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Effect of Applying Case Method to Anti-Corruption Education on Learning Motivation and Learning Effectiveness

Cheng-Hsun HUANG¹, Luke H.C. HSIAO², Shin-Lin KO³

Abstract

Corruption does not simply occur in developing countries, but is often heard in developed countries. Several domestic government officials and enterprise executives involving in corruption in past years reveals that the corruption style is different from public employees with public power changing money with power in the past, and the method of operation is updating to challenge the case handling ability of prosecutors. Corruption prevention refers to developing the functions of deterrence and warning through related procedures and systems. Anti-corruption, on the other hand, induces public awareness of anti-corruption through education and promotion to have people realize the badness of corruption and appeal citizens to collaboratively strike corruption and shape the complete anti-corruption network. With experimental design model to precede the quasi-experimental study, total 202 college students in central and southern Taiwan, as the research subjects, are preceded the 16-week (3 hours per week for total 48 hours) anti-corruption education with case method. The research results show that case method would affect learning motivation, case method would affect learning effectiveness, learning motivation presents significantly positive effects on learning effect in learning effectiveness, and learning motivation reveals remarkably positive effects on positive gain in learning effectiveness. According to the results to propose suggestions, it is expected to deliver certain social value and concept to the public and that the civil society, from bottom-up, could play the role for supervision and accountability, stress on the seriousness and destruction of the negative effect of corruption on the nation and society, and further cultivate the social value to affirm integrity but despise corruption so that people genuinely anticipate integrity.

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Keywords: case method, anti-corruption education, learning motivation, learning effectiveness.

Introduction

Corruption is undoubtedly induced by human selfishness and greed that it lasts about the same period as human society. Meanwhile, it is a global problem; either democratic countries or autocratic regimes have corruption events, but merely the difference in seriousness. Why does the sick behavior still exist in the general society under distinct time and space and different social culture? Corruption behavior does not simply infringe people's benefits and affect economic boom, but also endanger the stability of state power. As a result, past dynasties presented negative attitudes towards corruption behavior and adopted series of measures for the control. Undoubtedly, corruption does not simply appear in developing countries, but is often heard in developed countries. For instance, corruption was severe in China, Philippines, and Cuba, the ex-president of South Korea, Roh Moo Hyun and Lee Myung-bak fell in the storm of corruption due to the family or trusted aides taking bribes, and the ex-president of France, Jacques Chirac, was suspected of defalcation.

Several domestic government officials and enterprise executives involving in corruption in past years reveals that the corruption style is different from public employees with public power changing money with power in the past, and the method of operation is updating to challenge the case handling ability of prosecutors. Various evaluation agencies in the world also present the occurrence of corruption behavior of domestic private sectors. It impacts national economy even more serious than traditional corruption to seriously hurt national image and international competitiveness. Meanwhile, it reflects unsuccessful promotion of anti-corruption of the government and the problems and dilemmas of ineffectiveness. Foreign trade has been the economic lifeline of a nation. Frequent international economic and trade exchanges to maintain social development and political stability require the compliance to global rules and trade practice. In this case, the problems and threats caused by corruption to social stability and security seriously destroying democratic system, value, ethics, and justice should be concerned. Corruption is the transnational phenomenon affecting all societies and economy. International cooperation combined with the support and participation of public sectors, private sectors and groups to adopt comprehensive and interdisciplinary methods for striking, preventing, and controlling corruption is necessary. In regard to anti-corruption measures to private sectors, the blind spot of governmental administration for domestic promotion of corporate anti-corruption is searched from the research. It suggests that decision makers in the government should follow the global trend of anti-corruption, combine public sectors and private sectors to establish anti-corruption partnership, and assist

enterprises in building code of ethics, strengthening corporate governance and the degree of anti-corruption of public sectors and private sectors, and accelerating the link with global anti-corruption trend. It would assist in the status of the nation in regional economic organizations, prevent the nation from being marginalized, and strengthen the development of national economy. Regarding the prevention and control of corruption, the governmental measures in various countries contain fighting corruption, preventing corruption and anti-corruption. Fighting corruption refers to restraining corruption criminals by law through sweep movement. Preventing corruption refers to developing the functions of deterrence and warning through related procedures and systems. Anti-corruption refers to inducing national awareness of anti-corruption through education and promotion to have the people realize the badness of corruption and appeal citizens collaboratively to strike corruption and shape the complete corruption prevention network. Consequently, this study tends to discuss the effect of applying case method to anti-corruption education on learning motivation and learning effectiveness. It is expected to deliver certain social value and concept to the public through anti-corruption education and that the civil society, from bottom-up, plays the roles of supervision and accountability, stresses on the seriousness and destruction of the negative effect of corruption on the nation and society, and further cultivates the value of affirming integrity and despising corruption to have the people genuinely anticipate integrity.

Literature review

Shih (2019) considered that cases were dug the problems after being authentically occurred and then interpreted and analyzed for the experience and wisdom. Touretzky *et al.* (2019) regarded cases as the statement of authentic events; such statement contained characters, plots, dilemmas, or problems in the event for analysis, discussion for making decisions, and problem solving. Xi & Hamari (2019) regarded case method as the teaching method with cases as teaching materials, combined teaching topics, and through teacher-student interaction of discussion and questioning and answering in the teaching process, allowing learners understanding concepts or theories related to the teaching topic and cultivating learners' high-level capabilities. Hakak *et al.* (2019) indicated that the process of case method stressed on students' active and positive participation to enhance learning motivation, while instructors simply played the role of guides to guide learners thinking of complicated and deep problems in cases, assist learners in answering questions, listening, and responding to challenges, encourage students' speech, as well as guide students to solve problems, assume hypotheses and eventually make conclusions. Huotari & Hamari (2017) considered that case method, aiming at specific problems in the real world, allowed students perceiving the learning correlations and meaning, through active participation, discussion, and problem solving, to effectively promote students' learning motivation. Azizana *et*

al. (2018) proposed the major characteristics of case method as having an authentic or close to authentic even as the teaching material which was able to take care of teaching topic and curriculum design, aiming to have students analyze events based on the case, apply concepts or theories in books to the thinking and discussion, and propose suitable solutions. Huang, Luo, Y.Z., & Qian (2019) claimed that learning was an essential part of situated learning theory in real world; close to authentic cases provided simulation opportunities to help people understand and deal with similar problems at work or in other situations; accordingly, close to authentic cases could enhance students' learning motivation. The following hypothesis is therefore proposed in this study.

H1: Case method would affect learning motivation.

Kim & Park (2019) explained the general learning effectiveness as various evaluations of learners after completing certain learning activity for a period of time as well as the achievement of predicted effect, i.e. learners' changes in knowledge, skills and behaviors, and attitudes after the end of teaching. Radu & Ilkka (2019) mentioned that indicators to evaluate students' learning outcome were major items to evaluate teaching quality; learning effectiveness would be affected by curriculum design, teaching method, and learning behavior; students' learning aimed to monitoring self-directed learning, reflect the learned knowledge, and learn how to learn; therefore, learning effectiveness was the direct presentation of learning outcome. Koivisto & Hamari (2019) regarded case method as a teaching method, under authentic situations and through case analysis, discussion, comprehension, and reflection, to enhance learning effectiveness. Diefenbach & Müssig (2019) indicated that case method used cases as the teaching tool, was the bridge between theory and practice, and could discuss complicated and deep meanings and controversial problems through teacher-student interaction to assist learners in developing practical knowledge and effectively achieving learning effectiveness. Neto & Costa (2021) suggested that having students use and organize knowledge to solve problems allowed students strengthening the learning effectiveness through involvement. Chua & Karpudewan (2017) also proposed that teachers would inspire students' thinking, analysis, and plan making, by guiding students to discover and solve problems, for meaningful learning. In this case, case method advocating having learners solve problems through thinking could assist in learning and presented "problem solving centered" characteristic. Ismael & Yesiltas (2020) discovered that the establishment of case method situations could build good teacher-student interaction and better enhance students' participation in teaching strategies, analysis and thinking ability, as well as motive to become "active learners". In regard to learning achievement, it could achieve the goal of mutual assistance among students, and the utilization of peer cooperation could enhance students' learning effectiveness and facilitate the interaction among students. The following hypothesis is then proposed in this study.

H2: Case method would affect learning effectiveness.

Deng *et al.* (2017) considered that learning motivation, as the inner belief, could guide individual learning goal, induce learning behavior and continuous efforts, reinforce cognition process, and strengthen and improve learning results. Anjomshoa & Zamanian (2014) regarded learning motivation as the psychological process to induce students' learning interests and continuous learning activity and have learners approach learning goals. Prasadini *et al.* (2018) discussed senior high school students' English learning motivation and discovered that favor to English was not the motivation for students learning English, but mainly because of some practical goals, such as entering good universities. The research also indicated that students with positive learning motivation presented better performance on English learning, were glad to learn, and would continuously learn English in the future; apparently, learning motivation could enhance learning effectiveness. Estevez *et al.* (2019) found out the positive effect of students' learning motivation on the learning effectiveness. Lasanthi *et al.* (2018) mentioned that students with high learning motivation had definite goals and strong desire to learn the learning content well, showed higher expectation of results, and presented better self-efficacy; accordingly, students with high learning motivation revealed better learning effectiveness. Muljo, Perbanga, & Pardamean (2019) discovered that domestic college students' English learning motivation was affected by course contents and teachers; in other words, students' extrinsic motivation was generally higher than the intrinsic motivation, and students with strong intrinsic motivation presented higher learning will and learning effectiveness. Owan, Ekpe, & Eneje (2020) found out good teaching effect of situated learning, which was suitable for different gender; teaching with situated learning revealed large effects on "attribution of effort" in learning motivation and could affect learning motivation to further affect learning effectiveness. It revealed that the situated learning strategy was better than non-situated learning. The following hypotheses are further proposed in this study.

H3: Learning motivation presents significantly positive effects on learning effect in learning effectiveness.

H4: Learning motivation reveals remarkably positive effects on positive gain in learning effectiveness.

Methodology

Measurement of research variable

Learning motivation: Referring to Wang (2019), students' learning motivation contain two dimensions is this study.

- 1) *Intrinsic orientation:* including favor to challenging courses, regarding learning being able to expand the horizon, being able to actively learn new

- courses, and learning for developing self-potential and fulfilling the ideal.
- 2) *Extrinsic orientation*: containing learning for receiving others' affirmation, acquiring better performance, passing examinations or evaluations, showing off to others, competing with classmates, being appreciated by and attracting the elder or the opposite gender, not being punished and scolded, preventing from the shame of fail, and entering ideal schools in the future.

Learning effectiveness: Referring to Tsai & Tsai (2019), learning effectiveness covers two dimensions in this study.

- 1) *Learning effect* - including test performance, time for completing schedule, and term performance.
- 2) *Positive gain* - containing learning satisfaction, achievement, and preference.

Research object and sampling data

Applying experimental design model to the quasi-experimental study, total 202 college students in central and southern Taiwan are preceded the 16-week (3 hours per week for total 48 hours) anti-corruption education with case method. The collected questionnaire data are analyzed with SPSS, and factor analysis, reliability analysis, regression analysis, and analysis of variance are utilized for testing various hypotheses.

Analysis method

Analysis of variance is used in this study for discussing the difference of case method in learning motivation and learning effectiveness, and regression analysis is further applied to understand the relationship between learning motivation and learning effectiveness.

Results

Reliability and validity analysis

Learning motivation, with factor analysis, is extracted 2 factors of "intrinsic orientation" (eigenvalue=2.162, $\alpha=0.83$) and "extrinsic orientation" (eigenvalue=2.571, $\alpha=0.89$). The cumulative covariance explained reaches 76.491%. With factor analysis, learning effectiveness is extracted 2 factors of "learning effect" (eigenvalue=3.274, $\alpha=0.93$) and "positive gain" (eigenvalue=2.387, $\alpha=0.91$). The cumulative covariance explained achieves 79.266%.

Effects of learning styles on learning motivation and learning effectiveness

Variance analysis of learning styles on learning motivation: Analysis of variance is applied in this study to discuss the difference of learning styles in learning motivation, i.e. analysis and explanation of case method and general traditional learning. From *Table 1*, case method shows higher intrinsic orientation and extrinsic orientation in learning motivation than general traditional learning that H1 is supported.

Table 1. Variance analysis of case method on learning motivation

variable		F	P	Scheffe post hoc
case method	intrinsic orientation	26.183	0.000**	case method > general traditional learning
	extrinsic orientation	19.275	0.000**	case method > general traditional learning

Note: * stands for $p < 0.05$, ** for $p < 0.01$.

Variance analysis of learning styles on learning effectiveness: Using analysis of variance for discussing the difference of learning styles in learning effectiveness, case method and general traditional learning are analyzed and explained. From *Table 2*, case method appears higher learning effect and positive gain in learning effectiveness than general traditional learning that H2 is supported.

Table 2. Variance analysis of case method on learning effectiveness

variable		F	P	Scheffe post hoc
case method	learning effect	21.374	0.000**	case method > general traditional learning
	positive gain	35.927	0.000**	case method > general traditional learning

Note: * stands for $p < 0.05$, ** for $p < 0.01$.

Correlations analysis of learning motivation and learning effectiveness

Correlation analysis of learning motivation and learning effect: To test H3, the analysis result, *Table 4*, shows significant effects of intrinsic orientation ($\beta=2.122^{**}$) and extrinsic orientation ($\beta=2.392^{**}$) on learning effect that H3 is supported.

Correlation analysis of learning motivation and positive gain: To test H4, the analysis result, *Table 4* reveals remarkable effects of intrinsic orientation

($\beta=2.463^{**}$) and extrinsic orientation ($\beta=2.251^{**}$) on positive gain that H4 is supported.

Table 3. Analysis of learning motivation and learning effectiveness

Dependent variable→	learning effectiveness			
Independent variable↓	learning effect		positive gain	
learning motivation	β	P	β	P
intrinsic orientation	2.122**	0.000	2.463**	0.000
extrinsic orientation	2.392**	0.000	2.251**	0.000
F	33.637		38.155	
significance	0.000***		0.000***	
R2	0.289		0.342	
Adjusted R2	0.273		0.317	

Note: * stands for $p<0.05$, ** for $p<0.01$.

Data source: self-organized in this study

Discussion

When applying case method to anti-corruption education, the teachers too soon make conclusion on anti-corruption issues that most students are influenced, by teachers' conclusion, the attitudes toward anti-corruption. Teachers should provide sufficient discussion for students; without being affected by teachers' conclusions, students' personal opinions and ideas could be better understood. Moreover, students are used to "listen" in classes, but seldom have the opportunities to state personal opinions. For this reason, teachers should openly allow students expressing the perspectives without pressure. For teachers, anti-corruption education is integrated into the subject teaching and is hard to be preceded with an entire session; teachers therefore have to concern about anti-corruption education issues for applying to the teaching in the professional field. Anti-corruption education does not focus on teachers' knowledge delivery, but is preceded through dialogue, question and answer, and discussion between teachers and students. However, sufficient time for discussion is the key in such a method. Establishing the curriculum in the multiple optional curricula in senior high schools could provide students with more time for thinking relevant issue, without affecting the subject curriculum. Besides, schools should encourage teachers innovate the teaching to enhance students' learning

interaction, achievement, and motivation as well as change the learning strategies so that students do not study for examinations. Moreover, schools should provide more assistance for teachers with innovative teaching; in other words, schools should get rid of traditional concept of curriculum management, provide teachers with proper space and conditions and allow teachers with curriculum autonomy to develop the characteristics of “school-based curriculum”.

Conclusion

The statistical analysis in this study shows that the practice of case method in anti-corruption education presents notable effects on students’ learning motivation and learning effectiveness; that is, teachers manipulating case method in anti-corruption education could help students enhance learning motivation and learning effectiveness. Apparently, most students show positive attitudes toward video-playing in teaching, but consider that the match with text articles in anti-corruption education could reinforce students’ learning will and learning effect and reinforce learning effectiveness. Anti-corruption education does not stress on cognitive comprehension, but expects the reflection on the core value of anti-corruption education in the discussions between teachers and students or among students. For this reason, pure didactic teaching is not suitable, but teachers should leave more time to induce students thinking and reflecting the anti-corruption education concept through discussions. Most students study with traditional methods and treat evaluation with traditional concepts. The application of case method to anti-corruption education is different from traditional teaching. Administrative departments of schools should allow teachers using the strategy for replacing single paper-based tests with multiple evaluations. Some teaching methods not being changed is originated from the stereotype of evaluation. General teaching stresses on paper-based tests; in fact, reports, performance, and exhibitions could activate teaching and memory, deepen the clarification and establishment of concepts, and enhance learning effect. The evaluation body, in addition to teachers, could include students’ mutual evaluation and self-evaluation to enhance the diversity and fairness of evaluation as well as to cultivate students’ responsible attitudes for the learning.

Recommendations

Aiming at above research results, the following suggestions are proposed in this study.

- 1) Teachers should pay attention to the selection of materials. General legal issues are distant from students’ actual life experience to have students lose learning interests and learning motivation and to become dull. As a result, teachers should select cases with popular and sensational topics and

- taking care of learning quality as the teaching materials for anti-corruption education.
- 2) Discussion is the main activity of case method that teachers should pay attention to the discussion quality, during team activity or class activity, to avoid chatting and being not specific. Moreover, the teaching strategy requires students' discussion capability that teachers should be skillful to guide discussions and control the class discussion climate. As a consequence, teachers should take care of the conditions before the practice of case method.
 - 3) Case method requires students actively searching data for organization and constructing knowledge on their own. Students therefore have to massively collect data. Nevertheless, most students collect data through the Internet; teachers therefore have to pay attention to the differences in computer capability and computer use resources.
 - 4) When applying case method to anti-corruption education, teachers have to pay attention to students' application of learning strategies. Students' learning strategies could be learned through direct training, which is regarded as the most common method. It could be practiced by integrating into subject teaching to change the original attribution and belief of students. That is, teachers could directly teach and guide students to learn more effective learning strategies. Consequently, each teacher should pay attention to integrating proper learning strategies into subject teaching.

References

- Azizana, M.T., Mellonb N., Ramli, R.M., Yusup, S. (2018). Improving teamwork skills and enhancing deep learning via development of board game using cooperative learning method in Reaction Engineering course. *Education for Chemical Engineers*, 22, 1-13. DOI: 10.1016/j.ece.2017.10.002.
- Chua, K. E., Karpudewan, M. (2017). The role of motivation and perceptions about science laboratory environment on lower secondary students' attitude towards science. *Asia-Pacific Forum on Science Learning and Teaching*, 18(2), 8.
- Deng, F., Chai, C. S., So, H. J., Qian, Y., & Chen, L. (2017). Examining the validity of the technological pedagogical content knowledge (TPACK) framework for preservice chemistry teachers. *Australasian Journal of Educational Technology*, 33, 1-14. DOI: 10.14742/ajet.3508.
- Diefenbach, S., & Müssig, A. (2019). Counterproductive effects of gamification: An analysis on the example of the gamified task manager Habitica. *International Journal of Human-Computer Studies*, 127, 190-210. DOI:10.1016/j.ijhcs.2018.09.004.
- Estevez, J., Garate, G., Guede, J.M., & Graña, M. (2019). Using Scratch to Teach Undergraduate Students' Skills on Artificial Intelligence. *arXiv preprint arXiv:1904.00296*. DOI: 10.31235/osf.io/x24m6.
- Hakak, S., Noor, N.F.M., Ayub, M.N., Affal, H., Hussin, N., & Imran, M. (2019). Cloud-assisted gamification for education and learning—Recent advances and

- challenges. *Computers & Electrical Engineering*, 74, 22-34. DOI: 10.1016/j.compeleceng.2019.01.002.
- Huang, G., Luo, Y.Z., & Qian, Z.W. (2019). Critical Factors in the Application of Artificial Intelligence to Establish Health Care Systems for Seniors. *Revista de Cercetare si Interventie Sociala*, 65, 51-59. DOI: <https://doi.org/10.33788/rcis.65.4>.
- Huotari, K., & Hamari, J. (2017). A definition for gamification: anchoring gamification in the service marketing literature. *Electronic Markets*, 27(1), 21-31. DOI: 10.1007/s12525-015-0212-z.
- Ismael, F., & Yesiltas, M. (2020). Sustainability of CSR on Organizational Citizenship Behavior, Work Engagement and Job Satisfaction: Evidence from Iraq. *Revista de Cercetare si Interventie Sociala*, 71, 212-249, DOI: 10.33788/rcis.71.15
- Kim, W.J., & Park, J.H. (2019). The effects of debate-based ethics education on the moral sensitivity and judgment of nursing students: A quasi-experimental study. *Nurse Education Today*, 83(2), 104200. DOI: 10.1016/j.nedt.2019.08.018.
- Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, 45, 191-210. DOI: 10.1016/j.ijinfomgt.2018.10.013.
- Lasanthi, P., Junainah, A., Hamid, A.K., & Ferdous Azam, S.M. (2018). The impact of scientific epistemological beliefs of Srilankan senior secondary students on their approaches to learning science: A structural education modeling analysis. *Asian Journal of Contemporary Education*, 2(2), 60-69. DOI: 10.18488/journal.137.2018.22.60.69.
- Muljo, H.H., Perbangsa, A.S., & Pardamean, B. (2019). Assessment of online learning application for health education. *International Journal of Online and Biomedical Engineering*, 15(12), 69-77. DOI: 10.3991/ijoe.v15i12.11157.
- Neto, O. S., & da Costa, D. A. (2021). Roberto Mange: An Expert of Industrial Education. *Pedagogical Research*, 6(1), em0089. DOI:10.29333/pr/9357.
- Owan, V.J., Ekpe, M.B., & Eneje, S. (2020). Undergraduates' Utilization of Social Networking Media and Sexual Behaviours in Higher Education: A Case Study. *Pedagogical Research*, 5(2), em0062. DOI: 10.29333/pr/7940.
- Prasadini, L., Hamid, A.J., Khatibi, A., & Azam, S.M. (2018). The Impact of Scientific Epistemological Beliefs of Srilankan Senior Secondary Students on Their Approaches to Learning Science: A Structural Equation Modelling. *Asian Journal of Contemporary Education*, 2(2), 60-69. DOI: 10.18488/journal.137.2018.22.60.69.
- Radu, M. & Ilkka, J.(2019). Machine Learning for High School Students. *Proceedings of the 19th Koli Calling International Conference on Computing Education Research*, 10, 1-9. DOI: 10.1145/3364510.3364520.
- Shih, W.C. (2019). Integrating Computational Thinking into the Process of Learning Artificial Intelligence. *Proceedings of the 2019 3rd International Conference on Education and Multimedia Technology* (pp. 364-368). DOI: 10.1145/3345120.3345134.
- Touretzky, D., Gardner-McCune, C., Martin, F., & Seehorn, D. (2019). Envisioning AI for K-12: What Should Every Child Know about AI?. *Proceedings of the AAAI Conference on Artificial Intelligence*, 33, 9795-9799). DOI: 10.1609/aaai.v33i01.33019795.

- Tsai, P.S., & Tsai, C.C. (2019). Preservice teachers' conceptions of teaching using mobile devices and the quality of technology integration in lesson plans. *British Journal of Educational Technology*, 50(2), 614-625. DOI: 10.1111/bjet.12613.
- Wang, C.J. (2019). Facilitating the emotional intelligence development of students: Use of technological pedagogical content knowledge (TPACK). *Journal of Hospitality, Leisure, Sport & Tourism Education*, 25, 100198. DOI: 10.1016/j.jhlste.2019.100198.
- Xi, N., & Hamari, J. (2019). Does gamification satisfy needs? A study on the relationship between gamification features and intrinsic need satisfaction. *International Journal of Information Management*, 46, 210-221. DOI: 10.1016/j.ijinfomgt.2018.12.002.