

**INFUSION OF GENERIC SKILLS THROUGH CO-CURRICULAR ACTIVITIES  
AT MALAYSIAN POLYTECHNICS**

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**Abstract:**

The purpose of this study is to identify ability in applying generic skill ability among Malaysian polytechnic students after having learned the subject through co-curricular activities. The research design adopted a descriptive research of the sample survey type involving 409 polytechnic using a set of questionnaire as the research instrument. Findings of the study shows the respondents acknowledge that have the ability to apply several generic skills in management context such as skills in planning, organizing, implementing management tasks, making assessments, managing conflicts and conducting control. The study thus concludes that Malaysian polytechnic students can develop generic skills through co-curricular subject.

## **1.0 Introduction**

Dave (2002:19) explains that generic skill is also known using other terms such as soft skills, behavioral skills, enterprise skills, key competencies, core skills, employability skills and people skills. Simply, it means general skills that can be used in many occupations and not necessarily focusing on one occupation or industry. Other than that, generic skills are needed by all levels of occupation at industries (Hawke, 2003). Examples are communication skills, team work and problem solving. The Public Service Department (2003) relates generic skills to generic competence like knowledge, skills and personal features crucial for every individual despite the post held in any group like leadership, communication skills and decision making.

NCVER's (2003) defines generic skills as skills not tailored to particular occupation or industry but important for employment, education and life in general. Examples of these skills are in communication, mathematic, organization, computer literacy, interpersonal competence and making analysis.

According to Imel (1999), among the necessary generic skills needed by an employee or future employee is learning how to learn, read, write and using the computer. This also includes oral communication skills, effective listening, critical thinking, problem solving, excellent and committed personal management, interpersonal skills, effective leadership, work in group and having knowledge in basic technology.

Based on the terms of definition presented it can be summarized that generic skills is a skill crucially needed by any worker despite their designation, kind of jobs and employment sector undertaken. Such skill is general and of variety in nature and not specific to technical skills only. Nevertheless, specifically generic skills refer to particular skills needed by certain employees or future employees.

Based on the list of generic skills presented, it is evident there are skills that can be learned through co-curricular activities. Among them are the ability to work in groups, solve problems, making decisions, communicate and manage interpersonal relationships

as proposed by Walker (2003), Keystone Central School District (2002), Switzer (2002), National Academy Foundation (2001), Matthews (2000), Potrafka *et. al* (1997), California State University (1994), Adnan Kamis (1993), Yusoff Ismail (1993), Vasudevan T. Arosoo (1988), Michigan State University (1988) and Teng Boon Tong (1984).

Generic skills are very useful to polytechnic graduates because the industrial sector in Malaysia stresses the importance of employees having excellent generic skills as pictured by Ahmad et al (2001). The former conducted a study in the Batu Pahat industrial zone and found that factory management or employers take into account personality, communication skills, physical fitness, interpersonal skills and ethics other than qualification, knowledge and technical skills in employing workers. A study conducted by Laila Musa (2001) shows polytechnic students who undergo industrial trainings are stressed on the importance of discipline, flexibility, punctuality, team cooperation, abiding to rules and positive attitude by the industry management.

Zakaria Kasa (2004), Abdul Rahman Maiden (2002) and Callum Cheng (2002) state that among the features needed among graduates to enter the open job market is Emotional Quotient (EQ), attitude and work value, spiritual and humanities values, dedication, persevere, leadership, ability to create, likings for self reflection, excellent in communication, having ability to solve problems, ability to work in groups, adaptability, like to try new things, high self determination, skillful in decision making, perseverance and skillful in management, enthusiasm to learn, positive attitude, desire to make changes, flexibility and adapting to changes, creative, innovative and having self confidence.

## **2.0 Objectives**

The objective of this study is to identify ability in applying generic skills among polytechnic students all over Malaysia. The study also aims to identify whether there is a

significant difference in applying generic skills among various variables according to differences in levels of study (certificate and diploma), kinds of co-curricular activity (sports and games, uniformed body unit, society and clubs and *Polibriged*).

For the purpose of this journal writing, generic skills are specified to management generic skills that contain several domains of planning, management, organization, conflicts, control and assessment.

### **3.0 Research Method**

This study adopted a descriptive survey. The population comprise of all Malaysian polytechnic students for the year 2004. Based on the data sourced from the Polytechnic Management Division of the Higher Education Ministry of Malaysia there are about 59,000 polytechnic students in Malaysia. Using the sample size table suggested by Krejcie and Morgan (1970), 382 students were selected as study samples. The Multi Layer Cluster Sampling technique was used to select the samples. Using this technique samples are grouped according to polytechnic to be clustered according to the kinds of co-curricular activity they are involved in. A total of six polytechnics and twelve co-curricular activities were randomly selected. All students in the twelve co-curricular subjects out of six selected polytechnics were formed into study samples involving 409 students. This figure is more than the sample size recommended by Krejcie and Morgan (1970).

The instrument of study used was a set of questionnaire developed by the researcher based on the collective concepts and views of Callan (2003), Dawe (2002), Kearns (2001), Ab Alim Abdul Rahim (1999), De Leon and Borchers (1998), Jackson (1997), Stoner and Wankel (1997), Velde (1997), Omardin Ashaari (1996), Cascio (1995), Raggat (1995), Al Ramaiah (1992), Mustafa Daud (1994a), Mustafa Daud (1994b) and Upward (1989). The questionnaire consists of two sections which are Section A comprising of demographic information about the respondent and Section B

containing items to measure the level of students generic skills through co-curricular activities. The Likert Scale (1 to 5) was used to measure the response given for each item forwarded. The breakdown of the scale is as in Table 1 below:

Table 1: Likert Scale

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Scale	Interpretation
1	extremely disagree
2	disagree
3	less agreeable
4	agree
5	most agreeable

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Before the questionnaire was used in the real survey, a pilot study was conducted. The questionnaire was referred to an expert panel comprising of polytechnic lecturers teaching co-curricular subjects at polytechnics, sports and co-curricular subjects officers as well as lecturers in the field of management of KUiTTHO, The comments received were used to modify hence improve on the items in the questionnaire. Other than that, fifteen sets of questionnaire were distributed to fifteen polytechnic students to obtain item reliability. The results of the Reliability Analysis test - Alpha Scale using SPSS (version 11.5) show that all items exceed the Alpha value of 0.6 indicating reliability of the items

developed. The following table shows the Alphas value for each section in the questionnaire:

Table 2: Results of the Reliability Analysis Test– Alpha Scale

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Generic Skills (Management)	Interpretation
Planning	0.8441
Organizing	0.7639
Management	0.7476
Evaluation	0.8512
Conflict	0.7298
Control	0.7703
Overall Item	0.9408

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Data collection was conducted by the researcher assisted by polytechnic co-curricular subject lecturers involved in the study. The time taken to answer all the items is about 20 minutes and all respondents returned the completed questionnaire directly to the researcher.

Descriptive statistic analysis was used to obtain the mean and standard deviation (SD) while inferential statistic was used to analyze the difference between variables in order to achieve the objectives of the study. The interpreted mean statistic used was modified from Lendal (1997) which is a mean value of 1.0 to 2.3 = disagree, 2.4 to 3.7 = less agreeable and 3.8 to 5 = agree. The Alpha level of 0.5 was used to determine significant differences or no significant differences among variable.

#### **4.0 Findings**

Out of 409 respondents, 243 (59.4 %) are males and 166 (40.6 %) are females. 19.8 % come from Polytechnic A, 15.6 % from Polytechnic B, 18.6 % from Polytechnic C, 22.5 % from Polytechnic D, 12.7 % from Polytechnic E and 10.8 % from Polytechnic F. A total of 155 (37.9 %) of them study at certificate level while 251 (61.4 %) at diploma level and 3 (0.7 %) did not state their level of study. In terms of co-curricular type, 32.3 % are in *Polibriged*, 30.6 % in society and clubs, 15.2 % in uniformed units and 22.0 % in sports and games.

Table 3 shows that polytechnic students can apply generic skills after having learned the co-curricular subject at polytechnics (min = 3.967, sd = 0.4287). All have a mean value exceeding 3.80 that shows respondents agree that they can apply generic skills after having learned them through co-curricular subjects. Among the generic skills that gained high positive feedback according to hierarchy is controlling resources from wastage (mean = 4.16, sd = 0.684), conduct self evaluation (mean = 4.12, sd = 0.732), delegate the tasks to other workers (mean = 4.10, sd = 0.709, time management (mean =

4.08, sd = 0.684) and addressing conflicts through negotiation (mean = 4.06, sd = 0.681). The respondents also give their thumbs up towards several management domains like planning (mean = 3.93, sd = 0.540), organizing (mean = 3.98, sd = 0.491), management (mean = 3.97), sd = 0.483), assessment (mean = 3.98, sd = 0.553), conflict management (mean = 3.93, sd = 0.543) and control (mean = 4.00, sd = 0.514).

Table 3: Generic Skills (Management) Among Polytechnic Students Through Co-Curricular Learned.

<b>Generic Skills (Management)</b>	<b>Mean</b>	<b>Standard Deviation</b>
Determine the goal for the organization	3.96	0.621
Decide the objectives for the organization	3.94	0.663
Arrange programs for the organization	3.88	0.691
Choose the organization strategies	3.93	0.731
Optimize the uses of the resources	3.95	0.731
Work in a formal organization	3.95	0.661
Determine the organizational structure	3.90	0.672
Delegate the tasks to the other workers	4.10	0.709
Identify the strengths of the organization	3.99	0.689
Identify any weakness of the organization	3.94	0.696
Manage the financial planning	3.93	0.738

Manage the human resources	3.96	0.666
Handle equipment	3.99	0.675
Implement the documentation system	3.90	0.664
Time Management	4.08	0.684
Conduct self evaluation	4.12	0.732
Evaluate towards other workers	3.89	0.817
Evaluate the goal	4.04	0.702
Evaluate the objectives	4.04	0.745
Evaluate the programs	3.89	0.670
Evaluate the strategies	3.92	0.709
Overcome conflict individually	3.97	0.725
Overcome conflict through discussion	4.06	0.681
Overcome conflict through customer complain	3.89	0.729
Create conflict to develop the organization	3.83	0.788
Determine the working standard	3.90	0.718
Identify the mistake during working hours	4.00	0.706
Supervise working progress	4.00	0.706
Make sure each worker has the same goal	3.96	0.710
Control the resources from being misspent	4.16	0.726
Mean Planning	3.93	0.540
Mean Organizational	3.98	0.491

Mean Management	3.97	0.483
Mean Evaluation	3.98	0.553
Mean Conflict	3.93	0.543
Mean Control	4.00	0.514
<b>Overall Min of Management</b>	<b>3.967</b>	<b>0.4287</b>

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Table 4: Difference in Generic Skills (Management) According to Level of Study.

<b>Generic Skills (Management)</b>	<b>t</b>	<b>Sig. (2-tailed)</b>
Determine the goal for the organization	0.326	0.744
Decide the objectives for the organization	0.794	0.428
Arrange programs for the organization	0.252	0.801
Choose the organization strategies	0.463	0.513
Optimize the uses of the resources	0.654	0.513
Work in a formal organization	0.948	0.344
Determine the organizational structure	0.626	0.532
Delegate the tasks to the other workers	0.480	0.631
<b>Identify the strengths of the organization</b>	<b>2.025</b>	<b>*0.043</b>
Identify any weakness of the organization	0.938	0.349
Manage the financial planning	-0.043	0.966
Manage the human resources	0.630	0.529

Handle equipment	1.788	0.075
Implement the documentation system	1.156	0.248
<b>Time Management</b>	<b>2.900</b>	<b>*0.004</b>
Conduct self evaluation	0.576	0.565
Evaluate towards other workers	0.723	0.470
Evaluate the goal	0.253	0.800
Evaluate the objectives	-0.586	0.558
Evaluate the programs	1.341	0.181
Evaluate the strategies	1.845	0.066
Overcome conflict individually	0.396	0.692
Overcome conflict through discussion	1.322	0.187
Overcome conflict through customer complain	2.840	0.005
Create conflict to develop the organization	2.721	0.007
Determine the working standard	0.069	0.945
Identify the mistake during working hours	0.705	0.481
Supervise working progress	1.544	0.123
Make sure each worker has the same goal	1.594	0.112
Control the resources from being misspent	2.684	0.008
Mean Planning	0.652	0.515
Mean Organizational	1.388	0.166
Mean Management	1.785	0.075

Mean Evaluation	0.850	0.396
<b>Mean Conflict</b>	<b>2.483</b>	<b>*0.013</b>
Mean Control	1.830	0.068
<b>Overall Min of Management</b>	<b>1.763</b>	<b>0.079</b>

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\* Significant Difference

Table 4 shows t-test results in order to identify whether there is significant difference in generic skills (management) among respondents of different level of study. Analysis of the results shows there is significant difference among respondents at certificate and diploma levels in terms of identifying strengths of organization, time management and conflict management domain. Respondents at certificate level are found to be more skilful in identifying strengths of organization, time management and conflict management . Results show that there is no significant difference among respondents according to level of study for other skills and domains such as planning and organizing.

Table 5 shows ANOVA test result used to identify whether there is significant difference among respondents according to type of co-curricular subjects learned. The results show that there is significant difference among respondents of different co-curricular subject groups in aspects of arranging organizational programmed ( $F = 0.46$ ,  $p < 0.05$ ) managing human resource ( $F = 0.045$ ,  $p < 0.05$ ) operating equipment ( $F = 0.001$ ,  $p < 0.05$ ), conducting assessment on strategies ( $F = 0.041$ ,  $p < 0.05$ ) and ( $F = 0.31$ ,  $p < 0.05$ ) planning.

LSD and Tukey's tests were used to identify groups having significant difference in generic skills (management). For organizational programmed skills there is significant difference between society and club group and uniformed bodies unit, *Polibriged* and sports and games. There is significant difference between *Polibriged* and society and club but no such findings as regards uniformed bodies unit and sports and games. There is significant difference between uniformed bodies unit and society and club but no so as regards *Polibriged* and sports and games. Respondents from uniformed bodies unit, *Polibriged* and sport and games group are found to be more skilful in organizational programmed as compare to those from society and club groups.

For handle equipment skills, there is significant difference between society and club group and uniformed bodies unit but not so as regards sports and games. There is significant difference between *Polibriged* and club and society but not so as regards uniformed bodies unit. There is significant difference between uniformed bodies unit and society and club but not so as regards *Polibriged* and sport and games. Respondents from the uniformed bodies unit and *Polibriged* are found to be more skilful in handle equipment as compare to those from the society and club and sports and games groups.

As for strategy assessment, results from the Post Hoc test show that the society and club is significantly different from the *Polibriged* but not so as regards sports and games and uniformed bodies unit. There is no significant difference between *Polibriged*, uniformed bodies unit and sports and games. Respondents from the *Polibriged* and sports and games units are found to be more skilful in conducting assessment on strategies as compared to those from society and clubs.

As for planning, society and club group is significant difference between *Polibriged* and uniformed bodies unit but not so as regards sports and games. There is significant difference between *Polibriged* and the sports and club groups but not so as uniformed bodies unit and sports and games. There is significant difference between uniformed bodies unit and society and club but not so as regards *Polibriged* and society and club. Respondents from the *Polibriged* unit are found to be more skilful in planning as compared to those from society and club and sports and games.

Table 5: Difference in Generic Skills (Management) According to Type of Co-Curricular Subjects.

<b>Generic Skills (Management)</b>	<b>F</b>	<b>Sig.</b>
Determine the goal for the organization	1.707	0.165
Decide the objectives for the organization	2.362	0.071
<b>Arrange programs for the organization</b>	2.698	<b>*0.046</b>
Choose the organization strategies	2.118	0.097
Optimize the uses of the resources	1.286	0.279
Work in a formal organization	1.990	0.115
Determine the organizational structure	1.381	0.248
Delegate the tasks to the other workers	1.995	0.114
Identify the strengths of the organization	0.221	0.882
Identify any weakness of the organization	1.547	0.202
Manage the financial planning	0.646	0.586
Manage the human resources	2.714	0.050
<b>Handle equipment</b>	5.634	<b>*0.001</b>
Implement the documentation system	1.020	0.384

Time Management	0.879	0.452
Conduct self evaluation	0.553	0.646
Evaluate towards other workers	0.677	0.567
Evaluate the goal	0.393	0.758
Evaluate the objectives	0.717	0.542
Evaluate the programs	0.742	0.542
<b>Evaluate the strategies</b>	2.778	<b>*0.041</b>
Overcome conflict individually	2.495	0.059
Overcome conflict through discussion	0.485	0.693
Overcome conflict through customer complain	0.351	0.788
Create conflict to develop the organization	1.670	0.173
Determine the working standard	0.516	0.671
Identify the mistake during working hours	1.524	0.208
Supervise working progress	2.083	0.102
Make sure each worker has the same goal	1.786	0.149
Control the resources from being misspent	1.399	0.243
<b>Mean Planning</b>	2.981	<b>*0.031</b>
Mean Organizational	1.767	0.152
Mean Management	2.505	0.059
Mean Evaluation	0.686	0.561
Mean Conflict	1.392	0.245

Mean Control	2.388	0.068
<b>Overall Min of Management</b>	2.207	0.087

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\* Significant Difference

## **5.0 Discussion**

From the findings, it is evident that polytechnic students can apply the generic skills learned through co-curricular subjects. This finding supports the views of those who are confident that co-curricular subjects can train students to master several skills as those listed by Walker (2003), Mathews (2000), Potrafka et al (1997), California State University (1994), Adnan Kamis (1993) and Michigan State University (1988).

In addition, the findings show that the generic skills acquired by the students correlates with those needed by the industry as presented by Zakaria Kasa (2004), Abdul Rahman Maiden (2002) and Callum Chen (2002).

Thus, it can be concluded that co-curricular activities at polytechnics in Malaysia can help develop generic skills among the students equipping them with the necessary work requirements of the working world.

## **6.0 Suggestions**

Below are some suggested recommendations:

- a) Polytechnics should present co-curricular certificates or reports to each of their students upon completion of their studies.
  
- b) Sports and co-curricular centers at polytechnics should work towards providing more space, facility and increase the kind soft co-curricular activities of the society and club type. Nevertheless, it is necessary to ensure that these societies and clubs conduct their activities outside the campus ground through camping, visits and friendly competitions like quiz, debate and design among polytechnics.
  
- c) The director, deputy directors and heads of department of the particular polytechnic should take great responsibility of monitoring the implementation of co-curricular activities. In doing so, attention should be given to evaluation and assessment of generic skills for each of the activities.
  
- d) Polytechnic lecturers should also be made to change their attitude and paradigm towards implementation of co-curricular activities. The study shows two important critical factors needed action among them. Firstly, the lecturers should show high interest and commitments when given responsibility to undertake the co-curricular activities to be implemented of them. Secondly, they should constantly upgrade their knowledge and skills in the respective co-curricular activities undertaken.
  
- e) The management should involve all lecturers to teach or handle co-curricular subjects like what the teachers are doing at school level whereby each of these teachers functions as facilitators or advisor to at least two kinds of co-curricular activities.

f) The co-curricular curriculum used at all Malaysian polytechnics should be reviewed and revised. Among the aspects needed review are implementation of co-curricular activities in the form of theory be reduced so that practical form be increased by a ratio of 20 % theory and 80 % practicum.

## **Bibliography**

Adnan Kamis (1993). "Aktiviti Kokurikulum Dasar KBSM: Ke Arah Kemantapan Insan Seimbang." in Adnan Kamis (1993). "Kurikulum Bersepadu Sekolah Menengah: Pandangan Dan Maklum Balas. Bangi: Universiti Kebangsaan Malaysia. 260 – 267.

Ab. Alim Abdul Rahim (1999). "Pengurusan Kokurikulum." Kuala Lumpur: Fajar Bakti Sdn. Bhd. 1 -10.

Abdul Rahman Maidin (2002). "Pembentukan Graduan Untuk Pasaran Terbuka." Kertas Kerja di "Seminar Antara Sektor Industri Dan Institusi PengajianTinggi Awam." 6 Ogos 2002 di Hotel Equatorial, Bangi. Not publish.

Ahmad Esa, *et. al* (2001). "Memenuhi Keperluan Pihak Pengurusan Kilang Terhadap Graduan ITTHO Dalam Aspek Kemahiran Teknikal: Satu Kajian Kes Di Zon Perindustrian Batu Pahat." Universiti Teknologi Malaysia:

Short term research.

Al. Ramaiah (1992). "Kepimpinan Pendidikan: Cabaran Masa Kini." Petaling Jaya: IBS Buku Sdn. Bhd. 243 – 271.

California State University (1994). "University Policy Manual: Co-Curricular Courses." Sacramento: California State University.  
<http://www.csus.edu/acaf/univmanual/cocurcres.htm> . Access on 22 Marc 2003.

Callan, V. J. (2003). "Generic Skills: Understanding Vocational Education and Training Teacher and Students Attitudes." Adelaide: NCVER Ltd. 6 – 20.

- Callum Chen (2002). "Quality K-Workers Meet Global Challenges." Working paper in "Seminar Antara Sektor Industri Dan Institusi PengajianTinggi Awam." 6 August 2002 di Hotel Equatorial, Bangi. Not publish.
- Cascio, W. F. (1995). "Managing Human Resources." New York: McGraw-Hill, Inc. 192 – 224.
- Dawe, S. (2002). "Focusing on Generic Skills in Training Packages." Kensington Park: National Centre for Vocational Education Research (NCVER) Ltd. 19 – 60.
- De Leon, J. E. dan Borchers, R. E. (1998). "High School Employment Trends and theSkills Graduates Need to Enter Texas Manufacturing Industries." *Journal of Vocational and Technical Education*. Vol. 15. N. 1. M.s. 1 – 18.
- Hawke, G (2003). "Generic Skills' in a Changing Work Environment." Dalam Gibb, J. (2003). "Generic Skills in Vocational Education and Training." Adelaide: NCVER Ltd. 19 -38.
- Imel, S. (1999). "Work Force Education: Beyond Technical Skills." The Ohio State University. 1-2.
- Jabatan Perkhidmatan Awam (2003). "Istilah Perkhidmatan Awam." <http://www.jpa.gov.my/daftar/jPenyelidikanPerancangan.htm> . Access on 31 Marc 2003.
- Jackson, W. (1997). "Tracking the Development of Generic Skills: The Experience of 1987 and 1992 St. F. X. Graduates." St. Francis Xavier University. 1-3.
- Kearns, P. (2001). "Generic Skills for the New Economy."Kensington Park: National Centre for Vocational Education Research (NCVER) Ltd. 41 -64.
- Keystone Central School District (2002). "Philosophy of Co-Curricular Activities <http://www.kcsd.k12.pa.us/guides/hs/cocurr.html> . Access on 22 Marc, 2003.
- Krejeie, R. V. dan Morgan, D. W. (1970). Determining Sample Size for Research. Educational and Psychological Measurement. 207 -210.

- Laila Musa (2001). "Persepsi Pelajar Diploma Akauntasi Terhadap Program Latihan Industri: Tinjauan Di Politeknik Sultan Abdul Halim Mu'azam Shah" KUiTTHO: Post Graduate Project.
- Landell, K (1997). "Management by Menu." London: Wiley and Son Inco..
- Matthews, B. (2000). "Co-Curricular Philosophy." Bunbury: Bunbury Cathedral Grammar School. [http://www.begs.wa.edu.au/home/co\\_curricular.htm](http://www.begs.wa.edu.au/home/co_curricular.htm) . Access on 21 Marc 2003.
- Michigan State Universiti (1988). "Opportunities for Renewal: The Report of the Council to Review Undergraduate Education." Michigan: East Lansing. 42-50.
- Mustafa Daud (1994a). "Pengurusan Islam." Kuala Lumpur: Utusan Publications and Distributors Sdn. Bhd. 94-147.
- Mustafa Daud (1994b). "Pekerjaan Dan Perusahaan Menurut Islam." Kuala Lumpur: Utusan Publications and Distributors Sdn. Bhd. 38-53.
- National Academy Foundation (2001). "Co-Curricular Enhancements." USA: National Academy Foundation. <http://nafnetwork.net/resources/NAFResourcesCenter/cocurricular>. Access on 23 Marc 2003.
- NCVER's Glosorry of Australian VET Training Terms (2003). "Generic Skills." <http://www.ncver.edu.au/generic.htm>. Access on 24 June 2003.
- Omardin Ashaari (1996). "Pengurusan Sekolah". Kuala Lumpur: Utusan Publications and Distibutors Sdn. Bhd.. 124-149.
- Potrafka, R. M. *et. al* (1997). "The World Wide Web, Student Organizations, and Co-Curricular Transcripts." University of Missouri- Rolla. 1-12.
- Raggat, P. (1995). "Competencies, Attributes and Curriculum: The Australian Agenda." Dalam Burke, J. (1995). "Outcomes, Learning and the Curriculum." London: The Falmer Press. 307-322.
- Stoner, A.F. dan Wankel, C. (1997). "Management (Translation)." Petaling Jaya: Amiza Publishing Sdn. Bhd. 2-27.

- Teng Bon Tong (1984). "Pendidikan Jasmani Di Sekolah Rendah (Edisi ke-2)." Petaling Jaya: Fajar Bakti Sdn. Bhd. 1-4.
- Upward, H. (1989). "Enterprise in Action." Dalam Warwick, D. (1989). "Linking Velde, C. (1997). "Reporting the New Competence Needs of Clerical-Administrative Workers: An Employer Perspective." *Journal of Vocational Education and Training*. Vol. 49. No. 1. 21-40.
- Vasudevan T. Arosoo (1988). "Kegiatan Ko-Kurikulum: Penyeliaan Dan Pentadbiran." Selangor: Penerbit Fajar Bakti Sdn. Bhd.1-8.
- Walker, V. N. (2002). "Office of Co-Curricular Life." Sweet Briar: Sweet Briar College. <http://sbc.edu/cocurricular/about/> . Access on 20 Marc 2003.
- Yusoff Ismail (1993). "Peranan Pendidikan Jasmani Dalam KBSM." in Adnan Kamis (1993). "Kurikulum Bersepadu Sekolah Menengah: Pandangan Dan Maklum Balas. Bangi: Universiti Kebangsaan Malaysia. 235-243.
- Zakaria Kasa (2004). "Pendidikan Teknik Dan Vokasional: Sejauh Mana Memenuhi Keperluan Pasaran Buruh Negara." Kertas kerja di Seminar Pemantapan PTV, 30 Disember 2004, di KUiTTTHO. Not publish.