Towards an Understanding of the Impacts of Localized Real Case Studies

Mathews NKHOMA, Narumon SRIRATANAVIRIYAKUL
Hiep Cong PHAM, Tri Khai LAM, Quynh Bao Nhu NGUYEN
Business IT and Logistics Department, RMIT University Vietnam
Ho Chi Minh City, Vietnam

ABSTRACT

This research aims to understand the mediating roles of learning engagement, learning process and learning experience in influencing students' outcomes through case study pedagogy. It gathered students' responses to localised real case studies discussed in Information Systems classes. Case knowledge and perception were used to measure students' learning outcomes in order to determine the degree to which students induced course concepts and how they felt the cases impacted their understanding of the course. Revised student engagement questionnaire was used to measure various forms of engagement such as skills, emotion, participation, and performance while revised study process questionnaire served to assess the extent to which students used deep or surface approach to learning. Additionally, seven roles of feedback were used to analyse students' learning experience. Finally, group performance and individual's positive perceptions of group learning were tested to measure students' learning outcomes. Structural equation modelling was used to test the causal model. Analysis revealed that case knowledge and case perception had positive influence on students' skill engagement and emotional engagement but only case knowledge had a positive impact on the functions of feedback.

Keywords: Mediating Role, Learning Engagement, Learning Process, Learning Experience, Learning Outcomes, Localized Real Case Studies.

1. INTRODUCTION

Developing a better understanding of case study method in undergraduate-level education has been identified as an important issue in Management Information Systems disciplines [38]. Case study pedagogy exposes students to real-life situations of business cases through a comprehensive interaction among students and their instructors [1]. Moreover, class discussions based on case studies enable students to be proficient in communication, self-management, decision-making and problem-solving skills [28].

The effectiveness of the case method depends on how students engage with the case and how instructors assist and debrief class discussion [38]. In case study pedagogy, instructors must focus on leading and facilitating discussions [38] rather than providing information. The instructor must raise discursive questions that generate cognitive dissonance and, therefore, encourage the students to think critically [38]. An effective case instructor should also instruct students to conduct a framework of relevant information from the case data that gives sharp views on related issues in the future job [24]. Prince & Felder [23] stated that case-based learning requires teaching techniques that contribute to students' inductive learning. The instructors must listen and always encourage student's opinions. Chronically, case discussions can increase conceptual understanding and higher-order thinking skills [34] because case-based teaching and discussion can provide learner opportunities for collaboration and reflection [17].

The execution of a research project, which investigates the impacts of localized real case studies on student engagement (in skill, emotional, participation, and performance), learning process (students' approach on knowledge), and learning experience (students' opinion on feedback from classmates and lecturer) are documented in this paper. Moreover, the mediating roles of student engagement, learning process and learning experience to learning outcomes will also be examined.

2. LITERATURE REVIEW

In this research, data was collected from the 2013 cohort of Information Systems (IS) classes at RMIT University Vietnam using localized case studies. Localized case studies were developed from businesses within the country and were more relevant to students.

2.1 The case method

Case method is a pedagogy in which students learn from analyzing and discussing a case, which can be narrative or a more complex report of a situation. Case method aims to promote student-peer discussions and turn the instructor into a facilitator rather than an information provider. Case method is used prevalently in business, law, medicine, and other fields that involve application of theories.

Case method questionnaire: Webb et al. [38] examined learning outcomes and student's perceptions of the hybrid classroom where case method is implemented in a technology-mediated learning environment (TML). They designed a questionnaire measuring case knowledge and case perceptions of students in case method courses. Case knowledge measures how well students induce course concepts and relate them to cases and case perception measures how a case impacts student's perception about the course.

Assessment of group learning in case method courses: The GSS model for group learning research is a tool to assess both group performance and individual outcomes [21]. GSS represents group learning as a system with three phases: input, process and output and feedback loops. The input phase includes the task, member and group characteristics, and meeting context. The process phase covers facilitation, technological support, structural factors, and socio-technical issues. The output includes group performance and development, and individual perceptions. Because of the high level of interaction within groups and between groups, assessment in case method courses is complex. Peterson & Quarstein [21] developed a questionnaire to get students'

responses on all aspects of the GSS model to assess learning outcomes on both group and individual level. There are 11 categories measuring group performance and 8 categories measuring individual's positive perceptions.

Case method & learning outcomes: According to [38], case method combined with supporting technologies was found to enhance learning outcomes. Students perform better on both knowledge and analysis levels when case method is taught in the hybrid environment compared to pure in-class or pure online environments. Treatments that included some online discussions lead to an increase in both knowledge and analysis levels of students. The case method also promotes learning outcomes via group learning. Peterson & Quarstein [21] found that group learning situations promoted group performance, such as better ideas and conclusion, higher quality strategies, more elaborate information gathering, beneficial interactions, better problem-solving, etc. Group learning also fostered individual's positive perceptions. Students feel good working with peers on realistic projects. They maintained harmony and respected welfare of group. Group learning helps them develop interpersonal skills, provides challenging problems and immediate feedback or help. As a result, students felt more confident.

Overall, aforementioned studies showed that case method has a positive effect on learning outcomes. This study aims to further explore this relationship. We posit that there are mediators between case method and learning outcomes. Therefore, we choose to investigate the mediating roles of student engagement, learning process/approach and learning experience on learning outcomes via localized case studies. This research concerns about two research questions:

Research Question 1: *How does case method influence student engagement (skills, emotional, participation & performance engagement), learning process (deep approach & surface approach) and learning experience (through student's opinions on feedback received).*

Research Question 2: *How do these mediators affect student's learning outcomes (group performance and individual's positive perceptions)?*

2.2 Case method & student engagement

As case method requires students actively engaging with a case, it can promote student engagement. Student engagement is the efforts that students devote to educational activities that result in desired outcomes. Webb et al. [38] found that case method implemented in TML environment fosters student engagement via increased interactions. Students learn effectively from each other in an environment that fosters cooperative learning compared to a more passive traditional classroom.

A measurement of student engagement (SCEQ): Handelsman et al. [11] proposed the Student Course Engagement Questionnaire to measure 4 forms of engagement: skills, participation/interaction, emotional, performance engagement. It was developed using inductive method to capture many potential dimensions of engagement. Its psychometric properties were tested through exploratory factor analysis, reducing the original to the final 23-item version and revealing 4 distinct forms of engagement; an examination of reliability of factors affirmed the four-factor structure and internal consistency of SCEQ.

Table 1 Hypothesis 1: case method will increase four forms of engagement through a collaborative interactive learning environment.

Hypothesis			Effect
1a	Case knowledge➔	Skill	Positive
1b		Emotional	Positive
1c		Participant	Positive
1d		Performance	Positive
1e	Case perception➔	Skill	Positive
1f		Emotional	Positive
1g		Participant	Positive
1h		Performance	Positive

SCEQ & learning outcomes: Handelsman et al. [11] found that performance engagement is related to extrinsic outcomes such as grades, while emotional engagement is a predictor of intrinsic outcomes like learning goals (a desire to understand concepts, not to perform) or incremental theory (viewing learning as an expandable capacity). Participation is related to some indexes of student learning such as final grades and absolute engagement (engagement in a course). All four forms of engagement were related to at least one measure of learning, which affirms a multidimensional construct of student engagement.

Table 2 Hypothesis 2: each form of engagement will have a positive effect on group performance and individual's positive perceptions.

Hypothesis			Effect
2a	Skill	➔Group performance	Positive
2b	Emotional		Positive
2c	Participant		Positive
2d	Performance		Positive
2e	Skill	➔Individual's perceptions	Positive
2f	Emotional		Positive
2g	Participant		Positive
2h	Performance		Positive

2.3 Case method & learning approaches

Learning process is what students do regarding their approach to learning. It can provide insights into students, tasks, and teaching environment. According to Biggs, Kember & Leung [3], there are two learning approaches. Surface approach consists of looking for specific answers and memorizing facts, while deep approach involves understanding deeply the material in order to solve problems. As both knowledge and analysis levels increase in case method courses [38], case method is likely to have a positive correlation with both approaches.

Table 3 Hypothesis 3: case method will have a positive correlation with surface and deep approaches.

Hypothesis			Effect
3a	Case knowledge➔	Surface approach	Positive
3b		Deep approach	Positive
3c	Case perception➔	Surface approach	Positive
3d		Deep approach	Positive

A measurement of learning approaches R-SPQ-2F: Biggs, Kember & Leung [3] proposed the revised R-SPQ-2F to measure learning approaches. Revision was done through two statistical tests: the Reliability procedure of SPSS and the EQS program in a confirmatory factor analysis mode. The result is a refined version of SPQ, which measures deep and surface approaches only, with subscales of motive and strategy. Each approach has 10 items and each subscale has 5. The revised SPQ had acceptable Cronbach alpha values for scale reliability, and confirmatory factor analysis mode confirmed the validity of the two-factor structure.

Learning approaches & learning outcomes: Student's learning approach determines learning outcomes, which can be quantitative or qualitative [3]. The learning approach is a result of complex interactions between students and teaching demands. For example, students might switch between deep and surface approach to match module's content or type of assessment. Biggs, Kember & Leung [3] viewed learning outcomes as contextual approach to learning, as outcomes can reflect the quality of teaching via the prevalent approach in the class. Because of their nature, each approach has distinct contributions to learning outcomes (surface for quantitative outcomes such as facts, skills, grades; deep for qualitative outcomes such as understanding, analysis, problem-solving).

Table 4 Hypothesis 4: Learning approaches will have positive correlation to learning outcomes

Hypothesis			Effect
4a	Surface approach	➔Group performance	Positive
4b	Deep approach		Positive
4c	Surface approach	➔Individual's perceptions	Positive
4d	Deep approach		Positive

2.4 Case method & feedback

Feedback is the information provided by instructors to students on how well they perform and understand course material. Feedback is an important part of the learning experience. Rowe [25] revealed 7 key roles of feedback on student's learning outcomes and emotions: (i) as a guide towards success in the course being assessed; (ii) as a learning tool; (iii) as a means of academic interaction; (iv) as a form of encouragement; (v) as an emotion regulator and means of reducing anxiety; (vi) as an indication of respect and; (vii) as a sign of caring. According to Rowe [25], role (iii) expressed students' desire for an active and interactive form of learning. Case method satisfies this desire by fostering a high level of student interactions. The 7 roles of feedback are used in the study to assess learning experience.

Table 5 Hypothesis 5: case method will have a positive effect on feedback significance/learning experience

Hypothesis			Effect
5a	Case knowledge➔	Feedback significance	Positive
5b	Case perception➔	Feedback significance	Positive

Feedback & learning approaches: Student's preference regarding feedback can reflect their preferred learning approach. For instance, students who prefer feedback as specific answers often engage in surface learning, while students who are interested in deep learning often prefer feedback that allows them to think deeply about the subject matter.

Feedback & learning outcomes: Role (i) of feedback reflects 'surface learning', a result-oriented approach to get better grades. The second role represents 'deep learning', an interest in gaining a better understanding of course materials. These roles show a direct link between feedback and learning outcomes: to get better grades and to gain a better understanding. The more emotional roles (v), (vi), (vii) indicate that feedback can indirectly enhance learning outcomes via boosting student's self-esteem and positive emotions.

Table 6 Hypothesis 6: Case method feedback will have a positive effect on learning outcomes

Hypothesis			Effect
6a	Feedback significance	➔Group performance	Positive
6b	Feedback significance	➔Individual's perceptions	Positive

3. DATA AND METHOD

The researchers used GSS in combination with other instruments including SCEQ, seven themes of feedback questionnaire, R-SPQ-2F, case knowledge/case perceptions questionnaire, to devise a combined research model. This research model simultaneously tests the mediating role of student engagement, learning approach and learning experiences (through student's opinions of feedback) on learning outcomes via the use of localized case studies on a sample size of 400 undergraduate students. The study filled the gap in case method research by providing a single research model to test all three variables, as opposed to previous studies where they were tested individually. The research model aimed to test the hypotheses and provide answers to the two research questions set out earlier in the paper.

To determine whether learning engagement, learning process, and learning experience are capable mediators between case study pedagogy and learning outcomes, a means of structural equation modeling (SEM) was used to test a full and partial mediation model.

4. RESULT

The results suggested that the data matched the hypothesized model respectably, Chi-square/df ratio = 2.574, $p < .01$, AGFI = .711, TLI = .689, CFI = .701, RMSEA = .056. For a large sample size, small differences between the implied sample covariance matrix and population covariance matrix will be statistically significant [29]. Consequently, researchers turned to other methods to evaluate the fit of the model to the data instead of the $\chi 2$ statistic [2]. Regarding AGFI, researchers have commonly used a value of .08 as the cut-off point [29]. But analogous to $\chi 2$, AGFI tends to increase when sample size increases. The TLI and CFI are correspondingly used as relative fit indices less sensitive to sample size as .90 is cut-off value for TLI and CFI [29]. The RMSEA reveals how well the model with chosen parameter estimates would fit the population covariance matrix and its cut-off value in the range of .05 to .1 was considered fairly fit [16].

Table 7 Mediating role of case study method in student engagement and learning outcome

Causal relationships		Regression weight	P-value
Case knowledge	Skill engagement	.468	.034**
	Emotional engagement	.246	.089***
	Participant engagement	.146	.231
	Performance engagement	.125	.886
Case perception	Skill engagement	.455	.008***
	Emotional engagement	.445	.008***
	Participant engagement	.164	.165
	Performance engagement	.496	.412
Skill engagement	Group performance	.436	.180
Emotional engagement		-.270	.345
Participant engagement		.433	.402
Performance engagement		.034	.343
Skill engagement	Individual's positive perceptions of group learning	-.389	.913
Emotional engagement		.175	.913
Participant engagement		7.339	.291
Performance engagement		-.161	.566

The superscripts *, **, and *** denote significance at 10%, 5%, and 1% confidence level.

Four regression weights representing the relationships between case study method including case knowledge, case perception, and student engagement are presented in Table 7.

Case knowledge had a significantly inverse relationship with the deep approach to learning and had no significant relationship with the surface approach. Case perceptions had a significantly obverse relationship with the surface approach to learning and a significantly reverse relationship with the deep approach. This demonstrated that students may not have prepared well or did not understand how to conduct a case study. Moreover, the surface approach had no relationships with the group performance and individual's positive perceptions of group learning.

An unexpected finding was that deep approach to learning also had insignificant relation with learning outcomes. The findings proved that the mediating role of the revised two-factor study process did not support this research model.

Table 8 Mediating role of study process between case study method and learning outcomes

Causal relationships		Regression weight	P-value
Case knowledge	Surface approach to learning	.468	.034**
	Deep approach to learning	.246	.089***
Case perception	Surface approach to learning	.455	.008***
	Deep approach to learning	.445	.008***
Surface approach to learning	Group performance	.125	.200
Deep approach to learning		-.010	.727
Surface approach to learning	Individual's positive perceptions of group learning	-.210	.817
Deep approach to learning		.779	.120

The superscripts *, **, and *** denote significance at 10%, 5%, and 1% confidence level.

The experimental results showed that case knowledge had a statistically positive relation with students' perception of feedback (Table 8). Course concepts related to the specific case made students recognize the value of feedback. The various effects of feedback were synthesized on student learning [5]. Moreover, case perceptions had no relation with students' perceptions of feedback (Table 8). Students only concentrated on case knowledge rather than case perceptions in this study.

Analysis between perceptions of feedback and learning outcomes (Table 9) found insignificant results. It rejected the hypothesis that feedback would lead to better learning outcomes.

Table 9 Mediating role of function of feedback between case study method and learning outcomes

Causal relationships		Regression weight	P-value
Case knowledge	Functions of feedback	1.101	.047*
Case perception		-.167	.496
Functions of feedback	Group performance	-.094	.455
	Individual's positive perceptions of group learning	.285	.803

The superscripts *, **, and *** denote significance at 10%, 5%, and 1% confidence level.

4. DISCUSSION

Results indicated that both case knowledge and case perception had significant and positive relationships with skill and emotional engagement. These causal relationships meant that students were interested in practicing their skills via case studies and were more emotionally engaged. Skills engagement includes learning strategies to achieve intrinsic and extrinsic rewards [27], while emotional engagement is linked to intrinsic outcomes such as adopting an incremental theory to learning or setting learning goals [11]. Case method, however, did not increase participation engagement, which could be because students did not prepare well for the case before class. Also, as discussions were not graded, the case method could not motivate performance engagement, which is related to extrinsic outcomes such as grades [11].

The four forms of engagement were all linked to different learning outcomes [11]. Ideally, student engagement is a significant mediator between academic environments and learning outcomes [22]. Data of this study indicated that the relationship between student engagement and learning outcomes was insignificant, and the mediating role of student engagement between case study method and learning outcomes was ineffective. However, our findings could not infer that there was no causal relationship between case method, student engagement and learning outcomes.

There are a few possible reasons behind insignificant relationships. First, students did not prepare for the case before class, which could hinder participation and fruitful discussions. Second, Asian students are more reluctant to join in discussions, and they prefer to do it in small groups [12]. Khoo [13] also found that they took a longer time before speaking in discussions, not only to think of a response but also to translate it into English [12]. Third, a lack of a grading system led to low performance engagement since there were no extrinsic rewards. According to Barnes et al. [1], in order for case method pedagogy to be effective, there are five principles: situational analysis, relating analysis and action, student involvement, non-traditional instructor and a balance of substantive and process objectives. The findings of this study might be different when the above principles are satisfied. It is necessary that participation and performance engagement should be improved and students should be properly oriented on how to study a case. Also, there were neglected variables in this study that might have influenced student engagement, case method and learning outcomes and thus biased the results [6].

Learning process is a second mediator examined in the study. The case method had no significant relationship with surface learning, which is expected, as case method requires discussion and analysis. Case method also had an inverse relationship with deep approach, which indicated that students did not understand the case study. Minbashian et al. [19] found that the content and method of teaching also influenced student's learning approaches. Trigwell et al. [36] found a relationship between teaching approaches and learning approaches: teacher-centered approach & surface learning, and student-centered approach & deep learning. Sudzina [33] proposed that instructors should evaluate whether case method is suitable for the course objectives and expectations in order for the pedagogy to be effective. Furthermore, a low score on both deep and surface approach, similar to our findings, was typical of novice students with little experience and learning skills [15]. Our participants were undergraduates who fit the category. Constructive pedagogy like the case method requires students to actively use their experience to construct understanding rather than obtain knowledge passively [8], which might have been a challenge to

undergraduates who lack work experience to participate in case discussions.

Both two approaches were weak mediators between case method and learning outcomes. Surface approach had no significance with learning outcomes, a finding in line with Trigwell et al. [36]. Deep approach, unexpectedly, had no significant relationship with learning outcomes. The reason for this insignificance can be a lack of motive and strategy for deep approach [3]. Furthermore, learning approaches need to be realized into classroom behavior before they become predictors of learning outcomes [7]. Classroom behavior includes: (i) student engagement in the learning process, (ii) their engagement and persistence in self-directed learning, (iii) their participation in group discussion and team work, and (iv) their understanding of course knowledge and experience. Instructors need to observe these classroom behaviors to judge student's learning approaches and their effects on outcomes.

Regarding learning experience, findings indicated that case knowledge had positive effects on student's perceptions of feedback. Lee et al. [14] found that providing feedback could facilitate case-based learning activities, as feedback offered timely insight to help students solve problems. Peer feedback also helped build in-depth understanding. Feedback improved student's learning experience through sharing multiple viewpoints and negotiating ideas [14]. Case perception, in this study, had no relationship with student's perceptions of feedback, even though students perceived feedback to provide guidance and add meaning to their work [20]. This suggests a need to arrange small group discussions to improve student's case perceptions [9] with instructor becoming a guide or facilitator of case-based activities [14].

The mediating role of feedback between case method and learning outcomes was insignificant. As the first and second key roles of feedback in Rowe's study were to help students get better grades and understand concepts better, it was expected that feedback would have a positive effect on learning outcomes. Also, student's comprehension and preference for feedback led to higher engagement, so improved learning outcomes were expected [26]. A possible explanation for this could be differences in data-gathering methods led to different results [39].

In line with Peterson & Quarstein's [21] remark assessment in case method is complex. The GSS model proved ineffective as a tool to assess group and individual learning outcomes in this study, as students were reluctant to join the discussions. Assessment in case method courses can diversify to gain a better understanding of learning outcomes, ranging from role-play for reality check [33] or assessment of student-peer and student-faculty interactions in different environments such as traditional classroom and hybrid environment [38]. There are other factors influencing learning outcomes, such as planning, teaching and assessment methods [8] or supporting technologies [38]. In order to improve learning outcomes, case competition is also good implementation in groups that have cooperation in case analysis and research skills [30, 31, 32] Student's familiarity with the learning environment, teaching and assessment methods also contributed to their success [4]. In this study, students were not familiar with the case method. Many students did not read the case before class, which could be a huge hindrance to discussion. Therefore, instructors should be active in providing orientation on how to study a case effectively. They should beware student's mistakes in their approach to case method, such as rote learning or memorization, and address them timely.

5. CONCLUSION

Significant findings of this study suggest that instructors may use the case method to promote skill and emotional engagement in students. This study found many students unprepared and reticent to join discussions. Data suggested that student's case perceptions can be enhanced if students know how to study a case and work in groups. The introduction of case method needs to be combined with an orientation to students so they know how to approach and study a case most effectively.

How to best utilize the case method needs to be explored and studied further. There are recommendations for better application of the case method. First, detailed instructions regarding how to support students in case-based learning are essential [14]. A grading system of case-based activities can foster student's engagement and increase their cognitive levels, thus having a positive effect on learning outcomes. Secondly, as cognitive levels and personality traits of students have an influence on learning outcomes, they should be examined for better predictions of learning outcomes [7]. The ability of students to draw on experiences while analyzing a case also affects their learning approach and participation, thus influencing learning outcomes.

There are some limitations to this study. Participants were limited to Vietnamese students of Information Systems courses, who might have been too shy to join in discussions, or had difficulty using English. Lack of case method instructions and a grading system also affected results of the causal relationships in the model. Despite the limitations, this study is a preliminary effort to study the mediating roles of student engagement, learning process and learning experience on learning outcomes via the application of the case method in a university course. Future research should take into consideration current limitations, and include observation of classroom behavior [7], grading system, and proper instructions on how to study a case.

6. REFERENCES

[1]. L. B. Barnes, C. R. Christensen, A. J. Hansen, **Teaching and the case method: Text, cases, and readings**, Boston: Harvard Business School Press, 1994.

[2]. W. O. Bearden, S. Sharma, J. E. Teel, **Sample size effects on chi square and other statistics used in evaluating causal models**, Journal of Marketing Research, Vol. 19 (Nov.), pp. 425−430, 1982.

[3]. J. B. Biggs, **Student approaches to learning and studying**, Camberwell, Victoria: Australian Council for Educational Researcah, 1987.

[4]. J. B. Biggs, D. Kember, Y. P .D. Leung, **The revised two-factor Study Process Questionnaire: R-SPQ-2F**, British Journal of Educational Psychology, Vol. 71, pp. 133–149, 2001.

[5]. D. L. Butler, P. H. Winne, **Feedback and self-regulated learning: a theoretical synthesis**, Review of Educational Research, Vol. 65, No. 3, pp. 245-81, 1995.

[6]. S. R. Cellini, **Causal inference and omitted variable bias in financial aid research: Assessing solutions**, Review of Higher Education, Vol. 31, No. 3, pp. 329–354, 2008.

[7]. J. L. F. Choy, G. O'Grady, J. I. Rotgans, **Is the Study Process Questionnaire (SPQ) a good predictor of academic achievement? Examining the mediating role of**

achievement-related classroom behaviours, Instructional Science, Vol. 40, No. 1, pp. 159-172, 2012.

[8]. P. Eggen, D. Kauchek, **Educational Psychology: Classroom Connections** (2nd Ed.), New York: Merrill/Macmillian, 1994.

[9]. A. E. Flynn, J. D. Klein, **The influence of discussion groups in a case-based learning environment**, Educational Technology Research and Development, Vol. 49, No. 3, pp. 71–86, 2001.

[10]. M. T. Garvey, M. O'Sullivan, M. Blake, **Multidisciplinary case-based learning for undergraduate students**, European Journal of Dental Education, Vol. 4, No. 4, pp. 165–168, 2000.

[11]. M. M. Handelsman, W. L. Briggs, N. Sullivan, A. Towler, **A measure of college student course engagement**, Journal of Educational Research, Vol. 98, No. 3, pp. 184-191, 2005.

[12]. J. Jackson, **Reticence in second language case discussions: anxiety and aspirations**, System, Vol. 30, No. 1, pp. 65-84, 2002.

[13]. H. E. Khoo, **Implementation of problem-based learning in Asian medical schools and students' perceptions of their experience**, Medical Education, Vol. 37, No. 5, pp. 401-409, 2003.

[14]. S. H. Lee, J. Lee, X. Liu, C. J. Bonk, R. J. Magjuka, **A review of case-based learning practices in an online MBA program: A program-level case study**, Educational Technology & Society, Vol. 12, No. 3, pp. 178–190, 2009.

[15]. S. Lindblom-Ylänne, K. Lonka, **Individual ways of interacting with the learning environment – Are they related to study success?**, Learning and Instruction, Vol. 9, No. 1, pp. 1-18, 1999.

[16]. R. C. MacCallum, M. W. Browne, H. M. Sugawara, **Power Analysis and Determination of Sample Size for Covariance Structure Modeling**, Psychological Methods, Vol. 1, No. 2, pp. 130-49, 1996.

[17]. R. McNergney, J. Herbert, R. Ford, **Cooperation and competition in case-based teacher education**, Journal of Teacher Education, Vol. 45, No. 5, pp. 339-345, 1994.

[18]. B. E. Mennecke, J. A. Hoffer, B. E. Wynne, **The implications of group development and history for group support system theory and practice**, Small Group Research, Vol. 23, No. 4, pp. 524-572, 1992.

[19]. A. Minbashian, G. F. Huon, K. D. Bird, **Approaches to studying and academic performance in short-essay exams**, Higher Education, Vol. 47, No. 2, pp. 161-176, 2004.

[20]. P. Orsmond, S. Merry, **Feedback alignment: effective and ineffective links between tutors' and students' understanding of coursework feedback,** Assessment & Evaluation in Higher Education, Vol. 36, No. 2, pp. 125-136, 2011.

[21]. P. A. Peterson, V. A. Quarstein, **Assessment of case study courses**, Quality Assurance in Education, Vol. 9, No. 1, pp. 46-53, 2001.

[22]. G. R., Pike, J. C. Smart, C. A. Ethington, **The mediating effects of student engagement on the relationships between academic disciplines and learning outcomes: An extension of Holland's theory**, Research in Higher Education, Vol. 53, No. 5, pp. 550–575, 2012.

[23]. M. J. Prince, R. M. Felder, **Inductive teaching and learning methods: definitions, comparisons, and research bases**, Journal of Engineering Education, Vol. 95, No. 2, pp. 123–138, 2006.

[24]. V. K. Rangan, **Choreographing a case class**, Boston: Harvard Business School, 1995.

[25]. A. D. Rowe, **The personal dimension in teaching: why students value feedback**, International Journal of Educational Management, Vol. 25, No.4, pp. 343-360, 2011.

[26]. A. Rowe, L. Wood, P. Petocz, **Engaging students: Student preferences for feedback**, in Engaging Communities, Proceedings of the 31st HERDSA Annual Conference, Rotorua, 1-4 July 2008: pp 297-306, 2008.

[27]. C. Sansone, J. M. Harackiewicz, (Eds.), **Intrinsic and extrinsic motivation: The search for optimal motivation and performance**, San Diego, CA: Academic Press, 2000.

[28]. A. Sawyer, S. Tomlinson, A. Maples, **Developing essential skills through case study scenarios**, Journal of Accounting Education, Vol. 18, No. 3, pp. 257-282, 2000.

[29]. S. Sharma, **Applied Multivariate Techniques**, John Wiley & Sons, Inc. New York, NY, USA, 1996.

[30]. M. Sudzina, **Consequences of Preservice Participation in a National Case Companion**, paper presented at the Annual Meeting of the Mid-Western Educational Research Association, Chicago (ERIC Document Reproduction Service No. ED 376 161), October 1994.

[31]. M. Sudzina, **Mentoring and Collaborating with Cases: Developing the Skills and Resources to Compete in a National Case Competition**, paper presented at the Annual Meeting of the Association of Teacher Educators, Atlanta (ERIC Document Reproduction Service No. ED 374 124), February 1994.

[32]. M. Sudzina, **Case Competition as a Catalyst to Restructure the Teaching and Learning of Educational Psychology**, paper presented at the Annual Meeting of the American Educational Research Association, San Francisco (ERIC Document Reproduction Service No. ED 382 683), April 1995.

[33]. M. Sudzina, Symposium participant, Integrating Cases and Technology, **The Teaching of Educational Psychology: Trends, Emerging Issues, and New Ideas**, Annual Meeting of the Eastern Educational Research Association, Boston, MA, February 1996.

[34]. M. Sudzina, C. Kilbane, **New contexts for educational case study applications: From the classroom to competition and beyond**, in Klein, H. E. (ed.), Learning the Doing - Doing the Learning: The Art of Interactive Teaching, Needham, MA: World Association for Case Method Research and Application (ERIC Document Reproduction Service No. ED 374 121), 1994.

[35]. R. L. Miller, R. F. Rycek, K. Fritson, **The effects of high impact learning experiences on student engagement**, Procedia Social and Behavioral Sciences, Vol. 15, pp. 53-59, 2011.

[36]. K. Trigwell, M. Prosser, F. Waterhouse, **Relations between teachers' approaches to teaching and students' approach to learning**, Higher Education, Vol. 37, No. 1, pp. 57-70, 1999.

[37]. S. Wassermann, **Introduction to Case Method Teaching: A Guide to the Galaxy**, New York: Teachers College Press, 1994.

[38]. H. W. Webb, G. Gill, G. Poe, **Teaching with the Case Method Online: Pure Versus Hybrid Approaches**, Decision Sciences Journal of Innovative Education, Vol. 3, No. 2, pp. 223-250, Fall 2005.

[39]. N.T. Zacharias, **Teacher and student attitudes towards teacher feedback**, Regional Language Centre Journal, Vol. 38, No. 1, pp. 38-52, 2007.