

The Effectiveness of Innovative Teaching and Learning Process in Outdoor Coaching.

Tan Chee Hian, Ling Sen Kian, Juliana Johan John, Angelina Tan Li San, Cynthia Anne Cornelius, Tiew Kee Aun

Department of Sport Science, Faculty of Applied Sciences, Tarumt

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ABSTRACT

This study was mainly venture into effectiveness of innovative coaching methods in the process of teaching and learning (T & L) Outdoor coaching course. Total of 22 males and 8 female students involved voluntarily. Varied technique skills such as – Circuit method; Part-part – Whole and Whole – Part Whole methods were performed in duration of 14 weeks. The respondents were undergone T & L process on these varied techniques hands-on practice for 3 hourly per session and per week. The final result showed descriptively all respondents were satisfied with the methods used by course's instructor with mean score above mean score 4 out of 5 Likert scale for every single techniques skill and overall satisfaction level of respondents toward these methods showed statistically: General satisfaction, benefit gained, practical approaches, treatment to students, skills acquisitions, think and learn, personal skill, teamwork and effectiveness of instruction with mean score of 3.95, 4.08, 4.09, 4.13, 4.2, 4.07, 4.1, 3.94, & 4.1 respectively. Perhaps, the effectiveness of T & L which was used by the course's instructor with highly mean score of 4.1 which concluded all respondents satisfied with methods. Thus, the hypothesis 4 rejected the null elsewhere, H1, H2, H3, H5 and H6 showed results of no significant differences mean score in differences and correlation between 9 dimensions with respondents' satisfaction liked: 198, .496, .310, .201, .833, 1.027, .398, .955, 1.011, & .242 as well as .015, .152, .002, 3.163, .528, .040, .115, .847, .321, & .781 with significance level larger than .05 and thus, $r = .184, .096, .110, .018, .010, .166, .050, .134$ & $.031$ and $r = .107, .824, .064, .155, .050, .159$ & $.0126$ larger than 0.05 level (Failed to reject H_0) respectively. In addition, this study showed high reliability of dimensions but respondents were not showed appreciative when summative results concerned. Therefore, this study resulted justified even though the innovative T & L method was relevance and appropriate for outdoor coaching course and this fulfilment of the outcome-based education (OBE) perspective but did not support the hypotheses set in this study at all. Moreover, this study did not vital for generalization purposes.

Keywords: Outdoor Coaching, Satisfactory level, Effectiveness, Teaching and Learning Process, Outcome Based (OBE)

INTRODUCTION

Research in Educational domain has shown that the nature of students motivational as well as their satisfaction towards either their tertiary study's environment or the effectiveness of their higher educational institution's academic stuffs in delivery knowledge, skills and attitude and vice versa (KSA, 2011) concerned. It is fundamentally important in determining well-being, persistence, and achievement-related outcomes (e. g. high grades and attainment) (Black & Deci, 2000).

Innovative in coaching are the latest trend and updating version of technique in the process of teaching and learning in order to keep students' attention and in improvising feedback from students especially in the counted total learning time of students for one session. Anthropometrics of respondents as well as the flow of thoughts occur either in classroom settings, as well as outdoors. Contrary to popular belief, experiential is not merely learning by doing rather the key is to guide learning of the theory or the understanding that follow the experience (Green. S., & Palmer.S.2018)

All varieties of outdoor from authentic class rooms with physical activities (basketball, volleyball, handball, football, futsal, strength training and athletic) are based on coaching principles and to be even hands on practices

with more interaction within all students in the method used as far as innovative teaching – learning process took part and therefore, investigating the satisfaction level of students should be prioritized and in dept to look into correlation with the students' achievement either academic results or their physically attainment before and after the process of planned 14 weeks duration that occur in all higher educational institutions nationwide (Higher Education in Malaysia, 2024).

Theory Based

Outcome-based education (OBE) is an educational theory that bases each part of an educational system around goals (outcomes). By the end of the educational experience, each student should have achieved the goal. OBE means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences (Spady, William G, 1994).

It seeks to engage students through meaningful activities that will result in learning. Its students - centred approach emphasizes that students' social and physical environment are important to students learning, and that physical activity is an important component of education.

Process Of Teaching and Learning

Structured and systematic methods designed prior to exposure to the hands on varies technique: basketball, volleyball, takraw, futsal, badminton, strength training and athletics. The manual is compatible with texts emphasize on techniques and exercises may be completed within two hours outdoor session for 14 weeks (Gunstream, S.F. 1986; Jensen, C.R & Guthrie, S.P. 2006).

The number of pedagogical features to enhance student learning:

1. Each exercise begins with objective that outlined the structured learning responsibilities of the students – Part – Part – Whole and /or Whole – Part – Whole techniques performed in the process of learning.
2. Numerous illustrations facilitate the students' understanding the procedures – Circuit minimal 8 stations.

Where else, the formatively evaluation which, involvement rubric and questionnaire distributed as well as instructor's observation, peer evaluation among respondents throughout the class at the end of the course.

The Flow of the Conducted Course

Outdoor in the study was conducted with 2 hours in a role for a week and continuous 14 weeks which were equal to 42 hours throughout the whole course. This appearance of course is appropriately in using the innovative methods in conducting the process of teaching and learning (Hence, T & L). Coaching activities here involved varies activity and these activities were running in outdoor spaces all students would hands – on for handling the processes and practice and concurrently, environmental safety was applying in the open scales.

RESULTS

In this survey with title: The Effectiveness of Innovative Teaching and Learning Process on Outdoor Coaching” and it was divided into descriptive and inferential statistical results in order to determine the efficiencies of teaching and learning perceived satisfaction level side of respondents.

Tables 1 to 1.12 below were showing demographics of respondents for this study with the interpretation of it respectively.

Demographical Results

Table 1.1. Academic Level of Respondents (n = 30)

Academic Level	Frequency (Freq)	Percent (%)
Diploma	30	100

All are diploma students (DSE) from TAR UMT 2024202405 sessions.

Table 1.2. Gender of Respondents (n = 30)		
Gender	Frequency (Freq)	Percent (%)
Male	22	73.3
Female	8	26.7
Total	30	100

Male students much more than females with the 73% and 8% respectively. This could be the take mode.

Table 1.3. Race of Respondents (n = 30)		
Race	Frequency	Percent (%)
Malay	3	10
Chinese	27	90
Total	30	100

Mostly TAR UMT students are from Malaysia Chinese community and Malay students only consisted about 10% even though this University is open to all race nationwide

Sport	Frequency (Freq)	Percent (%)
Badminton	6	20
Basketball	10	33.3
Body Building	1	3.3
Football	1	3.3
Gymnastic	1	3.3
Long Distance	2	6.7
Swimming	3	10
Table Tennis	2	6.7
Taekwondo	1	3.3
Track and Field	1	3.3
Volleyball	2	6.7
Total	30	100

From the table showed that most of students liked basketball and they are basketballer before entered the University (33.3%) followed by Badminton with 20% of them and the rest liked: Swimmers, table tennis and long-distance runners with 6.7 respectively.

Table 1.5. Years of Experience (n = 30)		
Years of Experience	Frequency (Freq)	Percent (%)
1 – 5 years	11	36.7
6 – 10 years	8	26.7

11 – 15 years	11	36.7
Total	30	100

This group of students with 1 to 5 years and as well as 11 to 15 years of experiences in their game / sport with highest percentage (36.6% each group) make this course easy to teach or other word, they are full with experiences beforehand and this make the practical session fluency per se.

Table 1.6. Languages Used in Training (n = 30)		
Language	Frequency (Freq)	Percent (%)
English	7	23.3
Mixed	23	76.7
Total	30	100

From this table showed that their formal coaches were using mix languages (English and Malay or even Mandarin) in the process of training which stated 76.6% out of 30 students.

Table 1.7. Knowledge in Sport Science (n = 30)		
Knowledge in Sport Science	Frequency (Freq)	Percent (%)
Yes	30	100

100 percent of them had knowledge in Sport Science because they are not first semester's students.

Table 1.8. Body Weight Before the Training Session (n = 30)		
Score / Marks	Frequency (Freq)	Percent (%)
48	1	3.3
50	1	3.3
56	3	10
57	1	3.3
58	2	6.7
59	1	3.3
60	3	10
62	1	3.3
63	1	3.3
64	1	3.3
66	2	6.7
67	1	3.3
71	4	13.3
74	1	3.3
76	1	3.3

77	3	10
79	2	6.7
98	1	3.3
Total	30	100

10 percent of them were weight 60Kg and 77 Kg (10%) before the coaching class started and highest weight was 98Kg (Obesity) and the lowest was 48Kg (Skinny) and the rest were average to overweight whenever they are 71Kg and above.

Table 1.9. Body Weight After the Training Session (n = 30)		
Score / Marks	Frequency (Freq)	Percent (%)
48	1	3.3
49	1	3.3
54	2	6.7
55	1	3.3
58	2	6.7
59	2	6.7
60	1	3.3
63	2	6.7
64	1	3.3
66	2	6.7
67	1	3.3
68	1	3.3
69	4	13.3
71	1	3.3
72	1	3.3
75	3	10
77	1	3.3
80	1	3.3
91	1	3.3
Total	30	100

Overall, the heaviest weight came down to 91Kg instead of 98 Kg before the class (Still obesity). Only 5 students were 69Kg and 3 students were 75Kg at the end of 14 weeks of coaching class.

Table 1.10. Exam Scores (Marks) Before Attending the Class (n = 30)		
Score / Marks	Frequency (Freq)	Percent (%)
15	1	3.3

30	1	3.3
35	1	3.3
38	1	3.3
43	1	3.3
50	7	23.3
55	2	6.7
56	3	10
57	1	3.3
58	1	3.3
59	1	3.3
60	3	10
62	1	3.3
63	2	6.7
66	1	3.3
68	1	3.3
69	2	6.7
Total	30	100

Pre- test or test given before the actual lecture conducted and distributing marks are from lowest 15 marks (fail) and the highest score was 69 marks with 2 of them or 6.7% only. 50 marks or cutting passing marks were 7 or 23.3% out of total 30 students in this class.

Table 1.11. Exam Scores (Marks) After Attending the Class (n = 30)

Score / Marks	Frequency (Freq)	Percent (%)
32	1	3.3
41	2	6.7
42	1	3.3
50	4	13.3
55	1	3.3
56	1	3.3
57	2	6.7
59	1	3.3
61	1	3.3
62	2	6.7
64	3	10

65	1	3.3
67	1	3.3
68	1	3.3
70	2	6.7
71	2	6.7
72	1	3.3
74	2	6.7
79	1	3.3
Total	30	100

Mid- term test which could see the lowest score also improved from 15 marks to 32 marks and highest score up to 79 marks instead of 69 marks before it. It showed improvement with the upgrading in their score or marks gained.

Table 1.12. Final Exam (Marks) Scores (n = 30)

Score / Marks	Frequency (Freq)	Percent (%)
55	1	3.3
60	2	6.7
65	1	3.3
68	3	10
70	9	30
75	4	13.3
78	3	10
80	1	3.3
81	1	3.3
83	4	13.3
88	1	3.3
Total	30	100

Final examination showed huge improvement overall score or marks obtained by these students which the highest mark up to 88 or A grade concerned. The lowest score also 55 marks comparatively with achievement of pre - test and mid test and this is posting test result after 14 weeks of lecture and practical mode.

Moreover, there was official assessment or evaluation by all students and results were quite impressive liked: Domain of Knowledge Acquired (cognitive Domain) from this course, Skill (Psychomotor Domain) developed from the practical and Achievement of course learning outcome (OBE) was at the 8.25 point upon 10 (full score) respectively – retrieved from Official Academic Website of TAR UMT (Nov, 2024).

INFERENCE STATISTIC RESULTS

There were 6 hypotheses constructed to test on overall perceived satisfaction with the teaching techniques

performed for 14 weeks' time and tested either any differences on the satisfaction among gender, sport experiences, languages used in the class, body weight and summative tests.

Table 2. Correlation between IV and DV of the study

Correlations											
		Mean of students' general satisfaction	Mean of students' benefit gained	Mean of practical approach by coaches among perception of participants	Mean of perceived treatment to students	Mean perceived on skill acquisition of Communication among coaches by participants	Mean of thinking and learning gained among participants	Mean of personal skills learned among participants	Mean of teamwork showed by coaches	Mean of Effectiveness showed by instructor/coaches	Mean of 3 tests among participants
Mean of students' general satisfaction	Pearson Correlation	1	.748**	.797**	.773**	.721**	.662**	.697**	.547**	.707**	.184
	Sig. (2-tailed)		< .001	< .001	< .001	< .001	< .001	< .001	.002	< .001	.331
	N	30	30	30	30	30	30	30	30	30	30
Mean of students' benefit gained	Pearson Correlation	.748**	1	.560**	.681**	.619**	.447**	.386**	.336	.544**	.310
	Sig. (2-tailed)	< .001		.001	< .001	< .001	.013	.035	.069	.002	.096
	N	30	30	30	30	30	30	30	30	30	30
Mean of practical approach by coaches among perception of participants	Pearson Correlation	.797**	.560**	1	.824**	.640**	.555**	.704**	.552**	.846**	.110
	Sig. (2-tailed)	< .001	.001		< .001	< .001	.001	< .001	.002	< .001	.562
	N	30	30	30	30	30	30	30	30	30	30
Mean of perceived treatment to students	Pearson Correlation	.773**	.681**	.824**	1	.742**	.578**	.726**	.676**	.860**	.018
	Sig. (2-tailed)	< .001	< .001	< .001		< .001	< .001	< .001	< .001	< .001	.927
	N	30	30	30	30	30	30	30	30	30	30
Mean perceived on skill acquisition of Communication among coaches by participants	Pearson Correlation	.721**	.619**	.640**	.742**	1	.584**	.654**	.591**	.630**	.010
	Sig. (2-tailed)	< .001	< .001	< .001	< .001		< .001	< .001	< .001	< .001	.980
	N	30	30	30	30	30	30	30	30	30	30
Mean of thinking and learning gained among participants	Pearson Correlation	.662**	.447**	.555**	.578**	.584**	1	.718**	.612**	.674**	.166
	Sig. (2-tailed)	< .001	.013	.001	< .001	< .001		< .001	< .001	< .001	.380
	N	30	30	30	30	30	30	30	30	30	30
Mean of personal skills learned among participants	Pearson Correlation	.697**	.386**	.704**	.726**	.718**	.718**	1	.793**	.737**	-.050
	Sig. (2-tailed)	< .001	.035	< .001	< .001	< .001	< .001		< .001	< .001	.794
	N	30	30	30	30	30	30	30	30	30	30
Mean of teamwork showed by coaches	Pearson Correlation	.547**	.336	.552**	.676**	.591**	.612**	.793**	1	.797**	-.134
	Sig. (2-tailed)	.002	.069	.002	< .001	< .001	< .001	< .001		< .001	.492
	N	30	30	30	30	30	30	30	30	30	30
Mean of Effectiveness showed by instructor/coaches	Pearson Correlation	.707**	.544**	.846**	.860**	.630**	.674**	.737**	.797**	1	.031
	Sig. (2-tailed)	< .001	.002	< .001	< .001	< .001	< .001	< .001	< .001		.872
	N	30	30	30	30	30	30	30	30	30	30
Mean of 3 tests among participants	Pearson Correlation	.184	.310	.110	.018	.010	.166	-.050	-.134	.031	1
	Sig. (2-tailed)	.331	.096	.562	.927	.980	.380	.794	.492	.872	
	N	30	30	30	30	30	30	30	30	30	30
Mean weight before and after the session among participants	Pearson Correlation	-.107	.026	.026	.064	-.155	-.021	.058	-.159	-.026	.058
	Sig. (2-tailed)	.573	.894	.893	.739	.414	.914	.794	.402	.891	
	N	30	30	30	30	30	30	30	30	30	30

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

* Correlation is significant at the 0.05 level (2-tailed).

H1: there is no significance differences in mean score of students' satisfactions with their past experiences in sports.

The F values as showed the readings of .198., .496., .310., .201., .833., 1.027., .398., .955., 1.011., and .242 with significance level above .05, which means failed to reject H1. Thus, past sport experiences factor did not make any differences on perceived satisfaction in this course that conducted.

H2: there is no significance differences in mean score of students' satisfactions with language used in the process of teaching and learning.

Table resulted that with the F values of .015., .152., .002., 3.163., .528., .040., .115., .847., .321., & .781 with larger than 0.05 on the level of significance stated. It means that languages used in the process T & L or among students did not show any significance differences on their satisfaction throughout 14 weeks of practical sessions.

H3: there is no significance differences in mean score of students' satisfactions with their body weight.

With the F values of 1.973, .579., .172., 1.363., .804., 1.202., 726., 1.102., .788., & .946 with larger than 0.05 level of significance. Thus, concluded that students' body weight either gained or lose in the process or among students did not show any significance differences with their satisfaction level at the end of the process in this study.

H4: there is no significance differences in mean score of students' satisfactions with their examination scores.

There were 9 dimensions of perceived satisfaction which, are primary data collected from diploma students whom attended the innovative teaching and learning technique used by their lecturer for 14 weeks showed failed to reject H5 excepted students' perceived skills of communication and teamwork showed among coaches with F = 2.124, and F = 2.923 which with significance less than 0.05.

Hence, there was significance perceived satisfaction among male and female diploma students toward skill acquisition of communication and teamwork among coaches which means skill acquisition and communication were played vital role among these diploma students as far as innovative teaching and learning process was concerned.

H5: there is no significance correlation between students' satisfaction and their 3 tests' score.

Pearson correlation performed on all 9 dimensions of students' satisfaction toward their test results showed that there was no significance correlated between test results and their satisfaction along the 14 weeks with $r = .184, .096, .110, .018, .010, .166, .050, .134$ & $.031$ and significance level larger than 0.05 which means there was no relationship between students' satisfaction and academic achievement or test in this study.

H6: there is no significance correlation between students' satisfaction with their body weight after the process.

Pearson correlation performed on all dimensions of students' satisfaction factors toward their body weight at the end of the course, readings showed that there was no significance relationship between body weight results and their satisfaction level along the 14 weeks with $r = .107, .824, .026, .064, .155, .021, .050, .159$ & $.0126$ respectively and significance level was larger than 0.05 which means that there was not correlated between students' satisfaction and their body weight before or even after the process at the end of semester.

Significance Of The Study

This study finding was contributing to practice aspect especially in delivering knowledge and coaches' innovative techniques in Outdoor coaching course, this exploration study was highly recommended for the 14 weeks duration of study especially sports science course concerned.

Teaching and learning process highly involved two ways interaction and multiple ways of communication as well as practices with hands-on practices by the respondents which this could be much interesting and much effective techniques to implement for Higher Educational Institutions' students (HEIs).

Upon the above contribution, this study was contributing to the test and measurement, the body of knowledge was taken part in such a way that the evaluation process was happening from the course participants of particular private HEIs' respondents toward the capabilities and abilities of their instructor and also on how effective and efficiency of the course's instructor to handle the process of innovative teaching and learning in long term.

Implication Of the Study

The results of this study showed that the implementation of innovative teaching and learning in Outdoor coaching course was considered relevance and highly effective in gaining knowledge, skills and attitude as well as showing highly satisfaction that all students perceived and learnt whatever supposedly to learn and this was fulfilment of the emphasizing outcome-based education (OBE) overall found at the end of each lesson or the whole course in 14 weeks. However, this study did not intend to generalization of the young learners like Higher Educational Institution or general public as well.

REFERENCES

1. Black, A. E., & Deci, E. L. (2000). The effects of student self-regulation and instructor autonomy support on learning in a college-level natural science course: a self-determination theory perspective. *Science Education*, 84, 740e756
2. Bompa, T.O., & Gregory H, G. (2009). *Periodization - theory & methodology of training*. (5th edit). USA, Human Kinetic.
3. Cheok, C.K. (2024), "Higher Education in Malaysia", Pe Symaco, L. (Ed.) *Higher Education in Southeast Asia (International Perspectives on Education and Society, Vol. 49)*, Emerald Publishing Limited, Leeds, pp. 49-65. <https://doi.org/10.1108/S1479-367920240000049005>
4. Corbin, C.B., & Lindsey, R. (1988). *Concepts of physical fitness with laboratories*. (6th edit). Dubuque,

Iowa. WM.C Brown Publishers.

5. Egger, G., & Champion, N. (1993). *The fitness leader's handbook*. (3rd edit). Australia, Kangaroo Press.
6. Green. S., & Palmer.S.(2018). *Positive Psychology in Practice* (1st edit) Routledge. EbookISBN978131571669
7. Liesbeth K.J. Baartman, Elly de Bruijn. (2011). Integrating knowledge, skills and attitudes: Conceptualising learning processes towards vocational competence. *Educational Research Review* Volume 6, Issue 2, 2011, Pages 125-134<https://doi.org/10.1016/j.edurev.2011.03.001>
8. McNarama.M.C., Harmon, D.C., & Saunders, J (2013). Effect of education on knowledge, skills and attitudes around pain. *British Journal of Nursing*. Vol. 21, No. 16. Published Online:16 Aug 2013<https://doi.org/10.12968/bjon.2012.21.16.958>
9. Moran, G.T., & McGlynn, G. (2001). *Dynamics of strength training and conditioning*. (3rd edit). NY, America. McGraw Hill.
10. Spada, W. G (1994). *Outcome-Based Education: Critical Issues and Answers*. American Association of School Administrators, 1801 North Moore Street, Arlington, VA 22209. ISBN-0-87652-183-9.
11. Tan Chee Hian (2012). The Effectiveness of Physical Activity (long Slow Distance Run) in Weight Lose For Adults.9th International Sports Science Conference, June 25 to 28 2012 – USM Kubang Kerian, Kelantan.
12. Tan Chee Hian., Zainal Fikiri Mahmud., & Tham Yin Choong (2012). Physical Fitness Level between Urban and Rural Students - Case Study. Presented in INCULT- 6th International Conference on University Learning & Teaching. On 20-21/11/2012 at Concord Hotel, Shah Alam, Selangor. *Procedia Social and Behavioural Science*. Elsevier