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The Effects of Academic Learning on Problem-Solving Efficacy of Vietnamese University Students: A Case Study of Vietnam National University – Ho Chi Minh City

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ABSTRACT: *The literature shows that curriculum has a profound effect on student achievement and plays a crucial role in enhancing students' problem-solving efficacy. Meanwhile, problem-solving is a cognitive process. Problem-solving is such an important competence that it focuses on its students becoming effective problem solvers by applying logical, critical, and creative thinking to a range of problems. Problem-solving can provide the site for learning new concepts and for practicing learned skills. This study was conducted to explore the relationship between academic learning and problem-solving efficacy in Vietnamese university students. The study used a questionnaire to survey with 700 students from five member universities at Vietnam National University of Ho Chi Minh City. Results of this study indicate that Vietnamese university students' problem-solving efficacy was in the range of "average" to "high" response. There were significant differences in problem-solving efficacy among students at the five universities. The study also found that Vietnamese university students' problem-solving efficacy is significantly influenced by their backgrounds and academic learning.*
KEY WORDS: *Academic learning, problem-solving efficacy, cognitive process, and Vietnamese university students.*

Introduction

Higher education in Vietnam has gradually improved in terms of number and types of institutions and forms of training, in order to meet the needs of the socio-economic development. One of the objectives of higher education in Vietnam is to improve students' practical competencies (NASRV, 2005). Developing student competencies has been increasingly emphasized in the process of setting educational objectives as well as designing curriculum and learning materials in Vietnamese higher education (Nguyen, 2009). However, higher education is now facing big challenges: the government no longer controls higher education institutions and is not able to facilitate or promote improvement of training quality in the system as a whole.

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Student quality in Vietnamese higher education is an important problem. The results study of A.T. Tran (2009) and B. Luong (2010) found that 50% of graduates from universities and 60% of graduates from vocational education and colleges have to be retrained. When surveyed students from universities in Ho Chi Minh City said that they only have 25% of the skills, they need 54% said that they can work in a group setting, and 45% said they have good communication skills (Luong, 2010).

Problem-solving is also a cognitive process. It is important because it helps students become effective problem solvers by applying logical, critical, and creative thinking to a range of problems (Wilson, 1993). Problem-solving can provide the site for learning new concepts and for practicing learned skills (Kilpatrick, Swafford & Findell, 2001). Educators should not only focus on teaching students established knowledge they most learn, but also teach students how to think and solve new problems. The development of problem-solving competence is, therefore, an important mission for faculty to develop for their students (Pajares & Kranzler, 1995). Educational systems at all levels from elementary schools to professional institutions impart knowledge and teach cognitive skills; and all consider problem-solving competence to be one of the most important (Frederiksen, 1984).

D.V. Pavesic (1991) and D. Breiter and C. Clements (1996) emphasized the importance of problem-solving competence as the key focus of future curriculums and consider it the heart of learning (see also Schommer-Aikins, Duell & Hutter, 2005). The development and the use of problem-solving efficacy also can improve learning. According to A.D. Rossman (1993), when students use problem-solving competence, the role of the student changes from a passive recipient of information to a participant in the creation of understanding. Thus, the literature encourages the development of problem-solving competence as necessary for career success (Gustin, 2001; and Zekeri, 2004). Despite the elaboration of the importance of problem-solving efficacy to university students in previously stated research, there has not yet been much research into the problem-solving efficacy of Vietnamese university students.

According to D.R. Sadler (1983), academic learning is a process. Academic learning occurs when a student knows what is to be achieved, works out ways of doing it, and can tell when progress is being made. If academic learning is to take place, this state of affairs implies a dual role for the teacher: helping the student develop concepts of excellence and skills, and strategies to achieve it. Academic learning also involves more complex activities, including problem solving, reasoning, and the understanding of complex intellectual and scientific principles (Geary, 2001).

Problem-solving efficacy has become the means to rejoin content and application in a learning environment for basic skills and their application in various contexts. Today, there is a strong movement in education to incorporate problem-solving as a key component of the curriculum. A key element to emerge from the Secretary's Commission on Achieving Necessary Skills Report was that "*teaching should be offered*

in context, and students should learn content while solving realistic problems" (Krikley, 2003). In quality assurance terms, learning outcomes and theoretical knowledge in the curriculum need to be demonstrably connected to practical competences, including problem-solving competence (Shakespeare & Hutchinson, 2007).

This study uses A.W. Astin's Input-Environment-Outcome (I-E-O) model to analyze how student experiences during the university affect their problem-solving efficacy. In the I-E-O model: *Input* refers to student characteristics at the time of university entry; *Environment* refers to institutional interventions, including educational programs and student experiences; and *Outcome* refers to student achievement, development, and growth (Astin, 1991; and Pascarella & Terenzini, 2005).

Unfortunately, there has not yet been much research into the problem-solving efficacy of Vietnamese university students. Thus, this study was conducted to explore the relationship between academic learning and problem-solving efficacy of Vietnamese university students. Specifically, this study examines three research questions: (1) How good is Vietnamese university students' problem-solving efficacy in general? (2) Do significant differences in problem-solving efficacy exist among students at different universities? (3) How is Vietnamese university students' problem-solving efficacy affected by their backgrounds and academic learning experiences?

The results of this study will be useful to administrators and faculty in Vietnam National University- Ho Chi Minh City; the study will also help fill the gap in the literature on Vietnamese university student problem-solving efficacy development.[1]

Method

Dependent and Independent Variables. Problem-solving efficacy is the dependent variable in this study. It consists of four items, namely: (1) data analysis competence; (2) critical thinking competence; (3) present solution competence; and (4) generate innovation competence. In this study, factor analysis and internal consistency analysis (Cronbach's alpha) were conducted to assess the validity and reliability of this constructed measurement for student competence. The selected criterions are: (1) factor loading ≥ 0.6, eigenvalues ≥ 1, cumulative explanation ≥ 0.6 or 60%, item-total correlation ≥ 0.5, and coefficient alpha ≥ 0.6 (Hair *et al.*, 2006). Factor analysis was performed to ensure the validity of the construct (dependent variable). Table 1 shows the result of factor analysis.

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Table 1:
Factor Analysis Result of the Four Elements Constructing Students' Problem-Solving Efficacy in the Study

Variable	Factor Loading	Eigen-Values	Cumulative Explanation	Item-to-Total Correlation	Cronbach's Alpha
1. Data analysis: Question: "*How is the data analysis competence of your problem?*" On 5-points scale, where 1 = very low, and 5 = very high.	0.734			0.547	
2. Critical thinking: Question: "*How is the critical thinking competence of your problem?*" On 5-points scale, where 1 = very low, and 5 = very high.	0.829			0.666	
		2.560	63.991		0.810
3. Present solution: Question: "*How is the present solution competence of your problem?*" On 5-points scale, where 1 = very low, and 5 = very high.	0.855			0.710	
4. Generate innovation: Question: "*How is the generate innovation competence of your problem?*" On 5-points scale, where 1 = very low, and 5 = very high.	0.776			0.593	

Note: Data were analyzed with principle component analysis.

The independent variables of this study include four blocks of student academic learning (see table 2). The first block is student background, including gender, class ranking, and family income. The second block is teaching approach, including one-way instruction, group discussion, and multimedia. The third block is curriculum emphasis, including memory emphasis, integration emphasis, and application emphasis. The fourth block is learning engagement, including frequency of library use, time spent on course work per week, levels of involvement in class activities, and frequency of teacher consultation. They survey consisted of a series of questions using a 5-point Likert scale.

Sample. This study selected a random sample of was 700 students out of 47,742 students in five universities at Vietnam National University of Ho Chi Minh City (VNU-HCM), namely 253 students at the University of Technology (37.9% female students), 169 students at the University of Social Sciences and Humanities (61% female students), 101 students at the University of Economics and Law (45.6% female students), 34 students at the University of Information Technology (29.4% female students), and 143 students at the University of Science (46.85% female students). Participants in this study were third year full-time students who were

studying on campus. According to Y. Huang and S.M. Chang (2004), third year students are considered the best population for observing student involvement and development at the university.

Table 2:
Questionnaire Items and Coding Schemes for Independent Variables

	Questionnaire Items	Coding Schemes
1. Student background:		
Gender	--	On a 2-point scale, where 0 = female, 1 = male
Class ranking	At university, have you ever stood on the top third of your class?	On a 2-point scale, where 0 = no, 1 = yes
Family income	How much is your annual family income?	On a 6-point scale, where 1 = under 20,000,000 VND and 6 = over 60,000,000 VND (1USD is roughly equivalent to 20,000 VND)
2. Teaching approach:		
One-way instruction	How often does your teacher use the one-way instruction?	On a 5-point scale, where 1 = never, and 5 = always
Group discussion	How often does your teacher use the group discussion method?	On a 5-point scale, where 1 = never, and 5 = always
Multimedia	How often does your teacher use multimedia in teaching?	On a 5-point scale, where 1 = never, and 5 = always
3. Curriculum emphasis:		
Memory emphasis	How do the academic subjects emphasize your memory capacity?	On a 5-point scale, where 1 = very weak, and 5 = very strong
Integration emphasis	How do the academic subjects emphasize your integration capacity?	On a 5-point scale, where 1 = very weak, and 5 = very strong
Application emphasis	How do the academic subjects emphasize your application capacity?	On a 5-point scale, where 1 = very weak, and 5 = very strong
4. Learning engagement:		
Frequency of library use	How often do you go to the library?	On a 5-point scale, where 1 = never, and 5 = always
Time spent on course work per week	Hours a student spent on course work per week	
Levels of involvement in class activities	How often do you actively participate in classroom activities such as discussions or posing question?	On a 5-point scale, where 1 = never, and 5 = always
Frequency of teacher consultation	How willing are you to ask for your teacher's consultation about academic related questions as well as daily issues?	On a 5-point scale, where 1 = very weak, and 5 = very strong

Data Gathering Procedure Design. A questionnaire survey was used to gather data in this study. After the questionnaire draft was designed, this study performed a two-stage preliminary survey to ensure the respondents' understanding of the survey questions (stage 1 of preliminary survey), then to examine the feasibility of the survey design (stage 2 of preliminary survey). The writer personally distributed the questionnaire to the students.

Before distributing the questionnaire, a guideline was read to the students, explaining the following points: (1) the purpose of the study; (2) a request for students not to write their name on the questionnaire; (3) assurance that questionnaires would not be handled or reviewed by any other person; (4) further assurance that the completed questionnaires would be analyzed for research purpose only; and (5) all personal information remains confidential. There was no time limit for students to answer the questionnaire.

Data Analysis Method. This study used SPSS 13.0 software to process the data. The statistical method was employed to answer three research questions. Descriptive analysis was used to answer the first research question of "*How good is Vietnamese university students' problem-solving efficacy in general?*"; Analysis of Variance (ANOVA) was used to answer the second research question of "*Do significant differences in problem-solving efficacy exist among students at different universities?*"; and multiple regression method was used to answer the third research question of "*How is Vietnamese university students' problem-solving efficacy affected by their backgrounds and curriculum learning experiences?*".

Results and Discussion

First, **Vietnamese university students' problem-solving efficacy in general.** As shown in table 3, Vietnamese university students' average problem-solving efficacy (M = 3.41, SD = 0.55) was located within the range from "average" (point 3) to "high" (point 4) in the 5-point Likert's scale employed in the questionnaire.

Table 3:
Means and Standard Deviations of University Students' Problem-Solving Efficacy among Five Universities

Universities	*M*	*SD*
Average of five universities:	**3.41**	**0.55**
University of Technology	3.51	0.50
University of Social Sciences and Humanities	3.45	0.54
University of Information Technology	3.06	0.55
University of Science	3.25	0.59
University of Economics and Law	3.41	0.55

The results of this study are different from the previous studies of MOET [Ministry of Education and Training] Vietnam (2001); T.L.H. Nguyen (2005);

T.J. Vallely and B. Wilkinson (2008); and B. Luong (2010) which showed that Vietnamese university students are weak in problem-solving efficacy. These studies were based on large scale surveys, including public and private universities.

The current study, however, was conducted with students of VNU-HCM (Vietnam National University of Ho Chi Minh City) as its subject. VNU-HCM is a system of prestigious public universities in Vietnam. The difference between the current study and previous ones is probably due to the sample examined in the study, which consists of better students. However, both this study and the previous ones have found that the problem-solving efficacy of Vietnamese university students is unsatisfactory.

Problem-solving is important for students to become effective problem solvers in their professions (Wilson, 1993; and Hamza & Griffith, 2006) and for later career success (Gustin, 2001; and Froman, 2002). Thus, the Vietnamese government should invest more resources in enhancing the problem-solving efficacy of all students in desiging instructional programs.

Second, **the differences of problem-solving efficacy among students in universities**. For students at the five campuses of VNU-HCM (Vietnam National University of Ho Chi Minh City), the results of table 4 show that students at the University of Technology had the highest problem-solving efficacy ($M = 3.51$, $SD = 0.50$), and students at the University of Information Technology had the lowest problem-solving efficacy ($M = 3.06$, $SD = 0.55$).

The results of post-hoc comparisons showed siginificant differences in problem-solving efficacy for students at the five universities ($F = 9.362$, $p < 0.001$). These comparisons indicated that students at the five universities can be categorized into two groups: high level of problem-solving efficacy of students in the Universities of Technology, Social Sciences and Humanities, and Economics and Law; and low level of problem-solving efficacy of students at the University of Information Technology and the University of Science. Within the two groups, there was no significant difference in students' problem-solving efficacy.

Table 4:
ANOVA Results of Students' Problem-Solving Efficacy in the Five Universities of VNU-HCM

Universities	*M*	*SD*	*F*	*Sig.*	Post-Hoc Comparisons
1. University of Technology	3.51	0.50	9.362	.000	(1,2,5) > (3,4)
2. University of Social Sciences and Humanities	3.45	0.54			
3. University of Information Technology	3.06	0.55			
4. University of Science	3.25	0.59			
5. University of Economics and Law	3.41	0.55			

This study compared five different universities at the VNU-HCM, representing five different academic disciplines. There is little empirical research on the

relationship between academic disciplines and problem-solving efficacy for students in Vietnam or even for student in other parts of the world. The results of this study, thus, cannot be compared to the results of previous studies. Further, research about the relationship between academic disciplines and problem-solving efficacy of students can help fill this gap in the literature.

Third, **students' problem-solving efficacy verses student background, teaching approach, curriculum emphasis, and learning engagement**. For the whole sample, the results of table 5 indicated that the regression model proposed by this study explained 17.5% of Vietnamese university students' problem-solving efficacy (R^2 = 0.045 to 0.406). However, the regression model had rather different explanatory power for students' problem-solving efficacy in the five universities.

Table 5:
Regression Analysis Results among the Dependent Variable and Independent Variables at the Whole Sample and Each University

Variable	The Whole Sample	UT	USSH	UIT	US	UEL
			Beta (β)			
1. Student background:						
Gender	0.069*		0.153*			
Class ranking	0.124**		0.222**			
Family income	0.102**		0.188*			
2. Teaching approach:						
One-way instruction	0.071*					0.311***
Group Discussion						
Multimedia				-0.409*		
3. Curriculum emphasis:						
Memory emphasis						
Integration Emphasis	0.144***		0.247**			
Application Emphasis						
4. Learning engagement:						
Levels of involvement in class activities	0.162***	0.169*			0.205*	0.237*
Frequency of library use						
Time spent on course work per week	0.107**	0.141*				
Frequency of teacher consultation	0.088*				0.223**	
Adjusted R^2	0.175	0.045	0.212	0.406	0.117	0.230

Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

At the University of Technology (UT), the results showed that levels of involvement in class activities ($\beta = 0.169$, $p < 0.05$) and time spent on course work ($\beta = 0.141$, $p < 0.05$) significantly benefited students' problem-solving efficacy (R^2=

0.045). At the University of Social Sciences and Humanities (USSH), all three items of student's backgrounds of gender ($\beta = 0.153$, $p < 0.05$), class ranking ($\beta = 0.222$, $p < 0.01$), and family income ($\beta = 0.188$, $p < 0.05$), as well as curriculum emphasizing integration ($\beta = 0.247$, $p < 0.01$) significantly correlated student's problem-solving efficacy ($R^2 = 0.212$). At the University of Information Technology (UIT), teaching approach of employing multimedia ($\beta = -0.409$, $p < 0.05$) significantly hindered students' problem-solving efficacy ($R^2 = 0.406$). At the University of Science (US), involvement in class activities ($\beta = 0.205$, $p < 0.05$) and frequency of consulting teacher ($\beta = 0.223$, $p < 0.01$) significantly empowered students' problem-solving efficacy ($R^2 = 0.117$). At the University of Economics and Law (UEL), teaching approach of one-way instruction ($\beta = 0.311$, $p < 0.001$) and involvement in class activities ($\beta = 0.237$, $p < 0.05$) significantly enhanced on student's problem-solving efficacy ($R^2 = 0.230$). No other independent variable correlated with students' problem-solving efficacy.

Vietnamese university students' problem-solving efficacy is significantly influenced by their backgrounds and academic learning. There are different affecting variables at different universities. Based on these differences, universities should design interventions to enhance students' problem-solving efficacy. As an example, University of Social Sciences and Humanities may very well consider curriculum emphasizing integration, and University of Information Technology may want to avoid a teaching approach employing multimedia. The only variable across the universities is student involvement in class activities.

In this study, involvement in class activities significantly affects the problem-solving efficacy of students at three universities, namely University of Technology, University of Science, and University of Economics and Law. The research of S.T. Bossert (1988) showed that student involvement in class activities promoted student performances. Specifically, recent meta-analyses suggested that student involvement in class activities benefited students at all age levels, of all subject areas, and for a wide rage of tasks, such as those involving problem-solving efficacy (Johnson, Johnson & Maruyama, 1983; Slavin, 1983; and Astin, 1991).

In each university, in order to make a policy for the instructional programs and to select a teaching method or to evaluate the studying result of the student, experts or the program makers of VNU-HCM (Vietnam National University of Ho Chi Minh City) should be notably concerned about this factor. If we must decide a universal intervention to enhance problem-solving efficacy of students across the universities in Vietnam, it might very well be student involvement in class activities.

Conclusion

The study found that Vietnamese university students' problem-solving efficacy was below high. Meanwhile, VNU-HCM (Vietnam National University of Ho Chi Minh City) is expected to serve as Vietnam's premier institution of higher education, to reach national and international levels of excellence in education, and to contribute

to the socio-economic development of the entire country (VNU-HCM, 2009). Thus, administrators, faculty, and scientists at VNU-HCM should pay special attention to enhancing their students' problem-solving efficacy.

The literature shows that curriculum has a profound effect on student achievement and plays a crucial role in enhancing students' problem-solving efficacy. Vietnamese universities should evaluate students' academic learning by improving students' problem-solving efficacy. This will help administrators, faculty, and scientists at VNU-HCM to monitor and adjust the strengths and weaknesses of the academic learning to meet the needs of the country. In the process of constructing an instructional program, administrators and scientists in the universities should design advanced academic learning to not only provide background knowledge, but also develop students' skills for future jobs.

References

Astin, A.W. (1991). *Assessment for Excellence: The Philosophy and Practice of Assessment and Evaluation in Higher Education*. New York: American Council on Education/Macmillan.

Bossert, S.T. (1988). "Cooperative Activities in the Classroom" in *Review of Research in Education*, 15, pp.225-250.

Breiter, D. & C. Clements. (1996). "Hospitality Management Curricula for the 21st Century" in *Hospitality and Tourism Educator*, 8(1), pp.57-60.

Frederiksen, N. (1984). "Implications of Cognitive Theory for Instruction in Problem-Solving" in *Educational Research*, 54(3), pp.363-407.

Froman, R. (2002). *Florida Works: Problem Solving on the Job*. Florida, USA: Florida Human Resources Development, Inc.

Geary, D.C.A. (2001). "Darwinian Perspective on Mathematics and Instruction" in T. Loveless [ed]. *The Great Curriculum Debate: How Should We Teach Reading and Math?* Washington, DC: Brookings Institute, pp.85-107.

Gustin, M. (2001). "Think for Yourself: Bringing Critical Thinking Skills to the Classroom" in *Journal of Hospitality and Tourism Education*, 13(1), pp.41-47.

Hair, J.F. *et al*. (2006). *Multivariate Data Analysis*. New Jersey: Prentice Hall.

Hamza, M.K. & K.G. Griffith. (2006). "Fostering Problem-Solving & Creative Thinking in the Classroom: Cultivating a Creative Mind" in *National Forum of Applied Educational Research Journal-Electronic*, 9(3), pp.1-32.

Huang, Y. & S.M. Chang. (2004). "Academic and Co-Curricular Involvement: Their Relationship and the Best Combinations for Student Growth" in *Journal of College Student Development*, 45(4), pp.391-406.

Johnson, D., R. Johnson & G. Maruyama. (1983). "Interdependence and Interpersonal Attraction among Heterogeneous and Homogeneous Individuals: A Theoretical Formulation and a Meta-Analysis of the Research" in *Review of Educational Research*, 53, pp.5-54.

Kilpatrick, J., J. Swafford & B. Findell. (2001). *Adding it Up: Helping Children Learn Mathematics*. Washington, DC: National Academy Press.

Krikley, J. (2003). *The Principles for Teaching Problem-Solving*. New York: PLATO Learning, Inc.

Luong, B. (2010). "Students in Ho Chi Minh City are Weak in Soft Skills". Retrieved from http://talk.onevietnam.org/students-in-ho-chi-minh-city-are-weak-in-soft-skills/ [accessed in Ho Chi Minh

City, Vietnam: 9th October 2009].
Nguyen, T.L.H. (2005). "Current Update of Higher Education in South East Asian Countries: The Case of Viet Nam". *Paper* presented at Regional Seminar on Higher Education in Bangkok, Thailand.
Nguyen, L. (2009). "International and National Skills Development Approaches in Vietnam" in *The NORRAG Conference on Policy Transfer or Policy Learning: Interactions between International and National Skills Development Approaches for Policy Making*. Geneva: n.p.
MOET [Ministry of Education and Training] Vietnam. (2001). *Vietnamese Education and Training Development Strategy to Year 2010 for the Cause of Industrialization and Modernization of Vietnam*. Ha Noi, Vietnam: MOET Vietnam.
NASRV [National Assembly of the Socialist Republic of Vietnam]. (2005). *Law of Education*. Ha Noi, Vietnam: NASRV Publication.
Pajares, F. & J. Kranzler. (1995). "Self-Efficacy Beliefs and General Mental Ability in Mathematical Problem-Solving" in *Contemporary Education Psychology*, 20, pp.426-443.
Pascarella, E.T. & P.T. Terenzini. (2005). *How College Affects Students*. San Francisco: Jossey-Bass.
Pavesic, D.V. (1991). "Another View of the Future of Hospitality Education" in *Cornell Hotel and Restaurant Administration Quarterly*, 32(4), pp.8-9.
Rossman, A.D. (1993). "Managing Hands-On Inquiry" in *Science and Children*, 31(1), pp.35-37.
Sadler, D.R. (1983). "Evaluation and Improvement of Academic Learning" in *The Journal of Higher Education*, 54(1), pp.60-79.
Schommer-Aikins, M., O.K. Duell & R. Hutter. (2005). "Epistemological Beliefs, Mathematical Problem-Solving Beliefs and Academic Performance of Middle School Students" in *Elementary School Journal*, 105(3), pp.289-304.
Shakespeare, P. & S. Hutchinson. (2007). "Curriculum, Quality, and Competence" in WACE (World Association for Cooperative Education) [ed]. *Proceedings of the Sixth World Association for Cooperative Education: Annual International Symposium*. Charleston SC: Wage.
Slavin, R. (1983). *Cooperative Learning*. New York: Longman.
Tran, A.T. (2009). "Binding Training and Employment: Universities and Enterprises" in *Journal of Sciences of Vietnam National University-Ha Noi*, 25, pp.77-81.
Vallely, T.J. & B. Wilkinson. (2008). "Vietnamese Higher Education: Crisis and Response". Retrieved from http://www.hks.harvard.edu/.../asia/.../HigherEducationOverview112008.pdf [accessed in Ho Chi Minh City, Vietnam: 9th October 2010].
VNU-HCM [Vietnam National University – Ho Chi Minh City]. (2009). "Home: Overview". Retrieved from http://student.vnuhcm.edu.vn/vnu/index.php?option=com_content&task=view&i=20&Itemid=51 [accessed in Ho Chi Minh City, Vietnam: 9th October 2010].
Wilson, G. (1993). *Problem-Solving and Decision Making*. London: Kogan Page.
Zekeri, A.A. (2004). "College Curriculum Competencies and Skills Former Students Found Essential to Their Carrers" in *College Student Journal.*

One of the Students' Activities in the Vietnam Universities
(Source: Photo Album of Minh-Quang Duong, 10/10/2012)

Higher education in Vietnam has gradually improved in terms of number and types of institutions and forms of training, in order to meet the needs of the socio-economic development. One of the objectives of higher education in Vietnam is to improve students' practical competencies.