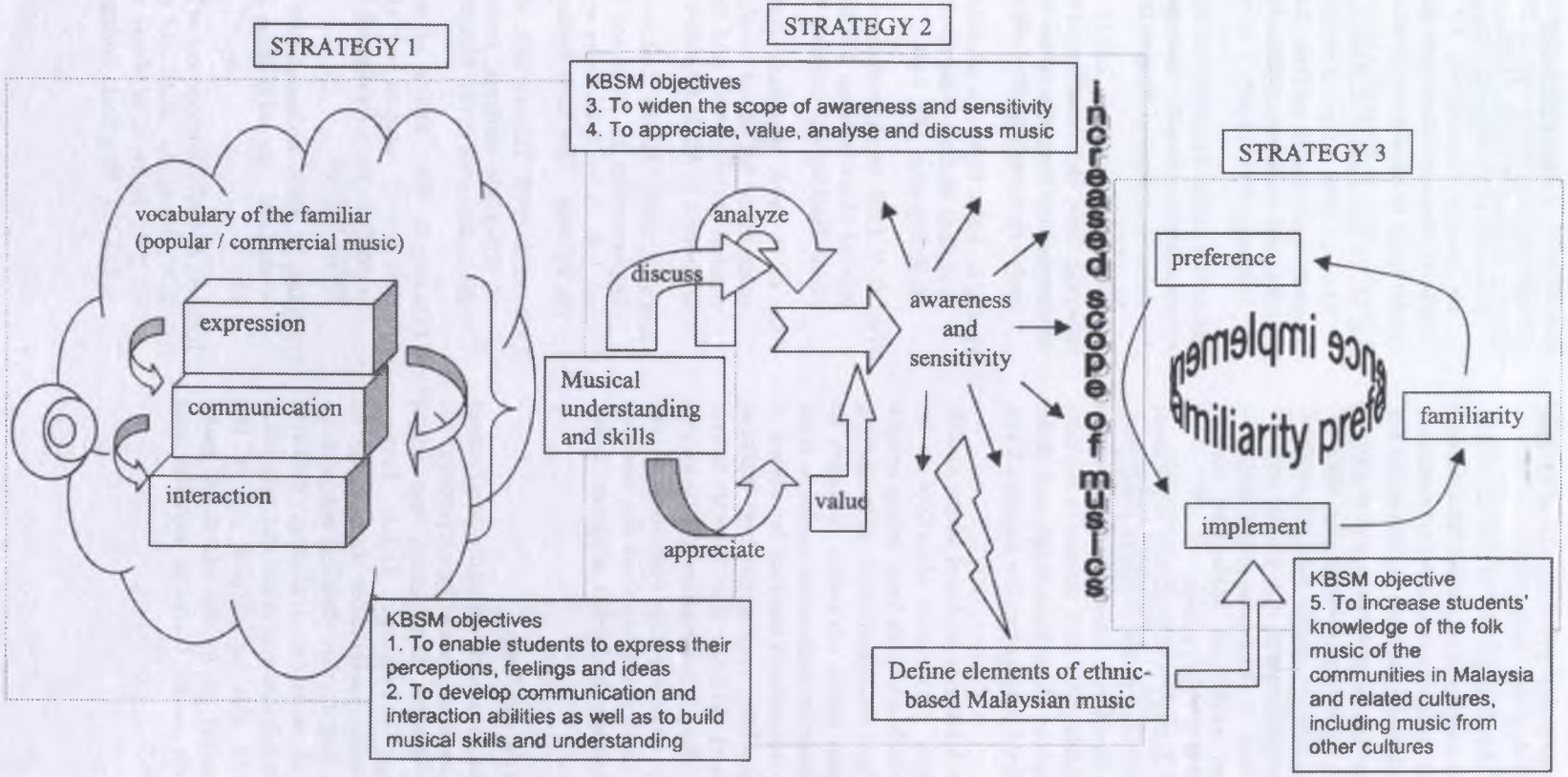


*Fig. 1. Strategies to attain the five objectives o the KBSM music curriculum*

music objectives 1 and 2), using these to also bridge the gap with the unfamiliar.

The understanding gained in this way would enable learners to appreciate, value, analyse and discuss musical compositions and performances (KBSM music objective number 4), thus widening the learners' scope of awareness and sensitivity (KBSM music objective number 3) through increasing the types of music that are studied. This would naturally lead up to the second strategy proposed: to define the actual elements that comprise authentic Malaysian music, including how it is experienced.

The third strategy is to gradually implement these music practices in the learners' daily lives, thus breeding familiarity, which in turn increases preference, which in its turn motivates learners to further improve their knowledge and skills. In this way, KBSM music objective number 5 can be attained.

The three strategies outlined above enable all KBSM music curriculum objectives to be attained effectively and with long lasting results. With familiar and well-liked music as its starting point, classroom music education becomes an exciting adventure for enthusiastic students. What this approach necessitates however is a review of the existing teaching approaches and learning materials used within the KBSM music environment. *Fig. 1* summarises the strategies for effectively attaining the objectives of the KBSM music curriculum based on the research findings of teenage Malaysian students' music preferences.

*Suggestions for Further Study*

Further detailed research on music preferences of Malaysian students should be carried out for much larger sample populations, and across different age groupings. Other factors influencing music preferences should also be studied, including further detailed research on the effect of musical training, cultural background, familiarity and music characteristics. Studies should also be carried out in the Malaysian context as to the effect of music preferences on music learning attitudes and achievements.

## REFERENCES


ANG, M. 1998. *Malaysian Music - A Comprehensive Discussion on the Different Types of Music Found in the Country: Contemporary Art Music, Classical Music, Syncretic Music and Folk Music.* 64 p. Serdang: Conservatoire Productions.

ANG, M., O. ABU TALIB, A.K. RAMANI, S.L. GAN and P. MATUSKY. 1998. A layered architecture for music: Malaysian music on the world wide web. *Organised Sound, International Journal of Music Technology* **3(2)**: 101-15.

ASMUS, E. P. 1989. The effect of music teachers on students' motivation to achieve in music. *Canadian Journal of Research in Music Education* **30**: 14-21.

CHAN, C.J. 1998. Malay traditional folk songs in Ulu Tembeling: Its potential for a comprehensive study. *Pertanika J.Soc.Sci.&Hum.* **6(2)**: 101-111.

FINNÄS, L. 1989. How can musical preferences be modified? *Bulletin of the Council for Research in Music Education* **102**: 1-58.

FUNG, C. V. 1995. Music preference as a function of musical characteristics. *The Quarterly Journal of Music Teaching and Learning* **6(3)**: 30-45.

FUNG, C. V. 1996. Musicians' and non-musicians' preferences for world musics: Relation to musical characteristics and familiarity. *Journal of Research in Music Education* **44(1)**: 60-83.

LARSEN, J. 1987. Family Influences on Musical Opportunities. In *Music and Child Development* ed. J. C. Peery, I. W. Peery and T. W. Draper, p. 237-248. New York: Springer-Verlag.

LEBLANC, A. 1979. Generic style music preferences of fifth-grade students. *Journal of Research in Music Education* **27(4)**: 255-270.

LEBLANC, A. 1981. Effects of style, tempo, and performing medium on children's music preference. *Journal of Research in Music Education* **29(2)**: 143-156.

LEBLANC, A. 1982. An interactive theory of music preference. *Journal of Music Therapy* **19(1)**: 28-45.

LEBLANC, A. 1987. Development of Music Preference in Children. In *Music and Child Development* ed. J. C. Peery, I. W. Peery & T. W. Draper, p. 137-157. New York: Springer-Verlag.

LeBlanc, A., J. Colman, J. McCrary, C. Sherrill and S. Malin. 1988. Tempo preferences of different-age music listeners. *Journal of Research in Music Education* **36(3)**: 156-168.

LeBlanc, A., W. L. Sims, C. Silvola and M. Obert. 1996. Music style preferences of different-age listeners. *Journal of Research in Music Education* **44(1)**: 49-59.

Matusky, P. and S. B. Tan. 1997. *Muzik Malaysia: Tradisi Klasik, Rakyat dan Sinkretik.* Penang: Asian Center & National Art Academy.

Ministry of Education. 1998. *Syllabus of Secondary School (KBSM) Music Education.* Kuala Lumpur: Malaysian Ministry of Education.

Rawlings, D., M. Hodge, D. Sherr and A. Dempsey. 1995. Toughmindedness and preference for musical excerpts, categories and triads. *Psychology of Music* **23**: 63-80.

Siebenaler, D.J. 1999. Student song preference in the Elementary Music Class. *Journal of Research in Music Education* **47(3)**: 213-223.

Temmerman, N. 2000. An investigation of the music activity preferences of pre-school children. *British Journal of Music Education* **17(1)**: 51-60.

Webster, P. R. and R. A. Hamilton. 1981. Effects of peer influence, rhythmic quality, and violin timbre on the musical preferences of fourth, fifth and sixth grade children. *Contributions to Music Education* **9**: 10-20.

Yeoh, M. P. 1999. Music preferences of undergraduate students in a multi-musical country. Unpublished Masters Thesis, Universiti Putra Malaysia.

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# Pelaksanaan Pendidikan Keusahawanan di Malaysia: Kesan Terhadap Aspirasi Keusahawanan Pelajar

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**Kata kunci: Keusahawanan, latihan dan pendidikan keusahawanan, ciri-ciri keusahawanan, aspirasi keusahawanan**

**ABSTRAK**

Menyedari kepentingan pendidikan keusahawanan untuk membekalkan pelajar dengan peluang dan potensi untuk memilih kerjaya sebagai usahawan, Kementerian Pendidikan Malaysia telah menunjukkan komitmen mereka terhadap pelaksanaannya. Komponen keusahawanan telah diperkenalkan dalam subjek Kemahiran Hidup Bersepadu di Sekolah Menengah Rendah. Berdasarkan usaha tersebut satu kajian diperlukan untuk menilai semula kesan pendidikan keusahawanan terhadap aspirasi pelajar dalam memilih keusahawanan sebagai kerjaya. Seramai 1336 pelajar tingkatan 4 telah dipilih dengan menggunakan tatacara persampelan rawak berlapis. Dapatan kajian menunjukkan aspirasi pelajar sekolah masih lagi rendah. Mereka yang mendapat pencapaian tinggi dalam PMR mempunyai potensi keusahawanan yang rendah dan sebaliknya. Terdapat perbezaan yang signifikan antara ciri-ciri dan potensi pelajar yang ingin bekerja sendiri dan makan gaji. Secara keseluruhan sikap dan ciri keusahawanan pelajar adalah sederhana positif. Implikasi kajian dibincangkan dalam kertas kerja ini untuk memupuk budaya keusahawanan di kalangan pelajar sekolah menengah.

**ABSTRACT**

Realizing the importance of entrepeneurship education in preparing students with opportunities and potentials to choose future careers as entrepreneurs, the Ministry of Education have shown their commitment towards its implementation. The entrepreneurship component was introduced in the living skills subject at the lower secondary school level. Based on this effort, a study is needed to evaluate the effect of this on students' choices of entrepreneurship as a career. About 1336 Form Four students were selected to participate in the study by using the multi-stage random sampling procedure. Findings indicated that students' aspirations are still low. Those who obtained high academic achievement in PMR examination have low entrepreneurial potential and vice versa. There is a significant difference between students' characteristics and potentials between those who choose to be self employed and those who choose working with others. As a whole, students' entrepreneurial attitudes and characteristics are moderately positive. Implications of the study are discussed in the paper to infuse the entrepreneurial spirit among secondary school students.

## PENGENALAN

Keusahawanan merupakan bidang kerjaya yang sangat penting di negara ini. Kerajaan bermatlamat menjadikan bidang keusahawanan terutamanya sektor industri kecil dan sederhana sebagai penyumbang utama peluang pekerjaan baru, dan seterusnya membantu perkembangan ekonomi negara pada abad ke-21. Pelbagai usaha dijalankan bagi mencapai matlamat tersebut. Antaranya ialah usaha-usaha khusus yang dilakukan oleh Kementerian Pembangunan Usahawan, Kementerian Pertanian, Kementerian Belia dan Sukan dan Kementerian Pendidikan.

Usaha membudayakan keusahawanan di kalangan rakyat di negara ini juga dilakukan oleh Kementerian Pendidikan di peringkat sekolah. Budaya keusahawanan mula disemai seawal sekolah rendah dengan memperkenalkan unsur-unsur keusahawanan dalam mata pelajaran matematik. Pembudayaan keusahawanan terus diterapkan di sekolah menengah rendah melalui mata pelajaran Kemahiran Hidup Bersepadu bermula tahun 1991. Usaha membudayakan keusahawanan diteruskan di peringkat sekolah menengah atas apabila pelajar diberi peluang memilih untuk mengikuti pendidikan perdagangan dan keusahawanan melalui mata pelajaran elektif vokasional dan teknologi (Kumpulan II).

Matlamat pendidikan keusahawanan sekolah ialah untuk membentuk pelajar sebagai pencipta kerja yang berpotensi dan bukan sebagai pencari kerja. Telah banyak dilaporkan bahawa keputusan untuk menubuhkan sesuatu perniagaan adalah berasaskan pemahaman seseorang terhadap aktiviti keusahawanan. Bekerja sendiri dan memiliki perniagaan adalah satu opsyen yang realistik untuk pelajar yang mempunyai kemahiran vokasional dan teknikal (Kent 1990). Malangnya, kebanyakan orang tidak melihat keusahawanan sebagai satu alternatif kerjaya yang wajar diceburi. Jadi adalah penting untuk membentuk sikap yang positif terhadap keusahawanan. Kajian yang dibuat di negara barat telah membuktikan bahawa pendidikan keusahawanan adalah berkait dengan keputusan untuk memulakan perniagaan atau tidak. Kajian juga telah menunjukkan pengalaman, potensi, ciri keusahawanan, sikap, hobi, persepsi keusahawanan kendiri dan ide perniagaan adalah pengaruh yang kuat terhadap aspirasi keusahawanan. Scott *et al.* (1988) mengenal pasti faktor yang mempengaruhi aspirasi keusahawanan. Faktor yang dikaji termasuklah minat, pengetahuan dan sikap terhadap keusahawanan dan kerjaya dalam bidang perniagaan kecil.

Penekanan kepada pendidikan keusahawanan telah bermula di sekolah menengah rendah apabila pelajar diwajibkan mengikuti mata pelajaran Kemahiran Hidup Bersepadu (KHB) yang mempunyai komponen perdagangan dan keusahawanan. Komponen ini diperkenalkan kepada pelajar-pelajar Tingkatan 1 hingga Tingkatan 3 dengan matlamat untuk mendedahkan para pelajar dengan 'bidang kerjaya' dan maklumat perniagaan supaya pelajar dapat menyedari potensi mereka ke arah menjadi usahawan. Kemahiran Hidup Bersepadu sebagai satu mata pelajaran dalam Kurikulum Bersepadu Sekolah Menengah (KBSM) digubal pada tahun 1989 dengan matlamat untuk melahirkan insan yang berdikari, kenal faham teknologi, kenal faham ekonomi dan mempunyai sifat serta sikap yakin diri, kreatif, inovatif, inisiatif, produktif dan boleh berinteraksi dengan baik.

Tumpuan pendidikan keusahawanan jelas kelihatan pada komponen teras Perdagangan dan Keusahawanan yang diperuntukkan sebanyak 25% daripada waktu pengajaran KHB. Komponen perdagangan dan keusahawanan ini diperkenalkan dengan objektif untuk membolehkan pelajar (a) menjalankan kerja-buat-sendiri, menyenggara dan membaik pulih mudah dan menyedari potensi ke arah menjadi usahawan, (b) meluaskan pemahaman dan mengamalkan prinsip asas perniagaan dan keusahawanan supaya boleh bertindak sebagai seorang pengguna atau pengeluar sejajar dengan nilai dan etika perniagaan dan (c) memupuk sifat kreatif, inovatif, suka berusaha, jujur, bekerjasama dan mengamalkan cara kerja yang bersistem, tabiat kerja yang selamat, sihat dan bertanggungjawab.

Komponen perdagangan dan keusahawanan KHB membekalkan pelajar dengan pengetahuan dan kemahiran asas perniagaan dan keusahawanan yang menekankan amalan perniagaan termasuk aspek kewangan dan simpan kira, pengurusan perniagaan, etika dalam perniagaan dan pengeluaran. Pelajar juga dibekalkan dengan pengetahuan dan kemahiran tentang konsumerisme. Tujuannya adalah untuk memupuk sikap berdikari, yakin diri, semangat ingin tahu, ingin mencuba dan tidak berputus asa, meningkatkan inisiatif, daya mereka cipta serta berkeupayaan mengenal pasti peluang perniagaan, menggunakan peluang perniagaan dengan bijaksana dan bertindak sebagai pengguna dan pengeluar yang bertanggungjawab.

Walau bagaimanapun, kejayaan dasar pendidikan keusahawanan yang diperkenalkan di sekolah menengah sangat bergantung kepada pelaksanaan sesuatu rancangan pendidikan. Umpamanya program pendidikan keusahawanan ini akan dianggap berjaya sekiranya pelajar dapat mengubah sikap, iaitu daripada negatif kepada positif terhadap keusahawanan, mempunyai

tahap ciri-ciri keusahawanan yang tinggi serta mempunyai aspirasi yang positif terhadap keusahawanan. Oleh itu, satu kajian telah dijalankan untuk meninjau ciri, potensi, sikap dan aspirasi pelajar sekolah menengah yang telah mengikuti pendidikan keusahawanan dalam sistem pendidikan di Malaysia. Khususnya, kajian ini cuba menjawab soalan-soalan kajian berikut ini.

*Persoalan Kajian*

1. Apakah potensi, sikap, ciri dan aspirasi keusahawanan pelajar sekolah menengah?
2. Adakah terdapat perbezaan gagasan-gagasan potensi keusahawanan di kalangan pelajar berlainan pencapaian akademik?
3. Adakah terdapat perbezaan potensi keusahawanan di kalangan pelajar sekolah menengah berdasarkan bidang elektif?
4. Adakah terdapat perbezaan potensi, sikap dan ciri keusahawanan pelajar mengikut jantina?
5. Adakah terdapat perbezaan sikap pelajar terhadap keusahawanan mengikut keperluan latihan keusahawanan dan bidang elektif?
6. Adakah terdapat perbezaan ciri keusahawanan pelajar mengikut kumpulan etnik?
7. Adakah terdapat perbezaan antara potensi keusahawanan pelajar aliran sains dan sastera?

## METODOLOGI KAJIAN

Responden kajian terdiri daripada 1336 pelajar Tingkatan 4 di sekolah menengah akademik di Malaysia. Sampel diperoleh melalui penggunaan tatacara persampelan rawak berlapis. Empat negeri telah dipilih secara rawak iaitu Perak, Kelantan, Johor dan Sarawak, dan dua daerah sekolah telah dipilih secara rawak daripada setiap negeri. Responden dipilih secara rawak daripada sekolah-sekolah tersebut. Kajian ini adalah kajian deskriptif tinjauan. Satu instrumen kajian berdasarkan skala 5 mata (1= sangat tidak setuju, 2= tidak setuju, 3=kurang setuju, 4=setuju dan 5= sangat setuju) telah dibentuk untuk mengukur potensi keusahawanan, sikap terhadap keusahawanan dan ciri-ciri keusahawanan pelajar. Maklumat tentang aspirasi keusahawanan pelajar telah diperoleh dengan menanyakan soalan berikut: (1) Apakah cita-cita anda? (2) Jika diberi pilihan, adakah anda akan bekerja sendiri atau makan gaji? Jika anda ingin bekerja sendiri adakah anda akan berniaga atau tidak? Aspirasi keusahawanan ini ditentukan melalui potensi, sikap dan ciri keusahawanan. Ciri keusahawanan ialah sifat atau trait yang membezakan seseorang daripada yang lain dan akan membuat seseorang itu bertingkah laku berbeza-beza.

*Dapatan Kajian*

*Profil Pelajar*

Jadual 1 berikut menunjukkan jumlah pelajar yang terlibat dalam kajian mengikut jantina. Jumlah pelajar perempuan ialah 901 (67%) dan jumlah pelajar lelaki 426 (32%).

Jadual 2 menunjukkan taburan pelajar mengikut aliran pengajian. Jumlah pelajar aliran sastera yang terlibat ialah 1133 (85%) dan aliran sains seramai 203 (15%).

JADUAL 1
Jantina pelajar

| Jantina | f | % |
|---|---|---|
| Perempuan | 902 | 67 |
| Lelaki | 426 | 32 |
| Tidak Menjawab | 9 | 1 |
| Jumlah | 1336 | 100 |

Jadual 3 menunjukkan jumlah pelajar mengambil elektif tertentu secara spesifik semasa di Tingkatan 4. Jelas kelihatan kebanyakan pelajar mengambil elektif ekonomi asas (47%) dan perdagangan (44%).

JADUAL 2
Taburan pelajar tingkatan 4 mengikut aliran pengajian

| Aliran | f | % |
|---|---|---|
| Sains | 203 | 15 |
| Sastera | 1133 | 85 |
| Jumlah | 1336 | 100 |

Jadual 4 berikut menunjukkan cara pelajar ditempatkan dalam elektif tertentu. Seramai 692 (52%) menyatakan penempatan ke dalam elektif berdasarkan keputusan PMR dan 408 (31%) berdasarkan pilihan sendiri. Hanya 13 (1%) sahaja yang menggunakan ujian khas.

Dapatan juga menunjukkan terdapat komponen tertentu yang paling diminati semasa belajar Kemahiran Hidup Bersepadu. Didapati hanya 367 (28%) pelajar menyatakan di antara

JADUAL 3
Taburan pelajar berdasarkan elektif

| Elektif | f | % |
|---|---|---|
| Ekonomi Asas | 624 | 47 |
| Perdagangan | 590 | 44 |
| Sastera | 358 | 27 |
| Prinsip Akaun | 264 | 20 |
| Sains Pertanian | 178 | 13 |
| Sains Rumah Tangga | 142 | 11 |
| Matematik Tambahan | 136 | 10 |
| Kejuruteraan | 117 | 9 |

*Nota:* pelajar tidak mengikuti satu elektif sahaja

JADUAL 4
Taburan cara pelajar ditempatkan dalam elektif

| Cara penempatan | f | % |
|---|---|---|
| Pilihan Sendiri | 408 | 31 |
| PMR | 692 | 52 |
| Sekolah Tempatkan | 141 | 11 |
| Ujian Khas | 13 | 1 |
| Tidak Menjawab | 83 | 6 |
| | 1336 | 100 |

komponen dalam KHB, komponen Perdagangan dan Keusahawananlah yang paling mereka minati. Namun begitu 882 (66%) pelajar merasakan komponen Perdagangan dan Keusahawanan ini paling membantu mereka untuk menjadi usahawan. Penerangannya seperti di dalam Jadual 5.

JADUAL 5
Komponen yang paling membantu pelajar untuk menjadi usahawan

| Komponen dalam KHB | f | % |
|---|---|---|
| Perdagangan dan Keusahawanan | 882 | 66 |
| Kemahiran Manipulatif | 117 | 9 |
| Sains Pertanian | 58 | 5 |
| Kekeluargaan | 49 | 4 |
| Sains Rumah Tangga | 47 | 4 |
| Tidak Menjawab' | 183 | 12 |
| | 1336 | 100 |

Jadual 6 pula menunjukkan taburan gred pelajar dalam Kemahiran Hidup Bersepadu di peringkat PMR. Kebanyakan pelajar mendapat gred A (20.1%) dan B (35.5%). Namun kajian juga mendapati ramai di antara pelajar yang mendapat gred yang kurang memuaskan iaitu C

JADUAL 6
Gred Kemahiran Hidup Bersepadu dalam PMR

| Gred | F | Peratus |
|---|---|---|
| A | 254 | 20.1 |
| B | 449 | 35.5 |
| C | 351 | 27.7 |
| D | 165 | 13.0 |
| E | 47 | 3.7 |
| Total | 1266 | 100.0 |

Missing =70 (5.2%)

(27.7%) dan D (13.0%). Sebilangan kecil pelajar (3.7%) gagal dalam mata pelajaran KHB.

Dapatan kajian juga menunjukkan sebilangan besar pelajar (n=930, 74%) berhasrat untuk mengikuti latihan keusahawanan jika diberi peluang.

*Potensi, Sikap, Ciri-Ciri dan Aspirasi Keusahawanan Pelajar Tingkatan 4*

Jadual 7 menunjukkan potensi keusahawanan pelajar. Dalam kajian ini potensi keusahawanan merujuk kepada perkara seperti keinginan untuk memulakan perniagaan, pengetahuan keusahawanan dan kemahiran keusahawanan. Secara am dapat dilihat potensi keusahawanan pelajar adalah masih rendah lagi. Seramai 1080 (81%) pelajar merasakan mereka kurang berpotensi untuk menjadi usahawan. Mereka merasakan bahawa terdapat banyak lagi perkara yang perlu mereka pelajari sebelum mereka boleh memilih kerjaya sebagai usahawan. Data juga menunjukkan hanya 502 (38%) sahaja merasakan mereka mempunyai cukup pengetahuan tentang keusahawanan. Seramai 59% responden ingin

JADUAL 7
Potensi keusahawanan pelajar

| | Setuju | | Tidak Setuju | |
|---|---|---|---|---|
| Pernyataan | f | % | f | % |
| 1. Ingin mula berniaga | 857 | 64 | 479 | 36 |
| 2. Ingin pilih keusahawanan sebagai kerjaya | 784 | 59 | 552 | 41 |
| 3. Yakin berupaya | 705 | 53 | 631 | 47 |
| 4. Punyai cukup pengetahuan | 502 | 38 | 834 | 62 |
| 5. Punyai kemahiran | 482 | 36 | 854 | 64 |
| 6. Banyak lagi perlu belajar | 1080 | 81 | 256 | 19 |
| 7. Mahir menilai diri | 480 | 36 | 856 | 64 |
| 8. Akan mula berniaga | 438 | 33 | 898 | 67 |

memilih keusahawanan sebagai kerjaya dan 41% responden tidak memilih keusahawanan sebagai kerjaya untuk masa depan mereka. Daripada mereka yang ingin memilih keusahawanan sebagai kerjaya didapati seramai 438 (33%) merasakan mereka akan mula berniaga apabila tamat persekolahan nanti.

Walaupun pelajar mempunyai potensi keusahawanan yang agak rendah, namun dapatan kajian mendapati pada umumnya pelajar sekolah menengah mempunyai sikap yang agak positif terhadap keusahawanan (Min = 3.68, S.P. = 0.49) dan mereka mempunyai ciri-ciri keusahawanan yang sederhana (min = 3.79).

Min tertinggi persepsi pelajar tentang ciri keusahawanan mereka berdasarkan skala 5 mata adalah pada pernyataan seperti berikut: "Jika gagal saya akan terus mencuba hingga berjaya (Min = 4.43)". "Saya akan mencari peluang untuk memperkenalkan barang baru di pasaran (min = 4.42)". "Saya sukakan kerjaya mencabar dan boleh memberi peluang untuk berjaya (Min = 4.31)". "Bila membuat sesuatu saya pastikan ianya dibuat dengan cemerlang (Min = 4.28)". Juga terdapat skor min yang tinggi untuk dua penyataan seperti: "Saya tidak suka orang lain membuat keputusan untuk sesuatu tindakan yang saya perlu lakukan (Min = 4.45)" dan "Bila bersemuka dengan masalah rumit saya tidak lari kepada perkara lain (Min = 4.44)". Dengan nilai min 4.45 dan 4.44 bagi kedua-dua penyataan yang mengukur motivasi dalaman ini, dapatan menunjukkan terdapat sejumlah pelajar sekolah menengah yang mempunyai kawalan dalaman yang tinggi, dan fenomena ini adalah sesuatu yang baik. Secara keseluruhan Jadual 8 berikut menunjukkan ciri-ciri keusahawanan pelajar sekolah menengah, dengan kategori skor yang paling tinggi ialah untuk aspek nilai diri (Min=4.08), kebergantungan (Min=3.86) dan aspek keupayaan melihat dan merebut peluang (Min=3.84).

Bagi aspek aspirasi pula, dapatan kajian dapat dijelaskan dalam Jadual 9. Apabila ditanya secara langsung tentang aspirasi keusahawanan pelajar, seramai 428 (32%) memilih untuk bekerja sendiri dan seramai 590 (44%) memilih untuk makan gaji. Seramai 318 (24%) tidak menjawab.

Aspirasi keusahawanan juga didapati melalui respons kepada soalan berkaitan dengan cita-cita pelajar. Dalam Jadual 10 didapati seramai 384 (37.7%) pelajar bercadang menjadi usahawan. Dapatan kajian menunjukkan sebanyak 59% pelajar yang tiada A telah memilih keusahawanan sebagai kerjaya masa hadapan mereka. Sebilangan kecil daripada mereka yang bercadang menjadi usahawan mempunyai kelulusan akademik yang tinggi. Hanya 2.6% daripada pelajar yang memilih keusahawanan sebagai pilihan kerjaya memperoleh 5A atau lebih dan sebanyak 8% daripada mereka yang bercadang menjadi usahawan memperoleh antara 3A dan 4A dalam Peperiksaan Menengah Rendah.

JADUAL 8
Ciri-ciri keusahawanan pelajar Tingkatan 4

| Ciri-ciri | min (x) |
|---|---|
| Kawalan diri | 3.52 |
| Kebergantungan | 3.86 |
| Inovatif | 3.64 |
| Mengambil risiko | 3.46 |
| Nilai diri | 4.08 |
| Nilai kerja | 3.56 |
| Inisiatif | 3.66 |
| Bertenaga | 3.52 |
| Keyakinan diri | 3.60 |
| Orientasi kejayaan | 3.80 |
| Kecekalan | 3.82 |
| Melihat dan merebut peluang | 3.84 |
| Berorientasikan kecekapan | 3.57 |

Skala: 1 = sangat tidak setuju 5 = sangat setuju

JADUAL 9
Aspirasi keusahawanan pelajar

| Aspirasi | f | % |
|---|---|---|
| Kerja sendiri | 428 | 32 |
| Makan gaji | 590 | 44 |
| Tidak menjawab | 318 | 24 |
| | 1336 | 100 |

JADUAL 10
Cita-cita menjadi usahawan berdasarkan kelayakan akademik peringkat PMR

| Jumlah A dalam PMR | f | % |
|---|---|---|
| 5A ke atas | 10 | 2.6 |
| 3A – 4A | 30 | 7.8 |
| 1A – 2A | 117 | 305 |
| Tiada A | 227 | 59.1 |
| | 384 | 100 |

*Perbezaan Gagasan-Gagasan Potensi Keusahawanan di Kalangan Pelajar Berlainan Pencapaian Akademik*

Jadual 11 pula menunjukkan potensi keusahawanan pelajar mengikut tahap pencapaian akademik dalam PMR. Didapati terdapat perbezaan peratusan "setuju" pelajar yang mendapat sekurang-kurangnya 1A dengan pelajar yang tiada A mengikut gagasan-gagasan potensi keusahawanan. Hasil kajian mendapati pelajar yang langsung tidak mempunyai gred A mempunyai potensi keusahawanan yang tinggi berbanding pelajar yang mempunyai gred A. Dapatan menunjukkan sebanyak 62% daripada pelajar yang langsung tidak mempunyai gred A memilih keusahawanan sebagai kerjaya berbanding 59% bagi yang mempunyai A, 55% yakin berupaya, 39% mempunyai kemahiran, 38% setuju bahawa mereka mahir dalam menilai diri dan 35% setuju untuk mula berniaga apabila tamat sekolah. Kesemua gagasan tersebut didapati lebih tinggi jumlah persetujuan bagi mereka yang tiada A dalam PMR berbanding pelajar yang mendapat A dalam pencapaian PMR.

*Potensi Keusahawanan Pelajar Mengikut Elektif Tertentu*

Jadual 12 menunjukkan potensi keusahawanan pelajar mengikut bidang elektif mereka di Tingkatan 4. Jelas kelihatan pelajar yang mengambil elektif kejuruteraan dan reka cipta mempunyai potensi keusahawanan yang lebih tinggi berbanding elektif lain. Pelajar yang mengambil elektif Matematik Tambahan mempunyai potensi keusahawanan terendah (Min=3.18).

*Perbezaan Potensi Sikap dan Ciri Keusahawanan Pelajar Mengikut Jantina*

Dapatan kajian menunjukkan pelajar perempuan tidak mempunyai potensi keusahawanan yang berbeza berbanding pelajar lelaki. Namun begitu terdapat perbezaan yang signifikan di antara sikap pelajar perempuan dengan pelajar lelaki terhadap keusahawanan ($t = 5.09$, $p < 0.05$). Pada umumnya pelajar perempuan mempunyai sikap terhadap keusahawanan yang lebih tinggi (Min = 122.64 dan S.P.=15.68) berbanding pelajar lelaki (Min=118.50 dan S.P.= 16.87). Dari segi ciri keusahawanan, hasil ujian t menunjukkan terdapat perbezaan yang signifikan ($t= -3.07$, $p < .01$) antara ciri keusahawanan pelajar perempuan dengan pelajar lelaki. Pelajar perempuan memperoleh skor ciri keusahawanan yang lebih tinggi (Min=3.71, S. P.= .33)) berbanding pelajar lelaki (Min=3.61, S. P. =.28).

*Perbezaan Sikap Pelajar Mengikut Keperluan Latihan Keusahawanan dan Bidang Elektif*

Hasil kajian menunjukkan sikap terhadap keusahawanan tidak berbeza antara pelajar yang memerlukan latihan keusahawanan dengan pelajar yang tidak memerlukan latihan keusahawanan ($t = 1.401$ $p > 0.05$).

Walau bagaimanapun terdapat perbezaan sikap yang signifikan di antara pelajar yang berlainan bidang elektif ($F = 1.92$, $p < 0.05$). Pelajar yang mengikuti elektif reka cipta

JADUAL 11
Potensi keusahawanan mengikut pencapaian akademik pelajar

| | PMR * Tiada 'A' | | | | PMR ** Ada 'A' | | | |
|---|---|---|---|---|---|---|---|---|
| | S | | TS | | S | | TS | |
| | F | % | F | % | F | % | F | % |
| Ingin mula berniaga | 507 | (64) | 282 | (36) | 350 | (66) | 170 | (34) |
| Ingin memilih keusahawanan sebagai kerjaya | 489 | (62) | 298 | (38) | 295 | (59) | 233 | (41) |
| Yakin berupaya | 431 | (55) | 354 | (45) | 274 | (52) | 254 | (48) |
| Punyai cukup pengetahuan | 312 | (40) | 468 | (60) | 190 | (40) | 338 | (60) |
| Punyai kemahiran | 309 | (39) | 471 | (61) | 173 | (33) | 355 | (67) |
| Banyak lagi perlu dipelajari | 654 | (83) | 129 | (17) | 426 | (81) | 102 | (19) |
| Mahir menilai diri | 297 | (38) | 483 | (62) | 183 | (35) | 345 | (65) |
| Akan mula berniaga apabila tamat sekolah | 277 | (35) | 427 | (65) | 161 | (30) | 367 | (70) |

* n = 789 S = Setuju
**n = 528 TS = Tidak Setuju

JADUAL 12
Potensi keusahawanan pelajar mengikut mata pelajaran elektif tertentu

| Elektif | Potensi Keusahawanan |
|---|---|
| Kejuruteraan | 3.66 |
| Rekacipta | 3.65 |
| Perdagangan | 3.51 |
| Sains Pertanian | 3.48 |
| Ekonomi Asas | 3.45 |
| Sains Rumah Tangga | 3.42 |
| Prinsip Akaun | 3.39 |
| Matematik Tambahan | 3.18 |

*Nota*: 1 = sangat tidak setuju
5 = sangat setuju

mempunyai sikap yang tinggi (Min = 125.86, S.P = 10.24), pelajar yang mengikuti elektif Sains Pertanian mempunyai sikap yang rendah terhadap keusahawanan (Min = 116.25 dan S.P. = 14.54).

*Perbezaan yang Signifikan Antara Skor Ciri-Ciri Keusahawanan Pelajar Mengikut Kumpulan Etnik*

Dapatan kajian menunjukkan terdapat perbezaan yang signifikan antara skor ciri-ciri keusahawanan pelajar berlainan keturunan ($F = 8.756$, $P < .05$). Pelajar bumiputera (Min = 160.31, S.P. = 15.02) dan pelajar India (Min= 161.46, S.P.= 13.8) didapati memperoleh skor ciri yang lebih tinggi berbanding pelajar Cina (Min = 153.78, S.P. = 15.5) dan pelajar lain-lain keturunan (Min= 150.2, S.P.= 12.3).

*Perbezaan Antara Skor Potensi Keusahawanan Pelajar Aliran Sains dan Sastera*

Dapatan kajian mendapati terdapat perbezaan potensi keusahawanan yang signifikan. Pelajar aliran Sains kurang berpotensi dalam keusahawanan jika dibandingkan dengan potensi pelajar Sastera ($t = -3.12$, $p = < .01$).

## PERBINCANGAN DAN IMPLIKASI

Dapatan kajian menunjukkan ramai pelajar sekolah menengah di Malaysia tidak berhajat menjadi usahawan. Hanya terdapat 384 pelajar berbanding 1336 pelajar yang dikaji, ingin menjadi usahawan. Pelajar yang mempunyai kelulusan akademik yang rendah berdasarkan keputusan PMR menunjukkan potensi dan aspirasi keusahawanan yang tinggi berbanding rakan mereka yang mempunyai keupayaan akademik yang tinggi. Terdapat juga perbezaan yang signifikan dalam ciri-ciri dan potensi keusahawanan antara pelajar yang memilih untuk bekerja sendiri berbanding mereka yang ingin makan gaji. Kajian juga menunjukkan ciri keusahawanan pelajar bumiputera adalah lebih tinggi berbanding ciri keusahawanan pelajar bukan bumiputera.

Secara keseluruhan ciri-ciri keusahawanan pelajar sekolah menengah adalah sederhana, dan aspek ciri-ciri keusahawanan yang paling tinggi nilai min ialah nilai diri. Secara keseluruhan pelajar-pelajar mendapat skor yang sederhana untuk aspek motivasi kejayaan dan keadaan ini agak membimbangkan kerana daripada dapatan kajian oleh Zaineah (1981) dan Chan (1986) telah mendapati motivasi kejayaan adalah penting untuk kejayaan usahawan. Dapatan juga menunjukkan pelajar sekolah memperoleh pencapaian rendah dari aspek mengambil risiko dan kawalan diri dan skor untuk ciri 'kebergantungan' adalah lebih menonjol. Kajian ini juga memperoleh dapatan yang serupa seperti yang diperoleh Scott *et al.* (1988). Scott *et al.* menjalankan kajian untuk mengenal pasti faktor yang mempengaruhi aspirasi keusahawanan pelajar. Dapatan kajian mereka mendapati pelajar memang mempunyai minat dalam keusahawanan tetapi masih rendah ilmu pengetahuan tentang cara perniagaan beroperasi. Mereka yang memilih untuk bekerja sendiri memilih untuk mendapatkan lebih latihan dalam keusahawanan. Mohd. Salleh (1992) melaporkan kesan potensi keusahawanan semasa dalam proses pembelajaran akan mempengaruhi aspirasi keusahawanan dan pemilihan untuk bekerja sendiri. Dengan sebab itu dapatan kajian ini mendapati pelajar sekolah menengah yang mempunyai potensi dan ciri-ciri serta sikap yang tinggi perlu dipupuk untuk mewujudkan kesedaran dan persediaan memilih keusahawanan sebagai satu alternatif kepada kerjaya kerana Hatten *et al.* (1995) juga mendapati ciri-ciri dan sikap pelajar berubah setelah terlibat dengan Program Perniagaan Kecil.

Pandangan daripada ramai pengkaji tentang keperluan komponen keusahawanan untuk para pelajar tidak dapat disangkal lagi. Humam (1988) umpamanya menyarankan bahawa latihan keusahawanan perlu untuk memberi pendedahan kepada para pelajar semasa usia masih muda. Sexton dan Kasarda (1992) berpendapat para pelajar memerlukan kefahaman konsep

yang berkaitan dengan keusahawanan serta penerapan ilmu pengetahuan perniagaan merentasi bidang lain agar dapat mengenal pasti bakat yang ada serta merangsang kemahiran dan perubahan sikap. Justeru itu, cara terbaik untuk mengajar ilmu keusahawanan kepada pelajar-pelajar ialah melalui penerapannya dalam bidang pendidikan vokasional (Drucker 1991).

Di Malaysia, beberapa usaha sedang dijalankan oleh Kementerian Pembangunan Usahawan dan Kementerian Pendidikan untuk mendedahkan pelajar ke dunia perniagaan dan keusahawanan. Semua pelajar diberi peluang untuk mengikuti pembelajaran dalam komponen perdagangan dan keusahawanan dalam mata pelajaran Kemahiran Hidup semata-mata untuk memberi kesedaran dan meningkatkan minat untuk memulakan perniagaan sendiri. Di samping itu terdapat pandangan yang berbeza-beza tentang faktor atau perkara yang perlu dititikberatkan dalam mendefinisikan usahawan (Kuratko and Hodgets 1992), dengan itu agak sukar untuk para pendidik di Malaysia untuk menentukan bidang manakah yang perlu diberi perhatian dalam melatih usahawan sama ada dari segi personaliti atau ilmu pengetahuan.

Dapatan daripada kajian ini menjelaskan bahawa pelajar aliran Sains mempunyai potensi diri yang kurang positif terhadap keusahawanan. Jadi bagaimanakah negara kita ingin menggalakkan pelajar yang meminati ilmu sains memilih keusahawanan sebagai bidang kerjaya mereka? Pelajar yang berada dalam aliran Sains selalunya adalah pelajar yang mencapai keputusan PMR yang agak cemerlang berbanding mereka yang berada dalam aliran Sastera. Lagipun negara kita, Malaysia amat mengharapkan pelajar masa kini menjadi usahawan pelapis untuk meneruskan usaha kerajaan menjadikan Malaysia sebuah negara industri. Meyer (1992) menyarankan adalah sesuatu yang bijak untuk melatih atau menyediakan pelajar sekolah untuk proses keusahawanan kerana apabila mereka tamat persekolahan nanti, minat untuk memulakan perniagaan akan wujud. Miller (1987) pula mencadangkan dalam usaha untuk menghasilkan pelajar atau para graduan yang mempunyai ciri-ciri keusahawanan mereka hendaklah dipilih daripada golongan pelajar yang memang mempunyai ciri-ciri tersebut. Salleh (1992) mendapati tingkah laku untuk berniaga adalah berkaitan dengan aspirasi keusahawanan dan bekerja sendiri.

Berdasarkan mata pelajaran elektif vokasional dan teknik yang ditawarkan di sesebuah sekolah menengah, didapati pelajar yang mengambil elektif "reka cipta" mempunyai min potensi keusahawanan yang paling tinggi, diikuti oleh min pelajar "Kejuruteraan" dan "Perdagangan". Walaupun secara keseluruhan min skornya agak sederhana tinggi didapati pelajar dari elektif lain mendapat min skor yang agak sederhana rendah, kecuali pelajar Sains yang mendapat min skor terendah (Min = 3.18).

Jika dikaji latar belakang pelajar, kesemua pelajar melalui pendedahan yang sama kepada keusahawanan. Kesemua mereka akan diajar tentang keusahawanan melalui komponen Perdagangan dan Keusahawanan dalam mata pelajaran Kemahiran Hidup Bersepadu. Jadi potensi yang tinggi ini mungkin disebabkan oleh gabungan pendidikan vokasional atau teknikal yang begitu baik bagi pelajar elektif reka cipta dan kejuruteraan. Kedua-dua bidang ini merupakan kesinambungan kemahiran manipulatif yang diajar sebagai teras dan pilihan dalam Kemahiran Hidup Bersepadu. Didapati kedua-dua bidang teknikal ini mampu meningkatkan potensi keusahawanan pelajar, maka bidang kejuruteraan/reka cipta perlu diperluaskan penawarannya bersama-sama dengan elektif perdagangan untuk menyepadukan kemahiran perniagaan dan kemahiran teknikal. Mengikut Drucker (1991) pendidikan keusahawanan perlu diterapkan kepada pelajar vokasional (teknikal) supaya pelajar mendapat kemahiran untuk mengkomersilkan pengetahuan teknikal mereka. Dengan ini sistem pendidikan akan dapat berubah mengikut perubahan teknologi dan kehendak negara.

Penggubal polisi pendidikan negara perlu menggabungkan setiap elektif dalam kumpulan vokasional dan teknologi dengan mata pelajaran keusahawanan supaya terdapat gabung jalin antara kemahiran teknikal dan kemahiran keusahawanan (perniagaan). Elektif Sains Pertanian dan Sains Rumah Tangga perlu diperbaiki dari segi kurikulumnya supaya para pelajar dapat melihat kaitan komponen yang diajar dengan bidang perniagaan, kerana terdapat hanya 58 (4%) pelajar (Sains Pertanian) dan 47 (3.5%) pelajar (Sains Rumah Tangga)

dapat melihat kaitan bidang elektif mereka dengan dunia perniagaan.

## RUMUSAN

Pelajar sekolah menengah masih lagi mempunyai aspirasi dan potensi keusahawanan yang rendah. Namun begitu sikap dan ciri keusahawanan pelajar ini berada di tahap sederhana tinggi dan positif. Pelajar yang mempunyai pencapaian akademik yang baik mempunyai skor potensi dan sikap keusahawanan yang lebih rendah berbanding skor pelajar yang kurang baik prestasi akademiknya. Pelajar yang mengambil elektif kejuruteraan dan reka cipta mempunyai potensi keusahawanan yang tertinggi berbanding pelajar elektif lain. Terdapat perbezaan yang signifikan antara sikap pelajar lelaki dengan perempuan, tiada perbezaan yang signifikan antara potensi dengan ciri keusahawanan pelajar mengikut jantina. Tidak terdapat perbezaan sikap pelajar mengikut keperluan latihan keusahawanan, walau bagaimanapun terdapat perbezaan sikap yang signifikan antara pelajar berlainan bidang elektif. Sikap keusahawanan pelajar bidang elektif reka cipta lebih tinggi. Terdapat perbezaan yang signifikan antara ciri keusahawanan pelajar yang ingin bekerja sendiri dengan pelajar yang ingin makan gaji. Ciri keusahawanan pelajar yang ingin bekerja sendiri lebih tinggi. Min ciri-ciri keusahawanan pelajar bumiputera lebih tinggi daripada min ciri keusahawanan pelajar Cina. Perbezaan min ini signifikan pada aras .05. Potensi keusahawanan pelajar Sastera adalah lebih tinggi daripada potensi keusahawanan pelajar Sains.

## RUJUKAN


Chan N.S. 1986. Achievement motivation of Malay and Chinese entrepreneurs: A study among members of Melacca Members of Commerse. Manuskrip yang tidak diterbitkan. UKM, Bangi.

Drucker P.F. 1991. Our Entrepreneurial Economy. Dalam *Entrepreneurship: Creativity at Work.* Boston Haward Business Review.

Habibah Elias dan Zaidatol Akmaliah Lope Pihie. 1993. Achievement motivation among Malaysian entrepreneurs. *Pakistan Journal of Psychological Research* **8(1-2)**: 1-11.

Hatten, T.S dan Rushland S.K. 1995. Student attitude toward entrepreneurship as affected by participation in SBI program. *Journal of Education for Business* **70(4)**: 224-227.

Human Haji Muhammad. 1988. Entrepreneurial development in Malaysia with specific reference to training and development initiatives. Disertasi Ph.D. University of Stirling.

Kent C.A. 1990. Entrepreneurship education at the collegiate level: A synopsis and evaluation. Dalam *Entrepreneurship Education: Current Development: Future Direction* disunting oleh Calvin A. Kent. New York: Quorum Book.

Kuratko, D.F. dan R.M. Hodgetts 1992. *Entrepreneurship – A Contemporary Approach.* Edisi kedua. The Duyden Press, A Harcount Press Jovariorich College Publisher.

Meyer, E.C. 1992. A philosophy of entrepreneurship Education. *Business Education Forum* February: 8-9.

Miller, A. 1987. New ventures: A fresh emphasis on entrepreneurial education. *Survey of Business* **23(1)**.

Mohd. Salleh Hj. Din. 1992. The development of entrepreneurship and enterprise in higher education in Malaysia. Disertasi Ph.D. University of Durham.

Nazar, M.M. 1989. An exploration of the personality profile of small scale business bumiputra and non bumiputra entrepreneurs. *Malaysian Management Review* **25(2)**: 19-28.

Scott M. G. dan D.F. Twomey 1988. The long term supply of entrepreneurs: Students career aspirations in relation to entrepreneurship. *Journal of Small Business Management* October: 5-13.

Sexton D.L. dan J.D. Kasarda. 1992. *The State of the Art of Entrepreneurship.* Boston: Kent Pub. Co.

Sharifah Kamaliah Syed Sofian. 1996. The identification of entrepreneurial characteristics among secondary school students in the district of Hulu Langat Selangor Darul Ehsan. Tesis Master yang tidak diterbitkan. Universiti Putra Malaysia.

Zaineah, L. 1981. Comparison of achievement motivation and the fear of future among entrepreneurs and non–entrepreneurs: A case study. Manuskrip yang tidak diterbitkan. UKM, Bangi.


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# Perceptions of Aspiring Malaysian Principals on Transactional, Transformational and Instructional Leadership Behaviours

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**Keywords: Transformational leadership, transactional leadership, instructional leadership, school leadership and management**

**ABSTRAK**

Tujuan kajian ini ialah untuk menentukan darjah pelaksanaan tingkah laku kepemimpinan pengajaran, transaksional dan transformasional oleh bakal pengetua sekolah dalam pengurusan sekolah menengah. Data telah dikumpul daripada 89 pelajar siswazah yang mengikuti kursus kepemimpinan dalam program sarjana Pentadbiran Pendidikan di Universiti Putra Malaysia. Mereka merupakan guru-guru yang berpengalaman mengajar daripada 89 sekolah menengah yang berbeza di Malaysia. Dapatan kajian menunjukkan bakal pengetua sekolah menengah mempersepsikan diri mereka sebagai berkebolehan dalam mengamalkan stail kepemimpinan transformasional. Dapatan juga menunjukkan bahawa bakal pengetua ini mendapat skor yang tinggi dalam semua aspek tingkah laku kepemimpinan transformasional seperti motivasi inspirasi, karisma, rangsangan intelektual dan pertimbangan individu. Berhubung dengan tanggungjawab kepemimpinan pengajaran, dapatan menunjukkan bahawa bakal pengetua ini mendapat skor yang tinggi dalam aspek menyediakan suasana teratur untuk pembelajaran dan menekankan pencapaian pelajar. Namun demikian kecenderungan mereka meningkatkan dan menilai prestasi guru adalah rendah. Kajian ini mencadangkan beberapa implikasi tertentu untuk penambahbaikan amalan kepemimpinan sekolah di Malaysia untuk keberkesanan sekolah.

**ABSTRACT**

The purpose of this study was to determine the degree to which aspiring school principals will practise transactional, transformational and instructional leadership behaviour in managing secondary schools. Data were collected from 89 graduate students enrolled in the leadership course for the masters programme in Educational Administration conducted at UPM Serdang. They came from different parts of Malaysia and had teaching experience in 89 different schools. Findings indicated that aspiring secondary school principals perceived themselves as capable of adopting transformational leadership style. Results indicate that these participants scored high on all aspects of transformational leadership behaviour such as inspirational motivation, charisma, intellectual stimulation, and individual consideration. With regard to instructional leadership responsibilities, findings indicated that the aspiring principals scored high on providing an orderly atmosphere for learning and emphasizing student achievement. However, their inclination towards improving and evaluating teachers' performance was low. This study suggests certain measures to improve the Malaysian school leaders practice for school effectiveness.

## INTRODUCTION

Leadership may be defined as a process of social interaction between the leader and his or her subordinates, in which the leader seeks to influence his or her subordinates to achieve the objective of the organization (Petzall 1991). Transactional leadership was described by Burns (1978) as motivating followers primarily through

contingent reward-based exchanges. Typically, the main focus of transactional leaders is on setting goals, clarifying the link between performance and rewards, and providing contructive feedback to keep followers on task (Bass 1985). Burns (1978) described the most common form of leadership relationship found between leaders and followers as transactional.

In contrast, transformational leadership involves developing a close relationship between leaders and followers, one based more on trust and commitment than on contractual agreements. Transformational leaders help followers to see the importance of transcending their own self-interest for the sake of the mission and vision of their group and organization. Gardner and Avollio (1998) stated that by building followers' self confidence, self-efficacy, and self-esteem, such leaders are expected to have a strong, positive influence on followers' levels of identification, motivation and goal achievement. A transformational leader attempts to recognize followers' needs and raise those needs to higher levels of motivation and maturity while striving to fulfill human potential. Such total engagement (emotional, intellectual and moral) of both leaders and followers encourages followers to develop and perform beyond expectations. This form of leadership bonds leaders and followers within a collaborative change process which will have impact on the performance of the whole organization and results in a responsive and innovative environment.

Abrams (1998) found that successful principals placed the needs of students in the center of all their decision making. This appeared to be the prime transformational behaviour that awakened the intrinsic motivation among staff members. Moreover, they demonstrated transformational leadership behaviours that included meeting intrinsic needs of followers, visionary leadership, building collaborative school cultures, and putting teachers in roles of instructional leadership. In order to further understand transformational and transactional leadership, the following explanations help to see how it is being practised in the organization.

## TRANSFORMATIONAL LEADERSHIP

*Charisma*

The leader instills pride, faith and respect and has a gift for seeing what is really important and transmits a sense of mission. It is the leader's ability to arouse devotion and involvement through personal dynamics such as self-confidence, ideological stance and dramatic and emotional appeal.

*Inspirational Motivation*

Inspirational motivation is closely related to charisma. Leaders inspire by increasing followers' awareness and understanding of mutually desired goals through symbols and simplified emotional persuasion.

*Individualized Consideration*

The leader delegates projects to stimulate learning experiences, provides coaching and teaching, and treats each follower as an individual. Hence, transformational leaders strengthen followers by raising their need perspectives and by providing opportunities for them to develop their capabilities. To elevate goals and develop their skills, they treat followers on a one-to-one basis. They provide support, encouragement, and developmental experiences to followers.

*Intellectual Stimulation*

It provides encouragement to challenge the status quo and take risks. Followers are supported for creativity and self-direction. The leader arouses followers to think in new ways and emphasizes problem-solving and the use of reasoning before taking action. He influences followers to view problems from a new perspective.

## TRANSACTIONAL LEADERSHIP

*Contingent Reward*

The leader provides rewards if followers perform in accordance with the terms of the contract or expend the necessary effort. Appropriate rewards are for meeting agreed-upon objectives.

*Management by Exception*

The leader avoids giving directions if the old ways are working and allows followers to continue doing their jobs in their usual manner if performance goals are met. Leaders leave organizational members alone to do their jobs. If problems are perceived, only then will they correct, sanction or criticize behaviour. In essence, management-by-exception is a form of negative contingent reinforcement.

Bass (1985) views transformational and transactional leadership as distinct but not mutually exclusive processes, and he recognizes that the same leader may use both processes at different times in different situations.

*Instructional Leadership*

The principal or the instructional leader at the school is expected to be knowledgeable about curriculum and instruction and able to intervene directly with teachers in making instructional improvements (Hallinger 1992). Wildy and Dimock (1993) claimed that research into the instructional leadership behaviour of principals has been conducted largely within the framework of school effectiveness.

In education, the challenges of school restructuring have been cited as reasons for advocating a move from instructional to transformational forms of school leadership (Leithwood & Jantzi 1997). Leithwood (1992) concluded that an emphasis on instructional leadership was wholly appropriate and timely in the early 1980's when the term gained a widespread following. But instructional leadership conveys a meaning which encompasses only a portion of those activities now associated with effective school leadership. The school is now viewed as the unit responsible for the 'initiation' of change, not just the 'implementation' of changes. Schools need extraordinary leaders who are able to inspire followers to perform beyond commonly held expectations. As suggested by Burns (1978) and Bass (1985), transformational style of leadership focuses on the individual development of subordinates and thus helps to enhance their performance.

The purpose of this study was to investigate to what extent the aspiring Malaysian secondary school principals will practise transformational, transactional and instructional leadership behaviour in order to achieve school effectiveness. Specifically, the study attempts to seek answers to the following research questions.

1. What are the reasons for seeking principalship as perceived by aspiring school principals?
2. What is the perception of aspiring school principals regarding their own transformational and transactional leadership behaviour?
3. What is the perception of aspiring school principals regarding their own instructional leadership behaviour?
4. What is the perception of aspiring school principals regarding school effectiveness?
5. What is the relationship between aspiring principals' perception of school effectiveness and selected background variables?
6. What is the relationship between aspiring principals' perception of transformational and transactional leadership behaviour and school effectiveness?
7. What is the relationship between respondents' age, teaching experience, and administrative experience with their perception of every aspect of transformational behaviour?

## METHOD

*Sample*

Participants of the study consisted of 89 secondary school teachers enrolled as graduate students in two different programmes. The first group comprised students in the educational administration programme conducted by the Faculty of Educational Studies, Universiti Putra Malaysia. The second group followed the Educational Management programme jointly conducted by IAB and Universiti Putra Malaysia. Both the programmes were conducted in 1999.

Data were collected via a questionnaire administered to both groups of students during the Educational Leadership Class.

*Instrumentation*

The constructs of transformational leadership behaviour were viewed as represented by charisma, inspirational motivation, intellectual stimulation and individual consideration. The transactional leadership behaviour was viewed as represented by contingent reward and management by exception. All items on transformational and transactional leadership and school effectiveness used in this research were an adaptation of the questionnaire used in Zainab's study (1997). The respondents were asked to answer a questionnaire by using 4 point Likert Scale items on school effectiveness, transformational and transactional leadership behaviour from 1 = "extremely disagree" to 4 = "extremely agree". Respondents were asked to rate their behaviour based on a scale of 1 to 4. The reliability of the instruments ranged from

.61 to .85. Total items used to measure transformational leadership behaviour were 20. The instrument consisted of 8 items to measure 'charisma', 4 items to measure inspirational motivation, 4 items to measure intellectual stimulation and 4 items to measure individual consideration. Sixteen items were used to measure transactional leadership behaviour and eight items to measure school effectiveness.

For the instructional leadership instrument, a questionnaire developed by Willis and Bartel (1990) was modified and revised with activities significant for instructional leadership practice in Malaysia. The reliability of the instructional leadership instrument was .86. On the instructional leadership items, respondents were asked to indicate their choice on a scale of one to four for the 16 given items. They were asked to identify to what extent they will practise instructional leadership responsibilities by using the following scale : 1 = will not perform, 2 = perform to a minor extent, 3 = perform equally with others and 4 = perform to a major extent.

An instrument regarding reasons for seeking principalship was originally taken from Willis and Bartel (1990) and the items were then modified to suit the tasks of aspiring Malaysian school principals.

## RESULTS

Table 1 illustrates that most of the respondents are male, in the age category of 35 – 45 years, have more than 8 years teaching experience, and 60% have no administrative experience.

TABLE 1
Respondents' background

| | Category | f | % |
|---|---|---|---|
| Gender | Male | 53 | 60 |
| | Female | 36 | 40 |
| Age | 24 – 34 | 37 | 42 |
| | 35 – 45 | 39 | 43 |
| | Above 45 | 13 | 15 |
| Teaching experience | < 8 years | 37 | 42 |
| | 8 years & more | 52 | 58 |
| Administrative experience | No experience | 53 | 60 |
| | < 4 years | 22 | 24 |
| | 4 years & more | 14 | 16 |

Research Question 1: What are the reasons for seeking principalship as perceived by aspiring principals?

Table 2 illustrates that most of the respondents perceived the highest ranking reasons to be a school principal as : to enhance professional advancement, to upgrade educational excellence, to work with people and students and to be a change agent. About 18 % of the sample indicate that they are not really interested in becoming school principals even though they follow the Masters Programme in educational administration.

Research question 2: What is the perception of aspiring principals regarding their own transformational and transactional leadership behaviour?

Looking at the mean score as illustrated in Table 3, the aspiring school principals will practise moderately high transformational

TABLE 2
Reasons for seeking principalship

| Reasons | Agree (%) | Do not agree (%) | mean | s.d |
|---|---|---|---|---|
| 1. Professional advancement | 87 (98) | 2 (2) | 3.65 | .50 |
| 2. To enhance educational excellence | 87 (98) | 2 (2) | 3.65 | .50 |
| 3. Interest in working with people/students | 85 (96) | 4 (4) | 3.34 | .52 |
| 4. To be a change agent/ influence policy & decision making | 88 (89) | 1 (1) | 3.53 | .50 |
| 5. Confidence in one's leadership abilities/ administrative skills | 79 (89) | 10 (11) | 3.05 | .50 |
| 6. To have an impact on instructional programs | 72 (81) | 14 (19) | 3.14 | .72 |
| 7. Only if appointed | 76 (85) | 13 (15) | 2.80 | .68 |
| 8. Increase in salary | 64 (72) | 25 (18) | 2.95 | .74 |
| 9. Not interested | 16 (18) | 73 (82) | 1.82 | .77 |

TABLE 3
Aspiring school principals' transformational leadership behaviour

| Behaviours | means | ranks |
|---|---|---|
| Charisma | 3.48 | 2 |
| Inspirational motivation | 3.67 | 1 |
| Intellectual stimulation | 3.55 | 3 |
| Individual consideration | 3.40 | 4 |

*Note:* 1 = totally disagree
4 = totally agree

leadership. The highest mean score was for the inspirational motivation category (mean = 3.67), followed by intellectual stimulation (mean = 3.55), charisma (mean = 3.48) and individual consideration (mean = 3.40).

The aspiring principals' perception of their own transactional leadership behaviour is rather

TABLE 4
Aspiring school principals' transactional leadership behaviour

| Behaviours | means | ranks |
|---|---|---|
| Contingent reward | 3.20 | 1 |
| Management by exception | 2.01 | 2 |

*Note:* 1 = totally disagree
4 = totally agree

low. Table 4 indicates that the mean score of the aspiring principals regarding their transactional leadership behaviour for 'contingent reward' is 3.20 and the mean score for 'management by exception' is 2.01.

Research question 3: What is the perception of aspiring school principals regarding their own instructional leadership behaviour?

Table 5 illustrates the mean ranking of instructional leadership practice or responsibilities as perceived by the respondents. Looking at the mean score, they ranked high on activities such as "providing orderly atmosphere for learning", and "emphasizing student achievement". Teachers as aspiring principals do not believe that they need to recognize teachers' performance since they ranked low on "evaluating performance of teachers", "selecting and reviewing of curriculum materials" and "introducing new instructional methods to teachers". Most of the items were perceived in the category of "will be performed equally with others" and items on

TABLE 5
Ranking of instructional leadership responsibilities as perceived by teachers

| Instructional leadership activities | Rank/ mean | s.d |
|---|---|---|
| Providing orderly atmosphere for learning | 3.91 | .29 |
| Emphasizing student achievement | 3.90 | .32 |
| Articulating goals to staff | 3.87 | .33 |
| Providing supportive climate for teachers | 3.85 | .36 |
| Evaluating pupil's progress | 3.82 | .46 |
| Involving teachers in decision making | 3.69 | .46 |
| Setting expectation for student performance | 3.67 | .52 |
| Managing resources allocated for instructional use | 3.60 | .56 |
| Accepting responsibility for student behaviour in school | 3.57 | .52 |
| Evaluating performance of teachers | 3.56 | .54 |
| Selecting and reviewing of curriculum materials | 3.48 | .68 |
| Devising instructional strategies | 3.47 | .67 |
| Introducing new instructional methods to teachers | 3.33 | .69 |
| Setting expectation for student behaviour | 3.33 | .66 |
| Articulating school goals to public | 3.31 | .72 |
| Accepting responsibility for student behaviour outside school | 2.68 | .78 |

*Note:* 1 = will not perform
2 = perform to a minor extent
3 = perform equally with others
4 = perform to a major extent

accepting responsibility for student behaviour outside school were perceived in the category of "perform to a minor extent".

Research question 4: What is the perception of aspiring school principals regarding their school leadership effectiveness?

Table 6 illustrates the perception of aspiring principals on school effectiveness. They were given 8 items and asked to identify their degree of agreement on the managerial practice of school leaders. Findings indicate that aspiring principals believed that they will be effective leaders in representing their staff in meeting organizational requirements (mean = 3.70) and representing their staff to higher authority (mean

= 3.65). The lowest ranking practice was for the statement "I will get my staff to do more than they are expected to do" with a mean score = 2.72 and "I will increase my staff willingness to try harder" with a mean score = 3.49. The overall mean for school effectiveness was 3.50 which indicates a moderately high agreement on all school effectiveness items as illustrated in Table 6.

TABLE 6
Aspiring principals' perceptions on school effectiveness

| School Effectiveness Items | Mean | s.d. |
|---|---|---|
| I will get my staff to do more than they are expected to do | 2.72 | 1.04 |
| I will heighten my staff's desire to succeed | 3.62 | 0.61 |
| I will work with my staff in a satisfactory way | 3.62 | 0.51 |
| I will increase my staffs willingness to try harder | 3.49 | 0.55 |
| I will be an effective leader to meet my staff job related needs | 3.55 | 0.62 |
| I will be an effective leader in representing my staff to higher authority | 3.65 | 0.50 |
| I will be an effective leader in meeting organizational requirements | 3.70 | 0.51 |
| I will use methods of leadership that are satisfying | 3.62 | 0.57 |

*Note:* 1 = totally disagree
4 = totally agree

Research question 5: What is the relationship between aspiring principals' perception on school effectiveness and selected background variables?

Table 7 illustrates the correlation between respondents' perception on school effectiveness and respondents' age, teaching experience, and administrative experience. Findings shows that there is a significant moderate positive relationship between the age of respondents and their perception on effectiveness. This means that the older the respondents are, the higher will be their perception on school leadership effectiveness. There is also a significant but moderate positive relationship between effectiveness and teaching experience. This means that the degree of school leadership effectiveness as perceived by teachers increases if they have had more teaching experience. Finally, there is also a significant relationship between respondents' perceptions on school leadership effectiveness and administrative experience. This means that those teachers with more administrative experience will have a higher perception on school leadership effectiveness.

TABLE 7
Relationship between respondents' perception of school effectiveness and age, teaching experience and administrative experience

| | Age | Teaching Experience | Administrative Experience |
|---|---|---|---|
| Effectiveness | .27 * | .25 * | .39** |

* < .01
** < .001

Research question 6: What is the relationship between aspiring principals' transformational and transactional behavior and school effectiveness?

Table 8 explains the relationship between the aspiring principals' transformational and transactional leadership behaviour and their perception of school effectiveness. Findings indicate that there is a moderately high and significant relationship between transformational leadership behaviour and school effectiveness.

Research Question 7: What is the relationship between respondents' age, teaching

TABLE 8
Relationship between aspiring principals leadership behaviour and school effectiveness

| | Effectiveness | transformational | Transactional |
|---|---|---|---|
| Effectiveness | - | .47** | .25* |
| Transformational | .47** | - | .26* |
| Transactional | .25* | .26* | - |

** p < .01
* p < .05

experience and administrative experience with their perception of every aspect of transformational leadership behaviour?

Findings indicate that 'age' has a significant moderate relationship with all transformational leadership categories and effectiveness. Table 9 shows that teaching experience was found to have a moderate correlation with 'charisma', and 'inspirational motivation'. There is no significant correlation between administrative experience and all category of transformational leadership behaviour.

TABLE 9
Correlation between transformational leadership categories and respondents' backgrounds

| Background | Ch | IM | IS | IC |
|---|---|---|---|---|
| Age | .28* | .22* | .24* | .25* |
| Teaching experience | .32* | .25* | .19 | .21 |
| Administrative experience | .05 | .28 | .11 | .08 |

*p < .01

Ch = charisma
IM = inspirational motivation
IS = intellectual stimulation
IC = individual consideration

## DISCUSSION AND CONCLUSION

The aspiring school principals perceived that they will practise higher level transformational leadership behaviour if they are given the chance to lead their school. They perceived that their ability to demonstrate transformational leadership behaviour is moderately high. For all categories of transformational leadership behaviour, the mean score ranged from 3.40 – 3.57. The aspiring principals are perceived to practise in the transactional behaviour less frequently, since the mean score is rather low.

Looking at the reasons why teachers select principalship, the top ranked reasons are: to be a change agent (99%), to enhance educational excellence (98%) and for professional advancement (98%). About 89% seek principalship because they perceived that they had leadership abilities and administrative skills. The increase in salary is not considered as the top ranking reason for seeking principalship, and about 85% agreed that they will be principals if they are appointed.

An interesting finding was the significant relationship between the practice of transformational leadership and school leadership effectiveness as a whole as perceived by the aspiring school principals. The higher they perceive that they will practise transformational leadership behaviour, the more effective their school will be. The aspiring principals' transformational leadership behaviour correlates significantly with effectiveness. This finding supports the findings of Burns (1985) who found a stronger relationship between transformational leadership and school effectiveness.

As a whole, aspiring principals will perform to a major extent instructional leadership responsibilities related to promoting a positive school climate. If they were the school principals, their most practiced instructional leadership responsibilities will be to provide an orderly atmosphere for learning and emphasizing students' achievement. The least practised responsibilities as perceived by the aspiring principals will be accepting responsibility for student behavior outside school and articulating school goals to the public.

Evaluating teachers' performance was not ranked high in importance even though this is one of the top ranked responsibilities of instructional leaders as identified in the literature (Willis and Bartel 1990). Teachers ranked it number 10 from the 16 responsibilities listed. Aspiring principals also focus less on the responsibilities related to "managing the curriculum" especially on "selecting and reviewing of curriculum materials", "devising instructional strategies" and "introducing new instructional methods to teachers".

Thus this study contradicts the findings of Willis and Bartel (1990) who found that evaluating teachers' performance was ranked first and second respectively by the outstanding American and Japanese school principals. However, similar findings were found by Wildy and Dimock (1993), since their findings also indicate low rating for 'monitoring teaching performance'. Besides, this current study also supported Wildy and Dimock whose study concluded that instructional leadership appears to be a shared responsibility involving staff at all levels, and that 'managing the curriculum' and 'evaluating and providing feedback' are the areas of responsibility in which principals are the least involved. Aspiring principals in Malaysia perceived that they bore a greater level of

responsibility to promote a positive school climate especially for providing an orderly atmosphere for learning and emphasizing student achievement. This is due to the fact that the culture is still to achieve 'academic excellence' and the teachers are influenced to work towards this goal.

The overall mean of school effectiveness of the aspiring principals is moderately high. The highest mean score is for the item "to be an effective leader in meeting organizational requirements" but they still score low for the item "to get staff to do more than they are expected to do". This proves that they need more training to practise transformational leadership behavior. There is a moderate but significant relationship between leadership effectiveness with teacher's age, teaching experience and administrative experience. This means that the older the teachers are, the higher will be their perception of their school effectiveness, and the more experience they have in teaching and administration work, the higher will be their perception of leadership effectiveness.

Aspiring principals should be given an opportunity to learn to be transformational and instructional leaders. Understanding the responsibilities of instructional leaders is a must to ensure that future principals can focus on the improvement of instructional quality. If learning is a life-long process and the school goal is to improve the quality of education, then aspiring principals need to be continually educated. Furthermore, transformational leadership has been shown to have a direct, positive relationship with performance.

Aspiring principals should understand the basis of shared instructional leadership because more people should be involved in improving instructional quality. In order to meet the rapidly changing needs of Malaysian students, teachers as well as parents must be given the authority to make appropriate instructional decisions.

Instructional leaders must be knowledgeable about curriculum and instruction, must be able to plan continuous improvement of instructional programs and be actively engaged in staff development. They should also be encouraged to utilize the latest teaching instructional strategies. Most important of all, future instructional leaders should be active participants in staff development.

The concept of excellence in school management should be focused on the 'effort' contributed by the workforce, and successful schools build their mission statements and organizational values around the recognition and value of their teachers. The performance of each school rests on the skills, knowledge, attitudes and other characteristics of the teachers. Thus the practice of transformational leadership may result in a higher level of satisfaction and effectiveness among the teachers. This study supported Leithwood (1992) who discovered that there was a significant relationship between transformational leadership and instructional behaviour and this study found that the aspiring principals showed a positive attitude towards school improvement. Indeed, transformational leadership is the most appropriate style for achieving better teacher performance. Finally, transformational leadership is concerned mainly with developing a teacher's full potential. Abrams (1998) claimed that principals in their study believed that their pre-service educational administration program was inadequate in preparing them for their role as principals. This study supports Abrams (1998) who believes that pre-service programs need to define a body of knowledge and create a cohesive curriculum to teach the skills that administrators need to know to be effective leaders in their schools. Rue and Byars (2000) believe that a transformational leader cultivates employee acceptance of the group mission. The leader–employee relationship is one of mutual stimulation and is characterized by charisma on the part of the leader, inspiration by the leader, consideration by the leader of individual needs, and intellectual stimulation between the leader and followers. Transformational leaders go beyond transacting with their followers and transform not only the situation but also the followers. Thus, aspiring principals need to be trained to be transformational leaders. Blasé and Blasé (2000) suggested that the preparation and continuing development of instructional leaders should de-emphasize principal control and encouragement of competition among teachers. Programs should teach practising and aspiring principals how to develop professional dialogue and collegiality among educators. Blase and Blase (2000) also found that their model of effective instructional leadership was derived directly from their research data which consist of two major themes: talking with teachers to

promote reflection and promoting professional growth.

## REFERENCES


ABRAMS, E.R. 1998. Perceptions of successful elementary school principals of effective school leadership. Practices: A portrait of school leadership. EDD dissertation. The University of Arizona. U.S.A.

BASS, B. 1985. *Leadership and Performance beyond Expectations.* New York: Free Press.

BLASE, J and J. BLASE. 2000. Effective instructional leadership: Teachers perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration* **38(2)**: 1-13.

BURNS, J. 1978. *Leadership.* New York: Harper and Row.

GARDNER W.L. and B.J. AROLIO. 1998. The charismatic relationship: A dramaturgical perspective. *Academy of Management Review* **23**: 32-58.

HALLINGER, P. 1992. The evolving role of American principals: From managerial to instructional to transformational leaders. *Journal of Educational Administration* **30 (3)**: 35-48.

LEITHWOOD K.A. and D. JANTZI. 1997. Explaining variations in teachers' perception of principals leadership: A replication. *Journal of Educational Administration* **35 (4)**: 312-331.

LEITHWOOD R.A. 1992. The move toward transformational leadership. *Educational Leadership* Feb. : 8-12.

PETZALL S., C.T. SELVARAJAH and Q. WILLIS. 1991. *Management: A Behavioural Approach.* Melbourne: Longman.

RUE, J. W. and L.L BYARS. 2000. *Management: Skills and Application.* New York: McGraw Hill.

WILDY, H. AND C. DIMOCK. 1993. Instructional leadership in primary and secondary schools in Western Australia. *Journal of Educational Administration* **31 (2)**.

WILLIS, D.B., and C.A. BARTEL. 1990. Japanese and American principals: A comparison of excellence in educational leadership. *Comparative Education* **26 (1)**: 107-122.

ZAINAB BIBI BT. HAMID. 1998. Perception of secondary school teachers towards the transformational leadership for teacher's effectiveness. Unpublished Masters thesis, Universiti Putra Malaysia.


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# The Temporal Price Relationship between the Stock Index Futures and the Underlying Stock Index: Evidence from Malaysia

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**ABSTRAK**

Kontrak niagaan ke depan telah diperkenalkan di pasaran derivatif Malaysia pada bulan Disember 1995 dengan pelancaran kontrak niaga ke hadapan di atas Indeks Komposit Bursa Saham Kuala Lumpur. Oleh kerana kontrak ini baru diniagakan di pasaran derivatif Malaysia (MDEX) banyak isu berkenaan produk kewangan ini masih belum sempat dikaji. Kajian ini meneliti kajian temporal (iaitu kaitan lat dan tunggu) antara harga kontrak ke depan (FKLI) yang berasaskan Indeks Komposit BSKL dan harga Indeks Saham Komposit BSKL (KLSE CI). Kajian ini yang meliputi jangka masa lima tahun dibahagikan kepada tiga jangka masa yang berlainan berasaskan tahap kemudahubahan harga yang berlainan, untuk meneliti pola kaitan pergerakan harga. Penemuan kajian ini menunjukkan pasaran kontrak ke depan mendahului pasaran BSKL selama sehari dalam keadaan ekonomi stabil dan tidak terdapat pola kaitan harga antara pasaran ini dalam keadaan di mana menghadapi kemudahubahan harga yang tinggi.

**ABSTRACT**

The stock index futures was introduced in Malaysia in December 1995 with the launching of the futures contract on the Kuala Lumpur Stock Exchange Composite Index. Due to its recentness in the country, many issues pertaining to this equity derivatives instrument have not been explored. Thus, the development of stock index futures opens many opportunities for research in this area. This study examines the temporal relationship between the price of the Kuala Lumpur Stock Exchange Composite Index futures contract (FKLI) and its underlying stock index, the Kuala Lumpur Stock Exchange Composite Index (KLSE CI). The five-year period under study is split into three subperiods to observe the price co-movement pattern under different volatility levels. The study finds that futures market tends to lead the spot market by one day during the periods of stable market, and there is a mixed lead-lag relationship between the two markets during the period of highly volatile market.

## INTRODUCTION

This study examines the temporal price relationship between the Kuala Lumpur Stock Exchange Composite Index futures contract (FKLI) and the Kuala Lumpur Stock Exchange Composite Index (KLSE CI) for the period from 15th December 1995 to 31st December 2000. The objective of the research is to determine the lead and lag relationship between the futures market and the spot market particularly in the context of an emerging equity market like Malaysia. The lead and lag pattern between the futures and the spot markets exists when the information is processed at different speeds in the two markets. Price discovery takes place in the market that processes the information faster than it does in the other market. The findings of this study would be of benefit to investors to

make better and informed investment decisions whether they trade in both the futures and the cash markets or if they trade in only one of the markets.

## LITERATURE

There are a number of related studies that have been done in this area but most of them are based on developed markets like the U.S. Very few have been done in emerging markets. Kawaller *et al.* (1987) undertook a study on price relationships between the S&P 500 futures contract and the S&P 500 index and found that the futures market tends to lead the spot market by between twenty and forty-five minutes. Herbst *et al.* (1987) investigated the lead and lag relationship between the stock indices and the futures contracts for the Value Line index and its futures, and for the S&P 500 index and the S&P 500 index futures. They first tested the relationship using daily data and found that there is a time lead of less than one day between the futures market and the spot market. To validate and refine the result, they extended the study using intraday data and found that the stock index futures prices lead those of their cash indices for both the Value Line and the S&P 500 indices. The Value Line index futures is found to lead the Value Line index between zero and sixteen minutes, while the S&P 500 index futures tends to lead its underlying stock index between one and eight minutes. Schwarz and Laatsch (1991) conducted a lead-lag study on Major Market Index Maxi futures in relation to market maturation. They found that the spot market dominates the futures market in price leadership in the first ten months of the MMI Maxi futures contract trading. The price leadership pattern did not change in the subsequent ten months of futures trading but was reversed in the following five months. The authors found that there is a large increase in price leadership for the futures market and there is a substantial increase in pricing efficiency as the futures market becomes more mature.

There are also studies that found bi-directional relationships between the stock index futures and the stock index. Stoll and Whaley (1990) performed a lead-lag study using the S&P 500 index and the S&P 500 index futures, and the Major Market Index (MMI) and MMI futures. They found that futures returns lead those of the cash indices by up to ten minutes and this relationship is found to be bi-directional. A study by Tse (1999) on Dow Jones Industrial Average (DJIA) index and DJIA index futures found that price discovery takes place in the futures market but there exists a significant bi-directional information flow between the two markets.

Outside the United States, investigation of the lead and lag relationship between the futures market and the spot market generally results in almost similar findings as the studies done in the United States. Shyy *et al.* (1996) performed a study in French markets and found that CAC 40 futures returns lead the CAC 40 index returns by three to five minutes when they used transaction data but the causality was reversed when they used the midpoint of bid and ask prices. A study by Frino and West (1999) on Australian markets found that the futures returns lead index returns by twenty to twenty-five minutes and there is some evidence of feedback from the cash market to the futures market. Twite (1991) performed a lead-lag study on the Australian All Ordinaries index and concluded that there is a strong contemporaneous relationship between the futures and the cash markets, and there is also evidence that futures returns lead the spot returns by one day. Grunbichler *et al.* (1994) studied the relationship between the screen-based DAX index futures and the floor-traded DAX index and found that the futures returns lead the spot returns by fifteen minutes and there is weak evidence that the spot returns lead the futures returns by five minutes.

In Asian markets, there have been a few studies on the lead-lag relationship between the futures market and the spot market. Tse (1995) performed a study on the Nikkei Stock Average futures traded on SIMEX and the underlying stock index. The author found that the spot price is influenced by the spot and futures price from up to two days previously, while the futures price is not affected by the past spot or futures prices. Min and Najand (1999) did a study on Korean futures and spot markets and found that the futures market leads the spot market by as long as thirty minutes.

In general, most of the studies cited above found that the stock index futures tends to lead the underlying stock index. However, there are studies that found bi-directional causality between the futures and the spot markets.

## DATA AND METHODOLOGY

Two sets of data are used in this study namely the data for the FKLI futures contract and the data for the KLSE CI. The data set for the FKLI futures contract which consists of the daily settlement prices and the daily trading volume is gathered from the Malaysia Derivatives Exchange's (MDEX) historical database provided by its Strategic Planning and Product Development Department. The daily closing prices of KLSE CI are obtained from Thomson Financial Datastream. The sample of data is from 15th December 1995 until 31st December 2000. The sample is split into three subperiods to reflect the changing volatility levels throughout the five-year period under review. The subperiods are:

1) Subperiod 1 – from 15th December 1995 to 30th June 1997;
2) Subperiod 2 – from 1st July 1997 to 30th September 1998; and
3) Subperiod 3 – from 1st October 1998 to 31st December 2000.

The subperiods are arbitrarily selected based on the patterns of price fluctuations and the trading volume of the spot-month FKLI contract as reported in the descriptive statistics in subsection 3.1. Subperiod 1 is the period of stable prices and low trading volume, subperiod 2 is the period of highly fluctuating prices and high trading volume while subperiod 3 is the period of mildly volatile prices and fairly high trading volume. The graphical illustration of the FKLI settlement price and the contract's volume for the period under study is presented in *Fig. 1* below.

*Descriptive Statistics*

In this section, the descriptive statistics of the spot-month FKLI and the KLSE CI are discussed in greater detail. The mean, highest, lowest and standard deviation of the spot-month FKLI's settlement prices and trading volume during different subperiods are looked into. Similar statistics for the KLSE CI's closing prices are discussed in this section. Table 1 shows the descriptive statistics for the spot-month FKLI futures contract during the three different subperiods. Looking at the price level, it has been observed that subperiod 1 records the highest average settlement price of 1,140.59 index points. The average settlement price drops to 630.58 index points in subperiod 2 and bounces back to 740.31 points. In terms of the range of price fluctuation, subperiod 1 has the smallest range while subperiod 2 has the largest. Such observations are confirmed by the standard deviations of 14.62 percent, 76.49 percent and 44.37 percent in subperiod 1, subperiod 2 and subperiod 3 respectively.

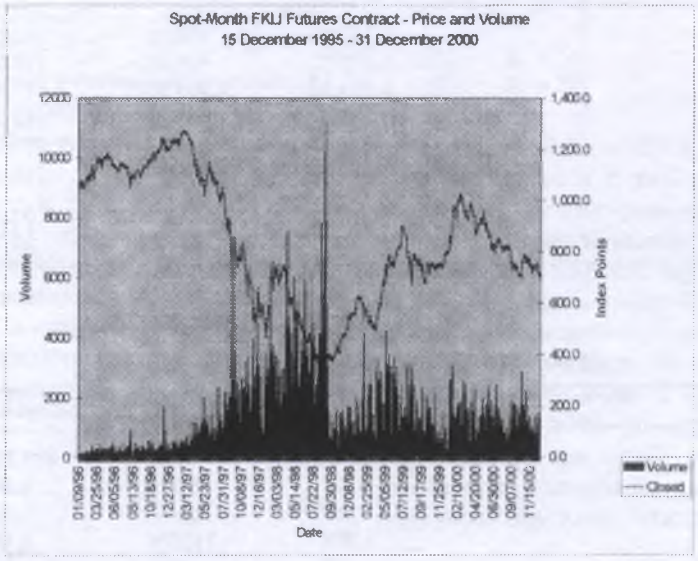


*Fig. 1: Spot-month FKLI futures contract: Settlement price and volume from 15th December 1995 to 31st December 2000*

With regards to the closing price of the KLSE CI, similar patterns are observed as shown in Table 2. The index is at above the 1,000 level in subperiod 1, then falls to 636.65 in the following subperiod and rebounds to 733.32 in subperiod 3. The KLSE CI fluctuates in a narrow band in subperiod 1 but the range widens in subperiods 2 and 3. The annualised standard deviations are 13.75 percent, 61.58 percent and 25.34 percent in subperiod 1, subperiod 2 and subperiod 3 accordingly.

The other variable that is of concern in this study is the trading volume of the stock index futures contract. The volume has been found to form a significant pattern during the five-year period under study. The spot-month FKLI contract trading volume is very low in the early stage of the index futures trading but jumps substantially in late 1997 until the third quarter of 1998. Thereafter, the volume drops but still remains at reasonably high levels. The descriptive statistics of the spot-month FKLI futures contract are presented in Table 3. From the summarised information, it can be seen that subperiod 1 has the lowest trading volume with an average daily turnover of 351 contracts. Subperiod 2 has an average daily volume of 2,507 contracts and records the highest daily volume of 11,238

TABLE 1
Descriptive statistics: Spot-month FKLI contract

| | Subperiod 1 | Subperiod 2 | Subperiod 3 | Whole Period |
|---|---|---|---|---|
| Mean | **1,140.59** | **630.58** | **740.31** | **835.32** |
| Median | 1,133.55 | 608.90 | 750.50 | 799.00 |
| Maximum | **1,272.50** | **1,076.10** | **1,026.50** | **1,272.50** |
| Minimum | **976.90** | **274.90** | **374.90** | **274.90** |
| Variance | 4,194.32 | 35,804.60 | 21,923.57 | 62,867.06 |
| Standard deviation | 64.76 | 189.22 | 148.07 | 250.73 |
| Mean of annualised returns | **6.52%** | **-42.21%** | **37.08%** | **2.419%** |
| Annualised standard deviation of returns | **14.62%** | **76.49%** | **31.67%** | **44.37%** |

TABLE 2
Descriptive statistics: KLSE CI

| | Subperiod 1 | Subperiod 2 | Subperiod 3 | Whole Period |
|---|---|---|---|---|
| Mean | **1,140.83** | **636.65** | **733.32** | **833.78** |
| Median | 1,135.17 | 623.98 | 745.25 | 799.54 |
| Maximum | **1,271.57** | **1,084.88** | **1,013.27** | **1,271.57** |
| Minimum | **977.49** | **262.70** | **360.10** | **262.70** |
| Variance | 4,071.65 | 37,243.27 | 22,297.75 | 63,401.10 |
| Standard deviation | 63.81 | 192.99 | 149.32 | 251.80 |
| Mean of annualised returns | **6.60%** | **-48.15%** | **34.59%** | **-1.091%** |
| Annualised standard deviation of returns | **13.75%** | **61.58%** | **25.34%** | **35.92%** |

TABLE 3
Descriptive statistics: Spot-month FKLI's volume

| | Subperiod 1 | Subperiod 2 | Subperiod 3 | Whole Period |
|---|---|---|---|---|
| Total | **132,820** | **777,116** | **693,211** | **1,603,147** |
| **Mean** | **351** | **2,507** | **1,247** | **1,289** |
| Median | 266 | 2,277 | 1,091 | 957 |
| Maximum | **1,965** | **11,238** | **4,171** | **11,238** |
| **Minimum** | **17** | **246** | **146** | **17** |
| Variance | 89,268 | 2,290,314 | 490,426 | 1,453,430 |
| Standard Deviation | 299 | 1,513 | 700 | 1,206 |

contracts. The third subperiod records moderately high volumes with a daily volume of 1,247 contracts on average.

From the descriptive statistics discussed above, the three subperiods can be classified in the following manner:

1) Subperiod 1 is the period of stable prices and low futures trading volume;
2) Subperiod 2 is the period of a highly volatile market and high trading volume in the futures market; and
3) Subperiod 3 is the period of a mildly volatile market and fairly high futures trading volume.

The data sets are first tested for the properties of time series namely the test for stationarity and the test for autocorrelation. A unit-root test known as the Augmented Dickey-Fuller (ADF) method is used to test for stationarity of the KLSE CI and the FKLI series. The ADF method performs a simple test for stationarity by regressing the first-difference of a time series against its lagged series as shown in equation 1. First, the ADF is done at level term to test for the existence of a unit root. If there exists a unit root, the series is nonstationary. Therefore, ADF has to be performed at the first difference. The process is continued until the series is found to be stationary.

$$\Delta Y_t = (\rho\text{-}I)Y_{t-1} + \mu_t \qquad (1)$$

where $\Delta Y_t$ is the difference or change in Y at time t, $(Y_t - Y_{t-1})$;
$Y_{t-1}$ is a lag one observation in series Y;
$\rho$ is the autocorrelation coefficient; and
$\mu_t$ is the white noise error term.

The second test is to check whether the KLSE CI and the FKLI series are autocorrelated. To test for autocorrelation, a measure known as Durbin-Watson *d* statistics is used. If there exists an autocorrelation, a corrective measure has to be taken to avoid spurious results. The Durbin-Watson *d* statistic is computed using the following equation:

$$d = \frac{\sum(\hat{u}_t - \hat{u}_{t-1})^2}{\sum \hat{u}_t^2} \qquad (2)$$

which is the ratio of the sum of squared differences in successive residuals to the residual sum of squared.

After cleaning for nonstationarity and autocorrelation, the test for lead-lag relationship between the FKLI futures and the KLSE CI is performed. In this study, a multiple regression model is employed with the KLSE CI returns being the dependent variable and the lagged, contemporaneous and lead FKLI returns being the explanatory variables. The equation of the multiple regression model is expressed as follows:

$$R_{St} = \alpha + \beta_{-4}R_{Ft-4} + \beta_{-3}R_{Ft-3} + \beta_{-2}R_{Ft-2} + \beta_{-1}R_{Ft-1} + \beta_0 R_{Ft} + \beta_1 R_{Ft+1} + \beta_2 R_{Ft+2} + \beta_3 R_{Ft+3} + \beta_4 R_{Ft+4} + \varepsilon_t \qquad (3)$$

Where $R_{St}$ is the KLSE CI return at time t or $[\ln(KLSE_t / KLSE_{t-1})]$;
$R_{Ft}$ is the FKLI return at time t or $[\ln(FKLI_t / FKLI_{t-1})]$;
$R_{Ft+k}$ is the FKLI return at lag k;
$R_{Ft+k}$ is the FKLI return at lead k;
$\alpha$ is the regression intercept;
$\beta_k$ is the coefficient of the independent variable; and
$\varepsilon_t$ is the error term.

The null hypothesis that there is no significant lead-lag relationship between the index futures returns and the stock index returns is developed and is then tested. The hypothesis is presented below:

$$H_0 : \beta_k = 0$$
$$H_1 : \beta_k \neq 0$$

The sign of the coefficient, $\beta_k$ is expected to be positive since it is anticipated that the spot market and the futures market move in tandem with each other. Since the study attempts to determine the lead and lag relationship under different market volatility levels, the regression analysis is performed separately for all the three subperiods. In addition, the regression is run for the whole period from 15 December 1995 until 31 December 2000. In running the multiple regression for the whole period, two dummy variables are introduced and included in the regression equation. The inclusion of these

1 Gujarati Damodar N. 1995. *Basic Econometrics*, p. 506. Singapore: McGraw Hill.

dummy variables is to reflect the existence of qualitative variables, in this case the three different subperiods. Since there are three qualitative variables, the rule that "the number of dummies be one less than the number of categories of the variable" is followed[1]. The reason for including the dummies in the regression is to determine whether each subperiod is significant or dominant in explaining the variation in the KLSE CI. The multiple regression equation with dummy variables is re-arranged in the following manner:

$$R_{St} = C + \beta_{-4}R_{Ft-4} + \beta_{-3}R_{Ft-3} + \beta_{-2}R_{Ft-2} + \beta_{-1}R_{Ft-1} + \beta_0 R_{Ft} + \beta_1 R_{Ft+1} + \beta_2 R_{Ft+2} + \beta_3 R_{Ft+3} + \beta_4 R_{Ft+4} + \alpha_1 D_1 + \alpha_2 D_2 + \varepsilon_t \quad (4)$$

where C is the intercept;
$R_{St}$ is the KLSE CI return at time t or $[\ln(KLSE_t / KLSE_{t-1})]$;
$R_{Ft}$ is the FKLI return at time t or $[\ln(FKLI_t / FKLI_{t-1})]$;
$R_{Ft-k}$ is the FKLI return at lag k;
$R_{Ft+k}$ is the FKLI return at lead k;
$b_k$ is the coefficient of the independent variable;
$a_1$ is the coefficient of dummy variable $D_1$;
$a_2$ is the coefficient of dummy variable $D_2$; and
$e_t$ is the error term.

D1 = 1 if subperiod 1,
= 0 otherwise;
D2 = 1 if subperiod 2,
= 0 otherwise.

Again, a hypothesis is developed and tested. There are two sets of hypotheses in this model – the first is to test whether the lead and lag FKLI returns are significant and the second is to test whether the dummy variables are significant. The two sets of hypothesis are presented below:

Set 1
$H_0 : \beta_k = 0$
$H_1 : \beta_k \neq 0$

Set 2
$H_0 : \beta_k = 0$
$H_1 : \beta_k \neq 0$

## RESULTS

The results of the tests are presented in the following sub-sections:

*Test for Stationarity*

The Augmented Dickey-Fuller (ADF) test for stationarity on KLSE CI provides a result that the absolute value of the computed τ(tau) statistic (|-1.062| ) is less than the absolute value of the critical Dickey-Fuller t value (|-2.864| at 1 percent) when the test is performed on level terms. For the FKLI, a similar result is found where the absolute value of the computed Dickey-Fuller τ value ( |-1.099| ) is less than the absolute value of the critical τ (|-2.864| at 5 percent level of significance). When tested on the first-difference of both the KLSE CI and the FKLI series, the absolute value of the computed τ(tau) statistics is found to be greater than the absolute value of the critical Dickey-Fuller τ value. The computed τ(tau) statistics for the first-difference KLSE CI and the first-difference FKLI are –15.664 and –16.307, respectively. Therefore, it is not sufficient to reject the null hypothesis that the series are stationary. In simpler terms, it is said that both the KLSE CI and the FKLI series are stationary at first-difference, or statistically expressed as integrated of order 1, I(1). The results are presented in Tables 4 and 5.

*Test for Autocorrelation*

In testing for autocorrelation, the Durbin-Watson *d* statistics are computed to be 2.038 which suggests that there is no positive or negative autocorrelation.

*Multiple Regression*

First, the multiple regression is run separately for the three subperiods to see how the lead and lag pattern changes under different volatility levels. The result for sub-period 1 is presented in Table 6. From the summarised information in Table 6, it is reported that the regression model has a high adjusted R squared of 0.7976. In terms of the significance of the explanatory variables, the t-value for $FKLI_{t-0}$ (36.780) is found to be higher than the critical t-value at 1 percent level of significance (2.576). Therefore it is sufficient to reject the null hypothesis that the coefficient of $FKLI_{t-0}$ is equal to zero. Furthermore, the coefficient of $FKLI_{t-1}$ is found to be significant at a 5 percent level with its t-value (2.549) higher than the critical t-value at 5

TABLE 4
Augmented Dickey-Fuller (ADF) results for the level term

| | | | |
|---|---|---|---|
| **KLSE CI** | | | |
| ADF Test Statistic | **-1.062** | 1% Critical Value* | -3.438 |
| | | 5% Critical Value | -2.864 |
| | | 10% Critical Value | -2.568 |
| *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| Durbin-Watson Statistic | | 1.991 | |
| **FKLI** | | | |
| ADF Test Statistic | **-1.099** | 1% Critical Value* | -3.438 |
| | | 5% Critical Value | -2.864 |
| | | 10% Critical Value | -2.568 |
| *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| Durbin-Watson Statistic | | 1.991 | |

The KLSE CI and the FKLI series are nonstationary at the level term since the computed t(tau) statistics are less than the critical τ(tau) statistics.

TABLE 5
Augmented Dickey-Fuller (ADF) results for the first-difference

| | | | |
|---|---|---|---|
| **KLSE CI** | | | |
| ADF Test Statistic | **-15.664** | 1% Critical Value* | -3.438 |
| | | 5% Critical Value | -2.864 |
| | | 10% Critical Value | -2.568 |
| *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| Durbin-Watson Statistic | | 1.995 | |
| **FKLI** | | | |
| ADF Test Statistic | **-16.30659** | 1% Critical Value* | -3.4382 |
| | | 5% Critical Value | -2.8642 |
| | | 10% Critical Value | -2.5682 |
| *MacKinnon critical values for rejection of hypothesis of a unit root. | | | |
| Durbin-Watson Statistic | 1.997 | | |

The KLSE CI and the FKLI series are stationary at the first-difference, or I(1) since the computed t(tau) statistics are greater than the critical t(tau) statistics.

percent (1.960). It is therefore safe to say that there exists a leading effect from the futures market to the spot market by one day at a 5 percent level of significance.

The results for subperiod 2 are reported in Table 7. This is the period of a highly volatile market and a high trading volume in the futures market. The regression model has a high adjusted R-squared of 0.8823 during this subperiod. From the table, it is observed that $FKLI_{t-2}$, $FKLI_{t-1}$, $FKLI_{t-0}$, $FKLI_{t+3}$, and $FKLI_{t+4}$ are significant at a 1 percent level, $FKLI_{t-4}$ is significant at a 5 percent level of significance while $FKLI_{t-3}$, $FKLI_{t+1}$ and $FKLI_{t+2}$ are not significant. Therefore, it is concluded that there is a mixed lead-lag relationship between the FKLI futures returns and the spot KLSE CI returns during the period of high volatility.

TABLE 6
Results: Subperiod 1 (from 15th December 1995 to 30th June 1997)

R Squared = 0.8022
Adjusted R Squared = 0.7976

| Variable Name | Estimated Coefficient | Standard Error | T-Ratio | P-Value |
|---|---|---|---|---|
| $FKLI_{t-4}$ | -0.24642E-01 | 0.2141E-01 | -1.151 | 0.250 |
| $FKLI_{t-3}$ | -0.10149E-01 | 0.2240E-01 | -0.453 | 0.650 |
| $FKLI_{t-2}$ | 0.29200E-01 | 0.2230E-01 | 1.310 | 0.190 |
| $FKLI_{t-1}$ | 0.56604E-01 | 0.2220E-01 | 2.549** | 0.011 |
| $FKLI_{t-0}$ | 0.81995 | 0.2229E-01 | 36.780* | 0.000 |
| $FKLI_{t+1}$ | 0.40191E-01 | 0.2217E-01 | 1.813 | 0.070 |
| $FKLI_{t+2}$ | -0.23667E-01 | 0.2224E-01 | -1.064 | 0.287 |
| $FKLI_{t+3}$ | 0.58897E-02 | 0.2249E-01 | 0.262 | 0.793 |
| $FKLI_{t+4}$ | 0.18508E-02 | 0.2153E-01 | 0.859E-01 | 0.931 |
| Constant | 0.37793E-04 | 0.1543E-03 | 0.245 | 0.807 |

Durbin-Watson = 2.0546

* Significant at 1 percent
** Significant at 5 percent

TABLE 7
Results: Subperiod 2 (from 1st July 1997 to 30th September 1998)

R Squared = 0.8855
Adjusted R Squared = 0.8823

| Variable Name | Estimated Coefficient | Standard Error | T-Ratio | P-Value |
|---|---|---|---|---|
| $FKLI_{t-4}$ | 0.32039E-01 | 0.1524E-01 | 2.102** | 0.036 |
| $FKLI_{t-3}$ | -0.14835E-01 | 0.1553E-01 | -0.956 | 0.339 |
| $FKLI_{t-2}$ | 0.70569E-01 | 0.1558E-01 | 4.529* | 0.000 |
| $FKLI_{t-1}$ | 0.13014 | 0.1553E-01 | 8.380* | 0.000 |
| $FKLI_{t-0}$ | 0.73432 | 0.1565E-01 | 46.920* | 0.000 |
| $FKLI_{t+1}$ | 0.24602E-01 | 0.1552E-01 | 1.585 | 0.113 |
| $FKLI_{t+2}$ | -0.23609E-01 | 0.1558E-01 | -1.516 | 0.130 |
| $FKLI_{t+3}$ | 0.72408E-01 | 0.1552E-01 | 4.667* | 0.000 |
| $FKLI_{t+4}$ | -0.67640E-01 | 0.1521E-01 | -4.447* | 0.000 |
| Constant | -0.16871E-03 | 0.5373E-03 | -0.3140 | 0.754 |

Durbin-Watson = 2.1010

* Significant at 1 percent
** Significant at 5 percent

Subperiod 3 is found to have a meaningful pattern with $FKLI_{t-1}$ and $FKLI_{t-0}$ being significant at a 1 percent level. The t-value for $FKLI_{t-1}$ and $FKLI_{t-0}$ are calculated to be 9.492 and 42.880, respectively. These values are higher than the critical t-value of 2.576 at a 1 percent level of significance. Thus, it is sufficient to reject the null hypothesis for $b_{-1}$ and $b_0$. This means that there is evidence that the futures market leads the spot market by one day during this subperiod, the period of mildly volatile markets and fairly high trading volume. The results are presented in Table 8.

The multiple regression model is then extended to include the whole period from 15 December 1995 until 31 December 2000. The result shows that the model has a high goodness of fit with an adjusted R-squared of 0.8448 (Table 9). In terms of the significance of the independent variables, the following variables are found to be significant at a 1 percent level - $FKLI_{t-0}$, $FKLI_{t-1}$, $FKLI_{t-2}$, $FKLI_{t+3}$, $FKLI_{t+4}$. Variables

TABLE 8
Results: Subperiod 3 (from 1st October 1998 to 31st December 2000)

R Squared = 0.7711
Adjusted R Squared = 0.7675

| Variable Name | Estimated Coefficient | Standard Error | T-Ratio | P-Value |
|---|---|---|---|---|
| $FKLI_{t-4}$ | -0.13358E-01 | 0.1609E-01 | -0.830 | 0.406 |
| $FKLI_{t-3}$ | 0.28946E-01 | 0.1612E-01 | 1.796 | 0.073 |
| $FKLI_{t-2}$ | 0.24236E-01 | 0.1617E-01 | 1.498 | 0.134 |
| $FKLI_{t-1}$ | 0.15407 | 0.1623E-01 | 9.492* | 0.000 |
| $FKLI_{t-0}$ | 0.69464 | 0.1620E-01 | 42.880* | 0.000 |
| $FKLI_{t+1}$ | -0.24204E-02 | 0.1624E-01 | -0.1490 | 0.882 |
| $FKLI_{t+2}$ | -0.12831E-02 | 0.1619E-01 | -0.793E-01 | 0.937 |
| $FKLI_{t+3}$ | -0.13061E-02 | 0.1612E-01 | -0.8101E-01 | 0.935 |
| $FKLI_{t+4}$ | 0.24450E-01 | 0.1617E-01 | 1.512 | 0.131 |
| Constant | 0.93208E-04 | 0.3096E-03 | 0.3010 | 0.763 |

Durbin-Watson = 1.9858

* Significant at 1 percent
** Significant at 5 percent

TABLE 9
Results: Whole period (from 15th December 1995 to 31st December 2000)

R Squared = 0.8461
Adjusted R Squared = 0.8448

| Variable Name | Estimated Coefficient | Standard Error | T-Ratio | P-Value |
|---|---|---|---|---|
| $FKLI_{t-4}$ | 0.19943E-01 | 0.8866E-02 | 2.249** | 0.024 |
| $FKLI_{t-3}$ | -0.74357E-02 | 0.8957E-02 | -0.8322 | 0.405 |
| $FKLI_{t-2}$ | 0.57447E-01 | 0.8958E-02 | 6.413* | 0.000 |
| $FKLI_{t-1}$ | 0.13199 | 0.8945E-02 | 14.76* | 0.000 |
| $FKLI_{t-0}$ | 0.72720 | 0.8981E-02 | 80.97* | 0.000 |
| $FKLI_{t+1}$ | 0.19325E-01 | 0.8945E-02 | 2.160** | 0.031 |
| $FKLI_{t+2}$ | -0.19904E-01 | 0.8955E-02 | -2.223** | 0.026 |
| $FKLI_{t+3}$ | 0.55266E-01 | 0.8955E-02 | 6.172* | 0.000 |
| $FKLI_{t+4}$ | -0.49475E-01 | 0.8862E-02 | -5.583* | 0.000 |
| D1 | -0.36694E-04 | 0.4457E-03 | -0.8233E-01 | 0.934 |
| D2 | -0.33290E-03 | 0.4843E-03 | -0.6667 | 0.505 |
| Constant | 0.69549E-04 | 0.2845E-03 | 0.2445 | 0.807 |

Durbin-Watson = 2.0380

* Significant at 1 percent
** Significant at 5 percent

$FKLI_{t-4}$, $FKLI_{t+1}$ and $FKLI_{t+2}$ are found to be significant at a 5 percent level. However, lag 3 days FKLI ($FKLI_{t-3}$) is found to be insignificant. It is therefore concluded that there is a bi-directional relationship between the futures market and the spot market. However, the results cannot be taken as meaningful since the whole period consists of the period of high volatility (subperiod 2) that may cause the markets to deviate from their true behaviours. To investigate whether any of the subperiods is dominant in explaining the relationship for the whole period of study, dummy variables D1 and D2 are included in the regression model. From the results, it is found that both D1 and D2 are not significant in explaining the variation in the KLSE CI returns.

## ANALYSIS OF RESULTS

From the analysis of lead and lag relationship between FKLI futures returns and the KLSE CI returns, it is found that the lead-lag pattern between the two markets changes under different volatility levels. In subperiod 1, the period of stable prices, it is found that the futures market leads the spot market by one day. During the period of a highly volatile market (subperiod 2), there is a mixed lead-lag relationship between the futures market and the spot market. The futures market is found to lead the spot market by two days and on t-4, and to lag the spot market on t+3 and t+4. In subperiod 3, the futures market is found to lead the spot market by one day. Finally, the analysis on the whole period found that there is a leading and lagging effect from the futures market to the spot market.

Since subperiod 2 is the period of high volatility, the mixed results that were obtained cannot be taken as meaningful to explain the true relationship between the futures and the spot markets. The same situation applies to the whole period. The other two subperiods are found to have a one-day lead coming from the futures market to the spot market. Therefore, it is safe to conclude that the futures market leads the spot market by one day during the stable price periods but the lead-lag relationship is mixed during the period of price instability. The leading effect from the futures market to the spot market is reckoned to be due to three reasons, namely, the infrequent trading of KLSE CI's component stocks; low transaction costs and capital requirement to trade futures; and finally, the absence of short-selling restrictions in the futures market. The elaboration of the above reasons are discussed below:

### *The Infrequent Trading of KLSE CI's Component Stocks*

The KLSE CI consists of one hundred stocks listed on the Kuala Lumpur Stock Exchange (KLSE). It must be noted that not all the one hundred component stocks of KLSE CI are traded simultaneously at any point in time. Some stocks may react to the new information immediately, some may take a longer time, and some may not react at all. The stock index futures, on the other hand, reacts to new information immediately since the buying and selling of a futures contract is done in a package. In other words, when buying the FKLI contract, the buyer is purchasing a contract that consists of one hundred component stocks of KLSE CI. Due to infrequent trading of the KLSE CI component stocks, it is anticipated that the stock index will react to new information more slowly than the stock index futures. Hence, the stock index futures price tends to lead the spot stock index.

### *Lower Transaction Costs and Capital Requirement to Trade in Futures*

In the futures market, the brokerage fee and commission is RM60 per contract, or RM120 per round-trip. This is equivalent to about 0.1 percent to 0.2 percent of the contract value per round-trip. The transaction cost is relatively lower than the transaction costs to buy or sell stocks in the cash market which average around 0.75 percent of the transaction value. Because of lower transaction costs in the futures market, it is easier for investors to trade the futures contract. In addition, investors do not have to pay the full amount of the contract value to trade futures. They only have to pay an initial margin of RM4,000 and have to top up any daily losses through the mark-to-market process. This small capital requirement also promotes inexpensive trading in the futures market. Both low transaction costs and small capital requirement make trading in the futures market cheaper than trading in the spot market, cause the futures market to process new information faster, and thus induce the futures price to move earlier than the spot price.

### *The Absence of Short Selling Restrictions in the Futures Market*

Unlike the stock market, the futures market allows short-selling activities. Investors can sell the futures contract although they do not hold it. Without any restrictions on short selling, futures market should be more liquid than the spot market. Due to higher liquidity, the futures market processes information faster than the spot market, hence the initial price movement should take place in the futures market.

The above are the most prominent reasons why the futures market processes the information faster than the spot market does. Hence, the price discovery takes place in the futures market.

## CONCLUSION

The findings of the temporal price relationship between the FKLI futures contract and its underlying stock index can be summarised as follows:

1) Subperiod 1 (15 December 1995 to 30 June 1996) – there is a one-day lead coming from the futures market to the spot market;
2) Subperiod 2 (1 July 1996 to 30 September 1998) – there is a mixed lead-lag relationship between the two markets;
3) Subperiod 3 (1 October 1998 to 31 December 2000) – there is a lead-lag relationship where the futures market is found to lead the spot market by one day; and
4) Whole period (15 December 1995 to 31 December 2000) – there is a bi-directional relationship between the futures and the spot markets.

Because of a very high volatility and unstable market condition during subperiod 2, the results for subperiod 2 and the whole period are not regarded as meaningful in explaining the true relationship between the two markets. The results for subperiod 1 and subperiod 2 are taken and it is concluded that there is evidence of a lead-lag relationship between the futures and the spot markets in the context of emerging equity markets of Malaysia with the futures market leading the spot market by one day.

## REFERENCES


ABHYANKAR, A. 1998. Linear and nonlinear granger causality: Evidence from the U.K. stock index futures market. *The Journal of Futures Markets* **18(5):** 519-540.

BOOTH, G.G., R.W. So and Y. TSE. 1999. Price discovery in the German equity index derivatives market. *The Journal of Futures Markets* **19(6):** 619-643.

BROOKS, C., I. GARRET and M. HINICH. 1999. An alternative approach to investigating lead-lag relationships between stock and stock index futures markets. *Applied Financial Economics* **9:** 605-613.

CHOUDHRY, T. 1997. Short-run deviations and volatility in spot and futures stock returns: Evidence from Australia, Hong Kong, and Japan. *The Journal of Futures Markets* **17(6):** 689-705.

FINNERTY, J.E. and H.Y. PARK. 1987. Stock index futures: Does the tail wag the dog? *Financial Analysts Journal* **43(2):** 57-61.

GORDON, J.D., E.J. MORIARTY and P.A. TOSINI. 1987. Stock index futures: Does the dog wag the tail? *Financial Analysts Journal* **43(6):** 72.

HERBST, A.F, J.P. MCCORMACK and E.N. WEST. 1987. Investigation of a lead-lag relationship between spot stock indices and their futures contracts. *The Journal of Futures Markets* **7(4):** 373-381.

KAWALLER, I.G., P.D. KOCH and T.W. KOCH. 1987. The temporal price relationship between S&P 500 and S&P 500. *The Journal of Finance* **42(5):** 1309-1329.

KAWALLER, I.G., P.D. KOCH and T.W. KOCH. 1988. The relationship between the S&P 500 index and S&P 500 index futures prices. *Federal Reserve Bank of Atlanta Economic Review* **73:** 2-10.

MIN, J.H. and M. NAJAND. 1999. A further investigation of the lead-lag relationship between the spot market and the stock index futures: Early evidence from Korea. *The Journal of Futures Markets* **19(2):** 217-232.

MARTIKAINEN T., J. PERTTUNEN and V. PUTTONEN. 1995. On the dynamics of stock index futures and individual stock returns. *Journal of Business Finance & Accounting* **22(1):** 87-100.

MODEST, D.M. and M. SUNDARESAN. 1983. The relationship between spot and futures prices in stock index futures markets: Some preliminary evidence. *The Journal of Futures Markets* **3(1):** 15-41.

PIZZI, M., A.J. ECONOMOPOULOS and H.M. O'NEILL. 1998. An examination of the relationship between stock index cash and futures markets: A cointegration approach. *The Journal of Futures Markets* **18(3):** 297-305.

SHYY, G., V. VIJAYRAGHAVAN and B. SCOTT-QUINN. 1996. A further investigation of the lead-lag relationship between the cash market and stock index futures market with the use of bid/ask quotes: The case of France. *The Journal of Futures Markets* **16(4):** 405-420.

STOLL, H.R. and R.E. WHALEY. 1990. The dynamics of stock index and stock index futures returns. *Journal of Financial and Quantitative Analysis* **25(4):** 444-468.

TSE, Y. 1999. Price discovery and volatility spillovers in the DJIA index and futures markets. *The Journal of Futures Markets* **19(8):** 911-930.

Tse, Y.K. 1995. Lead-lag relationship between spot index and futures price of the Nikkei stock average. *Journal of Forecasting* **14(7):** 553-563.

Twite, G.J. 1991. Effect of a thin trading bias in the share price index on the pricing of SPI futures contracts. Working Paper 91-009, 31p. Australian Graduate School of Management, University of New South Wales. Australia.

Wahab, M., Lashgari. 1993. Price dynamics and error correction in stock index and stock index futures markets: A cointegration approach. *Journal of Futures Markets* **13(7):** 711-742.

Bank Negara Malaysia. 1999. Exchange Control Policy. http://www.bnm.gov.my/feature/ecm/overview.htm. Accessed on 10 March 2001.

Kaur, G. 2000. September Back to The Futures, Part II. Investors Digest, p. 4-7.

Kaur, G. 2000. September Dancing to a New Beat. Investors Digest, p. 8-10.

Kloffe. 2000. Press Release: Launch of KLSE CI Options. http://www.kloffe.com.my/updates/2000/02122000.html. Accessed on 14 May 2001.

Kloffe. 2000. KLOFFE, COMMEX Sign Merger Agreement. http://www.kloffe.com.my/updates/2000/23122000.html. Accessed on 14 May 2001.

Kloffe. 2000. Contract Specifications. http://www.kloffe.com.my/products/contspec.htm. Accessed on 14 May 2001.

Kloffe. 2001. Revision of Margin Rates. http://www.kloffe.com.my/updates/2000/02012001.html. Accessed on 10 March 2001.

Klse. 2000. KLSE Composite Index Components. http://www.klse.com.my/website/mrktinfo/cicomp.htm. Accessed on 10 November 2000.

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# Preparation of Manuscript

*Typing and Paper*
The manuscript should be typed double spaced on A4 paper with 4cm margins on all sides. it should be limited to 25 pages including tables, illustrations and references.

*Title page*
The title of the paper, name of author and full address of the institution where the work was carried out should appear on this page. A short title not exceeding 60 characters should be provided for the running headlines.

*Abstract*
English and Bahasa Melayu abstracts of 200 words each should follow the title page. Papers from outside Malaysia may be submitted with an English abstract only.

*Keywords*
About six to ten keywords are required and these should be placed directly above the abstract.

*Tables*
Tables should be typed on separate pages and numbered using Arabic numerals. Each table should be referred to in the text, has a brief title and include explanatory notes, if necessary, below it. Vertical rules should not be used. Footnotes in tables should be designated by symbols or superscript small italic letters. Tables should conform to page size.

*Equations*
These must be clearly typed, triple-spaced. They should be identified by numbers in square brackets placed flush with the right margin.

*Illustrations & Photographs*
Illustrations including diagrams and graphs are to be referred to in the text as 'figures' and photographs as 'plates' and numbered consecutively in Arabic numerals. All photographs (glossy black and white prints) should be supplied with appropriate scales.

Illustrations should be of print quality; output from dotmatrix printers is not acceptable, Illustrations should be on separate sheets, about twice the size in print. All letters, numbers and legends must be included on the illustration with the author's name, short title of the paper, and figure number written on the verso. A list of captions should be provided on a separate sheet.

*Spelling & Measurements*
The Oxford English Dictionary should be consulted for spelling. Metric units must be used for empirical measurements.

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Citations to the literature in the text should to be indicated by the author's name and year of publication in parentheses, e.g. (Barnett and Lewis 1982). If an author is quoted in the text, the year of publication should immediately follow in parentheses. e.g. Barnett and Lewis (1982) state that "....." Citation of a particular page follows the date and is preceded by a comma, e.g. Humphrey 1990, p. 26-27.

For works with multiple authors, the first author's surname is used followed by *et al.* The full form of citation is used for two authors.

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Shamsher Mohamed, Shamsuddin Ismail & Annuar Mohd. Nassir. 1989. *Asas Belanjawan Modal.* 197p. Serdang: Universiti Pertanian Malaysia Press.

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Zahid Emby. 1990. The Orang Asli Regrouping Scheme-converting swiddeners to commerical farmers. In *Margins and Minorities - The Peripheral Areas and Peoples of Malaysia*, ed. V. T King & M.J.G. Parnwell, p. 94-109. Hull: Hull University Press.

Unpublished Materials (e.g. theses, reports, documents)
Shahwahid, H.O. 1989. Price competitiveness and demand behaviour of Malaysia Meranti lumber and hardwood plywood in the United States' import market. Ph.D. Dissertation, State University of New York. Syracuse.

Ministry of National Unity. 1973. A socio-economic survey on the new villages in Perak and Melaka. 67p. Malaysia.

Serials
Noran Fauziah Yaakub. 1990. A multivariate analysis of attitude towards teaching. *Pertanika* **13(2)**: 267-273.

Conference Proceedings
Amir Awang. 1992. Counselling, human resorces development and counseling services. In *Proceeding of Asia Pacific Conference on Human Resource Development*, ed. Sulaiman M. Yassin, Yahya Mat Hassan Kamariah Abu Bakar, Esah Munji anda Sabariah Mohd Rashid, p. 243-246. Serdang: Universiti Pertanian Malaysia.

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