

QUANTITATIVE EVALUATION OF THE EDUCATIONAL PROGRAMMES ON STUDENTS' AWARENESS OF SOCIAL RESPONSIBILITY

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Indices: Vocational Education, Social Responsibility, and Quantitative Evaluation

Abstract: As discrimination and hazardous working conditions have been constituting social costs in the Hong Kong economy, legislative progress in enforcing equal opportunity, safety and health at work becomes obvious with the enactment of discrimination ordinances and the Occupational Safety and Health Ordinance in 1997. Educational programmes were being conducted for students to realise such social responsibility soon after they graduate. The evaluation of the educational programmes is based on the empirical data collected after the delivery of educational packages.

SCOPE

This essay attempts to quantitatively evaluate social studies as part of vocational education programmes. The evaluation is made on the students' awareness of social responsibility imposed by recent enactment of discrimination ordinances (L.N. 556 of 1996 operative on 1.7.1997 & L.N. 552 of 1997) and Occupational & Safety Ordinance (L.N. 281 of 1997).

SOCIAL STUDIES IN THE CONTEXT OF VOCATIONAL EDUCATION

Social studies search for new social development and apply sociological knowledge to practical situations (Horton 1984). As institutionalised vocational educational programmes are aimed at training employees, social sciences and humanities are included to give the future executives a well-rounded college education (Horton 1984).

In the context of vocational education, students owe a duty of care to the community whenever they acquire technical knowledge in the institute. This duty of care is the standard of the degree of care and skill that was expected to be applied with the skill of the type of person or professional that he or she claims to be (Bachner 1996). The standard of foresight of a technically trained employee is independent of the idiosyncrasies of the particular person whose conduct is in question (Bachner 1996). Social studies included in the vocational education programme serve to prescribe normative morality affirmed by the Hong Kong society.

ENFORCEMENT OF EQUAL OPPORTUNITIES AT WORKPLACE SPECIFIED IN THE LAWS OF HONG KONG

Genuine equality of opportunities is recognised as a positive action against discrimination (Malone 1993). In Hong Kong the Equal Opportunities Commission administers the discrimination ordinances. Besides promoting equality of opportunity, the Commission also works towards elimination of sexual harassment (Cap.480 s.64)

Liability of employers is vicarious that anything violating the discrimination ordinances done in the course of employment shall be treated as done by the employer, whether or not it was done with his knowledge or approval. Supervisors and professionals also share the same vicarious liability that anything done by a person with the authority of that other person shall be treated as done by that other person as well as by him (Cap.480 s.46 and Cap.527 s.34).

ENFORCEMENT OF OCCUPATIONAL SAFETY & HEALTH AT WORKPLACE SPECIFIED IN THE LAWS OF HONG KONG

The long title of the Occupational Safety & Health Ordinance (Cap. 509) stipulates the intention of the Ordinance as follows:

An Ordinance to ensure the safety and health of persons when they are at work, to provide for related matters, and to consequentially amend the Factories and Industrial Undertakings Ordinance and the Administrative Appeals Board Ordinance.

Long title of Cap.509 (Laws of Hong Kong)

The punitiveness from legal violation is best illustrated by citing section 38 of the Ordinance as follows:

Onus on defendant to prove certain matters

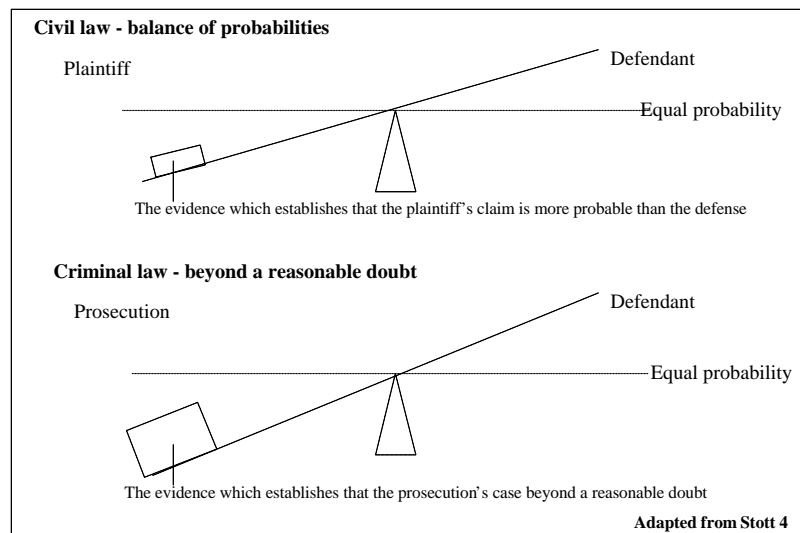
In proceedings for an offence against this Ordinance involving a failure-

- (a) to comply with a requirement or an obligation that has to be complied with only in so far as it is practicable or reasonably practicable to do so; or
- (b) to take steps , reasonable steps or reasonably practicable steps to comply with the requirement or obligation,

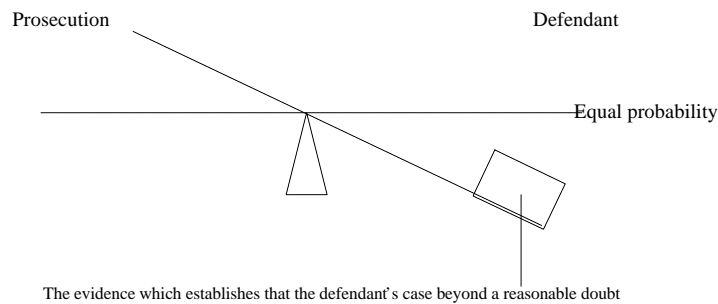
the onus is on the defendant to establish that compliance with the requirement or obligation was not practicable or was not reasonably practicable,...to comply with the requirement or obligation.

s.38 of Cap.509 (Laws of Hong Kong)

The following diagrams may summarise the standards of proof required by Cap.509 s.38:



Occupational Safety & Health (Cap.509) - beyond a reasonable doubt



EDUCATIONAL PROGRAMME ON STUDENTS' AWARENESS OF SOCIAL RESPONSIBILITY

The objective of the educational programmes is to enhance students' awareness of social responsibilities in enforcing a fair and safe system of work. Diagrams (see last paragraph) and sets of discussion material (see appendix) were distributed when the groups of students assembled. The task was to analyse the scenarios listed and show value judgements by marking options provided in the discussion material. During discussion, opinions were aired, information was exchanged, questions were asked and the subject matter was probed from all angles. Every member in the group speculated freely; new ideas were formulated, accepted, modified or rejected; and the previously overlooked were brought into focus and reviewed. At the conclusion of the discussion, follow-ups took the form of a summary and action along the lines of group recommendations.

Empirical data (i.e. the markings in the discussion material) were collected for evaluating the achievement of the educational objective. Hypothesis testing was carried out to evaluate the effectiveness of programmes' delivery.

HYPOTHESIS TESTING

The statement of problem is,

“Can the educational programmes enhance students’ awareness of social responsibility in enforcing a fair and safe system of work?”

The question of investigation is,

“Is there a correlation between the punitiveness from legal violation, and the realisation of social responsibility to maintain a fair and safe system of work?”

The quantitative analysis of investigation results provides solution to the problem statement. As the discussion material was so designed to draw students’ attention to the punitiveness of Hong Kong Law to discrimination and hazardous working actions, positive investigation results showed that the material was effective, whereas negative results showed that the material was not effective to let students realise their social responsibility on considering the punitiveness on legal violations.

QUANTITATIVE ANALYSIS OF INVESTIGATION RESULTS ON STUDENTS’ AWARENESS OF SOCIAL RESPONSIBILITY

The data tabulated below show the observed scores, n, for unlawful scenarios, from (a) to (e), classified by categories of responsible person.

<u>responsible person</u>	n	Scenario (a)	Scenario (b)	Scenario (c)	Scenario (d)	Scenario (e)	total	Relative frequency Pj
institute & individual		4	5	5	4	4	22	0.51
individual only		4	5	3	2	3	17	0.4
institute only		0	2	0	2	0	4	0.09
total		8	12	8	8	7	43	
Relative frequency Pi=		0.19	0.28	0.19	0.19	0.16		

Let P_{ij} denote the underlying multivariate probability distribution whereas P_i and P_j denote the marginal probability distributions. Then the null hypothesis of statistical independence is stated that

$$H_0: P_{ij} = P_i P_j$$

To test how well the data fits this hypothesis, I tabulated the 4 steps for chi-square calculations to test for dependence as follows.

Step 1

Assuming independence, the data tabulated below estimates the multivariate probabilities, P_{ij} , which equal to the multiplication of marginal probabilities, $P_i P_j$.

P_{ij}						P_j
0.1	0.11	0.09	0.07	0.079		0.44
0.07	0.08	0.03	0.05	0.061		0.34
0.05	0.05	0.04	0.04	0.04		0.22
P_i	0.22	0.24	0.2	0.16	0.18	

Step 2

The data tabulated below calculates the expected frequencies, E , which equal to the observed scores, n , multiplied by the underlying multivariate probability distribution, P_{ij} . (i.e. $E = nP_{ij}$)

4.16	4.54	3.78	3.03	3.41
3.22	3.51	1.09	2.34	2.63
2.08	2.27	1.89	1.51	1.7

Step 3

The data tabulated on the right calculates the deviations which equal to observed scores, O , minus expected frequencies, E .

(i. e. $O - E$)

-0.16	0.459	1.216	0.973	0.5944
0.784	1.491	1.906	-0.34	0.3684
-2.08	-0.27	-1.89	0.486	-1.703

Step 4

The data tabulated below calculates the sum of chi-squares which equals to the square of (observed scores minus expected frequencies) divided by expected frequencies. (i.e. $(O-E)^2/E$)

0.01	0.05	0.39	0.31	0.1
0.19	0.63	3.32	0.05	0.05
2.08	0.03	1.89	0.16	1.7

Sum of chi-square = Summation of the above tabulated data = 11

The overall measure of discrepancy is 11. The degree of freedom, d.f., = (no. of columns - 1) (no. of rows - 1) = 8 and 11 is more than $\chi^2_{0.25} = 10.2$, thus H_0 is rejected.

With reference to the group of data presented above. The result is that chi-square test establishes dependence of the punitiveness for legal violations on the awareness of social responsibilities.

CONCLUSION

If the enhancement of social responsibilities is achieved by means of learning behaviour, this change of behaviour is expected to be the result of delivering educational programmes. Evaluating educational packages by correlating scores in the mark sheets handed in right after group discussion is a valid method of determining whether the expected result is achieved. Assessing what effect the educational programmes have on students is useful and comments learnt at concluding discussion will be coupled with implementation of improvements.

APPENDIX (PP1)

Worksheet for Group Discussion

(This is an English Translation)

Title: Occupational Safety & Health

Part I

Please read the following hazardous scenarios and judge what is the most appropriate deterrent action required:-

Scenario (a)

“Employ young people to clean dangerous parts of a machine”

Put a tick to the most appropriate deterrent action you think.

- (5) Suspension of plant and Imprisonment of the In-charge
- (4) Suspension of plant and Fine the In-charge
- (3) Suspension of plant
- (2) Fine the In-charge
- (1) Demanding Improvement
- (0) No action required

Scenario (b)

“Accumulation of a great deal of explosives and dangerous substance in the workplace”

Put a tick to the most appropriate deterrent action you think.

- (5) Suspension of plant and Imprisonment of the In-charge
- (4) Suspension of plant and Fine the In-charge
- (4) Suspension of plant
- (3) Fine the In-charge
- (1) Demanding Improvement
- (0) No action required

Scenario (c)

“Absence of any fencing for dangerous parts of a machine”

Put a tick to the most appropriate deterrent action you think.

- (5) Suspension of plant and Imprisonment of the In-charge
- (4) Suspension of plant and Fine the In-charge
- (5) Suspension of plant
- (4) Fine the In-charge
- (1) Demanding Improvement
- (0) No action required

APPENDIX (PP2)

Scenario (d)

“Absence of fire-fighting and first-aid equipment”

Put a tick to the most appropriate deterrent action you think.

- (5) Suspension of plant and Imprisonment of the In-charge
- (4) Suspension of plant and Fine the In-charge
- (6) Suspension of plant
- (5) Fine the In-charge
- (1) Demanding Improvement
- (0) No action required

Scenario (e)

“Gloomy lighting and insufficient ventilation in the workplace”

Put a tick to the most appropriate deterrent action you think.

- (5) Suspension of plant and Imprisonment of the In-charge
- (4) Suspension of plant and Fine the In-charge
- (7) Suspension of plant
- (6) Fine the In-charge
- (1) Demanding Improvement
- (0) No action required

Part II

Whom do your group think is responsible for keeping a safe system of work so as to reduce hazardous incidents?

You may tick one or more boxes.

- Government (surveillance and reporting to public officer)
- Employee (partner and colleague)
- Workplace in charge (employer, occupier, manager and supervisor)
- No one
- Others (specifically: _____)

APPENDIX (PP3)

Worksheet for Group Discussion

(This is an English Translation)

Title: Equal Opportunity

Part I

Please rank the following discriminating scenario according to what you personally think is the most appropriate deterrent action required:-

Scenario (a)

“Purposefully speak indecent jokes”

Put a tick to the most appropriate deterrent action you think.

- (5) Imprisonment of the perpetrator
- (4) Fine the perpetrator
- (3) Compensate the victim
- (2) Make public apology to the victim
- (1) Make private apology to the victim
- (0) No action required

Scenario (b)

“Show insulting obscenity focusing on sexual figure”

Put a tick to the most appropriate deterrent action you think.

- (5) Imprisonment of the perpetrator
- (4) Fine the perpetrator
- (3) Compensate the victim
- (2) Make public apology to the victim
- (1) Make private apology to the victim
- (0) No action required

Scenario (c)

“Discomfort eyesight indicating sexual attempts”

Put a tick to the most appropriate deterrent action you think.

- (5) Imprisonment of the perpetrator
- (4) Fine the perpetrator
- (3) Compensate the victim
- (2) Make public apology to the victim
- (1) Make private apology to the victim
- (0) No action required

APPENDIX (PP4)

Scenario (d)

“Unwanted sexual touching or petting”

Put a tick to the most appropriate deterrent action you think.

- (5) Imprisonment of the perpetrator
- (4) Fine the perpetrator
- (3) Compensate the victim
- (2) Make public apology to the victim
- (1) Make private apology to the victim
- (0) No action required

Scenario (e)

“Indecent exposure”

Put a tick to the most appropriate deterrent action you think.

- (5) Imprisonment of the perpetrator
- (4) Fine the perpetrator
- (3) Compensate the victim
- (2) Make public apology to the victim
- (1) Make private apology to the victim
- (0) No action required

Part II

Whom do your group think is responsible for keeping a system of equal opportunity so as to reduce discrimination incidents?

You may tick one or more boxes.

- Government (surveillance and reporting to public officer)
- Employee (partner and colleague)
- Workplace in charge (employer, occupier, manager and supervisor)
- No one
- Others (specifically: _____)

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