

**UNDERGRADUATE ACCOUNTING STUDENTS' PERCEPTIONS
OF STUDENTS' EMPOWERMENT AND ACCOUNTING
TECHNICAL SKILLS: SPECIAL REFERENCE TO
UNDERGRADUATE STUDENTS AT TRINCOMALEE CAMPUS**

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ABSTRACT

The aims of the study are to determine the significant relationships between students' empowerment, accounting technical skills and students' performance. This study is a survey of 117 third and final year undergraduate accounting students in 2015 at Trincomalee Campus, Eastern University on the perception of student's empowerment and accounting technical skills. There was found through observation and discussion that there is gap between on the student's empowerment and accounting technical skills. Based on this problem the researcher was intended to do this research on the objectives of find out whether the students' empowerment affects students' performance, find out whether the accounting technical skills affects students' performance, determine the significant relationships between students' empowerment, accounting technical skills and students' performance, establish the improved students' performance that provides major contribution to the society. This study is based on the dependent variable; Students' performance and two independent variables; Students' Empowerment and Accounting Technical Skills.

The questionnaires distributed among third and final year undergraduate accounting students. Univariate and bivariate has been used for the data evaluation. The results indicated that there is significant correlation between the students' empowerment and students' performance and there is a significant correlation between accounting technical skills and students' performance. According to the data evaluation, all the student; performance highly supported by students'

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empowerment and moderately supported by accounting technical skills. Under the conclusion and recommendations researcher have been given summary on the data analysis and recommended some suggestions to improve the Students' performance at Trincomalee Campus, Eastern University.

Key words: Perception, Empowerment, Technical skill

INTRODUCTION

This study is a survey of 117 third and final year undergraduate accounting students at Trincomalee Campus, Eastern University on the perception of student's empowerment and accounting technical skills.

While technical accounting competencies remain obligatory for the professional accountant, these competencies alone are insufficient in today's workplace. Recent studies by the Australian Learning and Teaching Council (2010), De Lange, Jackling and Gut (2006), Kavanagh and Drennan (2007), Awayiga, Onumah and Tsamenyi (2010) and many others, indicate that development of students' generic skills is required for career success. Accounting practitioners are no longer merely required to undertake the necessary task of information provision such as bookkeeping and data analysis; rather, they are regarded as information facilitators. Education policy and research, and accounting education specifically, agree that there should be an emphasis on fundamental skills rather than a technical orientation in accounting education (Learning and Teaching Academic Standards Project 2010; Accounting Education at a Crossroad (2010); De Lange, Jackling and Gut 2006; Kavanagh and Drennan 2007; Awayiga, Onumah and Tsamenyi (2010)

Some research in accounting education emphasizes the importance of teaching accounting students professional accounting competencies. For example, Albrecht and Sack (2000) stress the significance of skill development throughout accounting programmes. One of the most important skills is communication skills. Communication skills are essential to the success of accountants and are seen as vitally important in satisfying the requirements of the workplace (Kavanagh et al. 2009). Communication skills are concerned with the ability to transfer and

receive information easily (Andersen 1989; Awayiga, Onumah&Tsamenyi 2010; Ballantine & Larres 2009; Hancock et al. 2009). In addition, communication skills include listening effectively to gain information, understanding opposing points of view, and having the ability to present ideas orally or in writing and discuss matters with others (Fortin & Legault 2010; Hancock et al. 2009; Jones & Abraham 2008; Rebele 1985). Therefore, teaching of accounting should enable students to develop the necessary communication and business skills required in the workplace.

LITERATURE REVIEW

Students' Empowerment

Empowerment is a well-known concept in literature and viewed in different ways by researchers. People who are in highest positions know the benefit of having happy and responsible employees and the level of their performance. Empowerment is one of the best ways to engage people to their work. Empowerment was first discussed and conceptualized in the workplace by Thomas and Velthouse (1990). Shulman and Luechauer (1993) define empowerment as "the process of enabling people to take personal responsibility and ownership of the tasks they perform". Ashcroft (1987 p.145 in Sapon-Shevin&Schniedewind 1991) defines empowerment as 'bringing into a state of belief in one's ability/capability to act with effect'. According to above definitions empowerment encourage people to develop their confident level to take responsibility and act effectively.

Empowerment in learning has been a topic of discussion for the last the two decades. Bosley (2005) defined empowerment from the perception of nursing education as a personal characteristic that will help new graduates thrive in this challenging health care environment and it can be conceptualized as an outcome of their education. According to Harvey, L. (2004) empowerment is about how to develop knowledge, skills and abilities of the learners to enable them to control and develop their own learning". Frymier, Shulman, and Houser (1996) expand traditional views of motivation to create the construct of learner empowerment that is defined as a student's feeling of competence to perform a task that is meaningful and has an impact on the situation.

Many researchers analyse empowerment in different ways. Spreitzer (1995) has developed and validated a multidimensional measure of psychological empowerment in the workplace. This measure has four dimensions: meaning, competence, self-determination and impact. This measure is called the Learner Empowerment Scale (LES). Impact refers to students' percept make a difference in the classroom, such as influencing the instructor and other students or providing information in class discussions. Meaningfulness refers to how valuable students perceive a task according to their personal beliefs and standards. Competence means that a person feels qualified and capable of performing the necessary activities to achieve the goals (Frymier, Shulman & Houser 1996). Their results showed that the empowered learner has positive attitudes toward the course content and the instructor, and participates in more activities.

Besides that, Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) denoted different perceptions of empowerment and stated that the student's empowerment is the extent to which students feel that their instructors/professors: i) permit them to use their own intelligence to solve academic problems, ii) encourage them to handle their own academic problems, iii) trust their intelligence, and iv) allow them freedom in their study. Moreover, Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) also highlighted that empowerment is a bottom-up process rather than something that can be formulated as a top-down strategy. According to McQuillan, P. J. (2005) the students' empowerment involved in three dimensions: the academic, political and social. The academic empowerment refers to how students develop the ability, confidence and motivation to succeed academically. Political empowerment refers to two fundamental powers either the formal or informal power. The formal power can be realized by having students serve on a disciplinary board or assess their classes as part of the teaching evaluation process and as for the informal power, students may draw attention to a particular issue through means such as striking, thereby influencing school practices or policies. Social empowerment refers to the institutional structures and policies that influence the students' experience. McQuillan, P. J. (2005) also indicated that the empowered students internalize higher-level cognitive skills and assume greater control over setting their own learning goals, which in turn, improve the students' perceived academic performance.

Accounting Technical Skills

Chaker, M. N. & Abdullah, A. (2011) described accounting technical skills as skills specific to accountancy as well as general skills that consist of skills in numeracy, decision making, risk analysis, measurement, reporting, knowledge in legislation and regulatory requirements. Technical skills that have been mentioned by Chaker, M. N. & Abdullah, A. (2011) are financial accounting, management accounting, auditing and taxation skills. Blanthorne, C., Bhamornsiri, S. & Guinn, R. E. (2005) stated that technical accounting technical skills are still important because it will indication what they are. Lin, Z. J., Xiong, X. & Liu, M. (2005) revealed that the majority of respondents agreed on a set of fundamental and expanded knowledge and skills for the training of professional accountants, even though there are some differences in perception of the three groups of respondents (practitioners, educator and students). Lin, Z. J., Xiong, X. & Liu, M. (2005) ranked the top three knowledge components in the United States and China which are financial accounting, finance and taxes.

Chaker, M. N. & Abdullah, A. (2011) indicated that the Kazakhstan Institute of Management Economics and Strategic Research (KIMEP) accounting graduates perceived that they are good in professional ethics, interpersonal and communication skills, auditing skills and information development and distribution skills in that order of their ranking which rated auditing skills higher than other technical and functional skills, as the majority of them worked in accountancy firms.

Students Performance

Students will be empowered and their performance enhanced when professional accounting competencies are combined in accounting education. Communication is the most common element between professional accounting competencies and empowerment. As shown in section one, communication skills are one of the most important skills required by accountants. Communication is important in creating a shared vision for the empowerment relationship (Frymier, Shulman & Houser 1996). Feelings of empowerment are thought to be influenced by relational communication variables such as active listening, open communication, constructive feedback, trustworthiness, credibility and immediacy (Block 1987; Houser & Frymier 2009). Moreover, the feelings of empowerment are lessened when individuals lack self-confidence in

their skills and feel intimidated by the task or goal (Frymier, Shulman & Houser 1996). Additionally, the ability to communicate and influence others is reflected in Frymier, Shulman and Houser's (1996) definition of impact, as the ability to make a difference. Supported by these definitions and explanations, it is proposed that students need to be empowered to have adequate skills in the contemporary business environment. Therefore, by learning communication skills, students will be empowered to accomplish the objectives in the classrooms.

Empowerment is a well-researched area in communication and nursing studies. For example, Mailloux (2006) examined the extent to which empowerment helps in acquiring professional autonomy among senior female nursing students in North-eastern Pennsylvania, USA. He suggests that the incorporation of learner empowerment models as a substantive theory in nursing education has implications for further research. He further asserts that educational systems facilitate the empowerment of students and seek to increase the students' readiness to assume more control throughout their educational experiences, thus providing a means of acquiring greater perceptions of autonomy. Miglietti (2002) stated that when students work together on a project they experience greater empowerment. Houser and Frymier (2009) examined the role of student characteristics on empowerment, along with the impact of instructor communication behaviour. The results show that student temperament and learner orientation had little impact on empowerment. Bradbury-Jones, Sambrook and Irvine (2007) explored the meaning of empowerment for nursing students in relation to their clinical practice experiences. Their research found that nursing students experience both empowerment and disempowerment in clinical placements, centring on three issues: learning in practice, team membership and power.

Relationship among student' empowerment, accounting technical skills and student' performance

Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) found that the higher the level of students' empowerment, the higher the level of students' perceived academic performance. Bosley, C. L. M. (2005) found that there are no significant differences in the students' empowerment between groups compared by the school, gender, racial identification,

marital status, years in current nursing program, highest educational degree, program type, employment status, employment setting, or nursing organization involvement.

Dennis, A. stated that the achievement of difference between male and female students significantly favors male students even after accounting for the ability, motivation, other demographic factors, instructional factors and school level factors. Moreover, Dennis, A pointed out that male students have higher final exam scores than the female students although the average GPA of female students enrolled in the program is higher than the male students. Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) found that the higher the level of students' empowerment, the higher the level of students' perceived academic performance. Aida, S.M.Y. & Wan, Z.W.A. (2009) discovered that the respondents with higher GPA obtained higher scores in the motivation score. According to Zraa, W. & Imran, S. (u.d.) there were strong and positive relationships between the students' empowerment and students' academic performance. On the other hand, Zraa, W. & Imran, S. (u.d.) also signified that there are several students who do not have strong empowerment but they perform very well in exam papers.

Alfan, E. & Othman, M. N. (2005) identified a positive correlation of accounting subject with the final degree CGPA and it was significant at 0.01 levels. Furthermore, the cumulative GPA is the most important determinant of the students' performance in the fundamentals of financial management course Al-Tamimi, H. A. H. & Al-Shayeb, A. R. (2002).

PROBLEM STATEMENT

Most previous scholars were focusing on the student's empowerment and accounting technical skills in separate views. There is gap between on the student's empowerment and accounting technical skills. Due to these research gaps, the researcher intends to conduct this study.

RESEARCH QUESTIONS

- Does the factors of the students' empowerment that influences students' performance?
- Does the factors of the accounting technical skills that influence students' performance?
- Is there any significant relationship between the students' empowerment and accounting technical skills and students' performance?

OBJECTIVES OF THE STUDY

- To find out whether the students' empowerment affects students' performance.
- To find out whether the accounting technical skills affects students' performance.
- To determine the significant relationships between students' empowerment, accounting technical skills and students' performance.
- To establish the improved students' performance that provides major contribution to the society.

SIGNIFICANCE OF THE STUDY

The contributions of this study include being a comprehensive guide to the academics to acknowledge the level of students' empowerment and accounting technical skills as well as to deal with different groups of students effectively. It is vital for academics to recognize the student's ability in order to measure the academic performance and assist them to improve their teaching methods. Besides that, the academics can encourage their students to improve the accounting technical skills to be well prepared for real world situation. Furthermore, the study aims to assist academicians to identify the level of student's empowerment. Empowerment among students can be developed if the academicians are able to encourage their students to participate actively in the learning process.

ASSUMPTIONS OF THE STUDY

- There is no change in the campus policies within the study period.

LIMITATIONS OF THE STUDY

- This study will be conducted only for third and final year students
- The confidentiality of the student to provide relevant data is high.

RESEARCH METHODOLOGY

Sample

The sampling method that will be used in this study is simple random sampling. The group of population in this study is undergraduate accounting students in Trincomalee Campus from the third and final year students for the Academic year 2011/2012 and 2010/2011. The population of

the study consists of 117 third and final year undergraduate accounting students but the researcher is to collect first 100 students in the order of the attendance sheet for the third and final year.

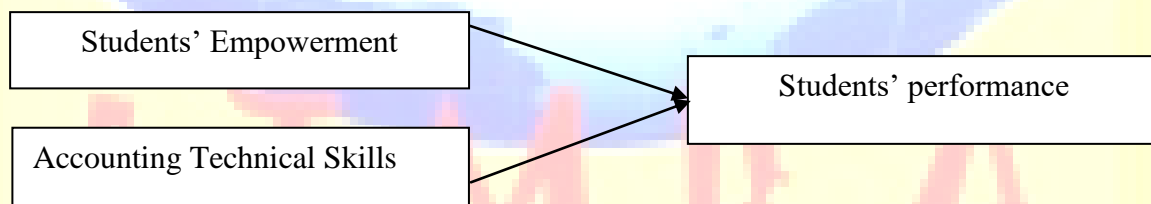
Hypotheses development

H1: - There is a significant relationship between students' empowerment and students' performance.

H2: - There is a significant relationship between accounting technical skills and students' performance.

Conceptual Framework

In this model a causal relationship is assumed between the Students' Empowerment and Accounting Technical Skills. Students' Empowerment and Accounting Technical Skills have been identified as independent variable, and Students' performance has been identified as dependent variable in the study.



(Source: Developed for the research Purpose from Theoretical Framework of the study)

Figure-1 Conceptual Framework

Operationalization of Variable

Table-1 Operationalization Of variable

Concept	Variable	Indicator	Measurement
Students' Empowerment	Academic <ul style="list-style-type: none"> • Ability • confidence • motivation 	<ul style="list-style-type: none"> • Knowledge • Skills 	Questionnaire
	Political <ul style="list-style-type: none"> • formal Power • informal power 	<ul style="list-style-type: none"> • Disciplinary board • Teaching evaluation process • University practices or policies. 	Questionnaire
	Social <ul style="list-style-type: none"> • institutional structures • policies 	<ul style="list-style-type: none"> • Cognitive skills • greater control over setting their own learning goals 	Questionnaire
Accounting Technical skills	Financial Accounting technical skills	<ul style="list-style-type: none"> • Problem Solving • Analyzing • Reporting 	Questionnaire
	Management accounting technical skills	<ul style="list-style-type: none"> • Decision Making • Management Skills • Controlling 	Questionnaire
	Auditing Skills	<ul style="list-style-type: none"> • Auditing 	Questionnaire
	Taxation Skills	<ul style="list-style-type: none"> • Taxation 	Questionnaire
Students' performance	Communication	<ul style="list-style-type: none"> • Communication Skills 	Questionnaire
	Learning Facilities	<ul style="list-style-type: none"> • Environment 	Questionnaire
	Proper Guidance	<ul style="list-style-type: none"> • Education 	Questionnaire
	Family Stress	<ul style="list-style-type: none"> • Income 	Questionnaire

(Source: Developed for the research Purpose)

Methods of Data Analysis and Evaluation.

- **Five point Likert Scale**

In this research one of the ordinal measures called “**Five Point Likert Scale**” was used. A likert scale consist of a series of evaluative statements concerning an attitude object; respondents are asked to rate the object on each statements using a five point as follows.

Levels	Scale values
Strongly Disagree	1
Disagree	2
Marginal/Neutral	3
Agree	4
Strongly Agree	5

By using this scale, it will be easy to find out which factors affect for Student’s Performance.

Based on the values indicated in the questionnaire a mean value for each question is calculated.

X_i = Mean value of variable.

$i = 1, 2, 3, 4, 5$

The value of each respondent for a variable is compared with the mean value. Therefore the decision rule can be formulated as follows.

Decision Criteria Decision Rule

- 1) $1 \leq X_i \leq 2.5$ Factors highly supportive to student’s performance.
- 2) $2.5 < X_i \leq 3.5$ Factors moderately supportive to student’s performance.
- 3) $3.5 < X_i \leq 5$ Factors low supportive to student’s performance.

Bivariate Analysis

The importance of bivariate analysis is to see whether two variables were associated. Two variables were said to be associated or related when the distribution of values on one variable differed for different values of other. Through this analysis relationship between the two variables and the degree of relationship can be deduced.

Range	Decision attributes
r=0.1to 0.29 or r= -0.10 to-0.29	Less Impact
r=0.3to 0.49 or r= -0.3 to-0.49	Moderate Impact
r=0.5to 1.0 or r= -0.5 to-1.0	High Impact
(+Sign indicate-positive impact, -Sign indicate-negative impact)	

Hypothesis Testing (Correlation Analysis)

The null hypothesis was formulated as

H0: There is no positive relationship between two given variables

The alternative hypothesis was formulated as

HA: There is positive relationship between two given variables

Decision rule

Reject H0 and Accept HA if $r > +1.96$ or $r < -1.96$ when $p < 0.05$

Where, p = level of significance

ANALYSIS

Research Information

Data on research information was recorded during the survey. The research information include Univariate andBivariate which important to achieve research objectives

Table-2 Level of Students’ Empowerment, Accounting technical skills, and Students’ Performance

	Students' Empowerment	Accounting technical skills	Students' Performance
Mean	2.71	2.66	2.56
Std. Deviation	.909	.913	1.034

The variable students' empowerment includes three dimensions which are academic, social, and political factors. According to the above table the average value of the overall students' empowerment (mean value is 2.71) indicates the moderate level of overall students' empowerment perceived by third year and final year students of Trincomalee campus, eastern university. Standard deviation is 0.91 which means how far the data spread from the mean.

The variable accounting technical skills includes four dimensions which are Financial Accounting technical skills, management accounting technical skills, taxation skills, and auditing skills. According to the above table the average value of the overall accounting technical skills (mean value is 2.66) indicates the moderate level of overall accounting technical skills perceived by third year and final year students of Trincomalee campus, eastern university. Standard deviation is 0.913 which means how far the data spread from the mean.

The variable students' performance includes four dimensions which are communication, learning facilities, proper guidance, and family stress. According to the above table the average value of the overall students' performance (mean value is 2.56) indicates the moderate level of overall students' performance perceived by third year and final year students of Trincomalee campus, eastern university. Standard deviation is 1.034 which means how far the data spread from the mean.

Table-3 Students' Empowerment, Accounting technical skills, and Students' Performance (Correlation)

		Students' Empowerment	Accounting technical skills
Students' Performance	Pearson Correlation	.670	.492
	Sig.	.000	.000

Correlation is significant at the 0.01 level (2-tailed)

Based on the above table correlation between students' empowerment and students' performance is 0.670 at 0.000 significant levels. According to the decision rule if $p < 0.05$, and $R \geq 0.5$ means two variables have a significant positive relationship. Based on the decision rule correlation greater than 0.5 ($0.670 > 0.5$) indicate significant positive relationship, therefore students' empowerment and students' performance have high positive correlation

According to the above table correlation between accounting technical skills and students' performance is 0.492 at 0.000 significant levels. According to the decision rule if $p < 0.05$, and $R \geq 0.5$ means two variables have a significant positive relationship. But accounting technical skills and students' performance have 0.492 at 0.000 significant levels therefore it is less than 0.5 and greater than 0.3 therefore there is a moderate positive relationship between accounting technical skills and students' performance.

Test Hypothesis 1

Hypotheses 1 as follows:

The students' empowerment and students' performance will have a positive relationship.

Reject H_0 , there is enough evidence to conclude that there is strong positive relationship between students' empowerment and student's performance. Correlation analysis explains a strong positive relationship between students' empowerment and students performance (correlation = 0.670, significance level = 0.000) at 99% of confidence level.

Accept H_1

Decision

There is evidence that the higher the students' empowerment will lead to higher students' performance.

Test Hypothesis 2

Hypotheses 2 as follows:

The accounting technical skill and students' performance will have a positive relationship.

Reject H_0 , there is enough evidence to conclude that there is strong positive relationship between accounting technical skill and students' performance. Correlation analysis explains a strong

positive relationship between accounting technical skill and students' performance (correlation = 0.492, significance level = 0.032) at 99% of confidence level.

Accept H1

Decision

There is evidence that the higher the accounting technical skill will lead to moderate students' performance.

DISCUSSION AND RECOMMENDATION

According to the first hypothesis correlation between students' empowerment and students' performance is 0.670 at 0.000 significant levels. Based on the decision rule correlation greater than 0.5 ($0.670 > 0.5$) indicate significant positive relationship, therefore students' empowerment and students' performance have high positive correlation.

Based on the research student' empowerment and students' performance have a strong positive relationship. This result is consistence with Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) and Zraa, W. & Imran, S. (u.d.) who report the same relationship between student' performance and student' empowerment. According to , Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S (2011) It is highly recommended that instructors or professors implement transformational leadership before empowering students because it will clarify the educational mission, goals and objectives. In addition, universities or colleges must guide their instructors or professors to clarify the responsibilities and provide a clear direction to the empowered employees. It is also important to identify the student's desire for empowerment before empowering them. Further Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011) stated that instructors or professors should learn to trust students, provide frequent feedback and make students feel recognized for their empowered behavior.

According to second hypothesis correlation between accounting technical skills and students' performance is 0.492 at 0.000 significant levels. According to the decision rule if $p < 0.05$, and $R \geq 0.5$ means two variables have a significant positive relationship. But accounting technical skills and students' performance have 0.492 at 0.000 significant levels therefore it is less than 0.5 and greater than 0.3 therefore there is a moderate positive relationship between accounting

technical skills and students' performance. Alfian, E. & Othman, M. N. (2005) identified a positive correlation of accounting subject with the final degree CGPA and it was significant at 0.01 levels. Furthermore, the cumulative GPA is the most important determinant of the students' performance in the fundamentals of financial management course Al-Tamimi, H. A. H. & Al-Shayeb, A. R. (2002).

CONCLUSION

This study is a survey of 117 third and final year under-graduate accounting students at Trincomlaee campus, Eastern University on the perception of student's empowerment and accounting technical skills. The aims of the study are to determine: 1) the significant relationships between students' empowerment, accounting technical skills and students' performance, 2) the significant impact of students' empowerment and accounting technical skills in students' performance.

REFERENCES

1. Aida, S.M.Y. & Wan, Z.W.A. (2009). Motivation in the Learning of Mathematics. *European Journal of Social Sciences*, 7(4), pp. 93-101.
2. Alfian, E. & Othman, M. N. (2005). Undergraduate Students' Performance: The Case of University of Malaya. *Quality Assurance in Education*, 13(4), pp. 329-343.
3. Al-Tamimi, H. A. H. & Al-Shayeb, A. R. (2002). Factors Affecting Student Performance in the Introductory Finance Course. *Journal of Economic & Administrative Sciences*, 18(2), pp. 1-11.
4. Ballantine, J & Larres, P (2009) 'Accounting undergraduates' perceptions of cooperative learning as a model for enhancing their interpersonal and communication skills to interface successfully with professional accountancy education and training', *Accounting Education: An International Journal*, vol. 18, no. 4-5, pp. 387-402.
5. Chaker, M. N. & Abdullah, A. (2011). What Accountancy Skills Are Acquired at College? *International Journal of Business and Social Science*, 2(18), pp. 193-199.
6. Deepe, L. A, Sonderegger, E. O, Stice, J. D, Clarck, D. C. & Streuling, G. F. (1991). Emerging Competencies for the Practice of Accountancy. *Journal of Accounting Education*, 9, pp. 257-290.

7. Fortin, A & Legault, M (2010), 'Development of generic competencies: impact of a mixed teaching approach on students' perceptions', *Accounting Education: An International Journal*, vol. 19, no. 1, pp. 93 -122.
8. Gill, A., Mand, H. S., Culpepper, A., Mathur, N. & Buthani, S. (2011). The Relations of Transformational Leadership and Empowerment with Student Perceived Academic Performance: A Study among Indian Commerce Students. *Business and Economics Journal*, 34, pp. 1-9.
9. Hancock, P, Howieson, B, Kavanagh, M, Kent, J, Tempone, I, Segal, N & Freeman, M (2009), 'The roles of some key stakeholders in the future of accounting education in Australia', *Australian Accounting Review*, vol. 19, no. 3, pp. 249-60.
10. Krejcie, R. D. and Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational Psychological Measurement*, 30, pp. 607-610.

