THE USE OF LEARNING STYLES QUESTIONNAIRE IN HONG KONG

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ABSTRACT

The purpose of this paper is to explain the use of Honey and Mumford's (1986) Learning Styles Questionnaire in Hong Kong. Data were collected from 115 undergraduates and 193 MBA students at The Hong Kong Polytechnic University. Analysis was made to find out the differences in terms of learning styles between male and female students, undergraduates and postgraduates, and students studying in different disciplines. Recommendations are made on improving teaching and learning in higher education, with special reference to the management field.
Keywords: Learning styles, teaching and learning, management training and development

INTRODUCTION

The Hong Kong Polytechnic University (PolyU) is one of the largest higher education institutions in Hong Kong. There are more than 20,000 students in both full-time and part-time programs. We have started to use the concept of outcome based assessment in our teaching and learning recently. As a result, we have to find out better ways to improve the teaching and learning process in the classroom, for both undergraduates and postgraduates. In the past, some teachers have a perception that students are not outspoken in the classroom. Students just sit back and listen, and sometimes teachers do not know whether they learn anything or not. Through the use of learning styles questionnaire, teachers can have a better understanding of student behaviors in class, and students can understand themselves better in terms of the learning process and personal development.

LEARNING STYLES QUESTIONNAIRE

There are different models of learning styles in the academic world. Based on Dewey's (1910) experiential learning theory, Kolb (1976) depicts learning as a cycle that starts with concrete experience, and then through observations and reflections as well as formation of abstract concepts and generalization, to testing implications of concepts in new situation. With the experiential learning cycle, Kolb's (1999) develops the Learning Styles Inventory (LSI). It has been widely used in the US since the seventies and Version 3 was published in 1999. Batista and Cornachione (2005) describe the use of LSI in Brazil. On the other side of the Atlantic, Honey and Mumford's (1986) Learning Styles Questionnaire (LSQ) is popular in the UK. Based on Kolb's LSI, Honey and Mumford (1982) introduce the first edition of LSQ and, subsequently, the revised edition was published in 1986. While Kolb focus on how adults learn, Honey and Mumford highlight on how managers learn. Instead of focusing on the classroom context, LSQ has been applied in the field of management training and development. Many companies use it in their in-house training and development courses. Both instruments make use of the concept of Kolb's (1971) experiential learning cycle. It

was a big advancement to change the perception of students listen while teachers teach. The lecture mode has been widely used in management education until the seventies.

The concept of experiential learning enhances the learning environments to make use of case studies, experience sharing, and even adventure based activities in management education. Based on their working behaviors, participants are asked to decide whether they tend to agree or disagree with 80-statement questionnaire in about 15 to 20 minutes. The mean scores are calculated so that participants can compare their scores with the mean scores of their counterparts. As a result, they can develop their own personal development plan based on the prescription issues by Honey and Mumford (1986).

As PolyU, we have been using Honey and Mumford's (1986) Learning Styles Questionnaire since 1990. For our MBA program, we start each cohort with a 3-day residential workshop. We have a 90-minute session on "Using Your Learning Styles". The concept of learning cycles is introduced and students are asked to complete the LSQ in class on the second day. On the third day, the results are announced to all students. As a result, they understand where they stand and prepare their personal development plan.

At the undergraduate level, we have a subject on "Training and Development". It is a core subject for students studying human resource management and an elective subject for students studying business studies. For each year, we have around 60 students taking this subject. The 90-minute presentation on "Using Your Learning Styles" is delivered. Students learn the concept of learning cycle and they are required to complete the LSQ in class in week 2. The results are announced in week 3. As a result, students can identify their preferred learning styles and draw up action plan for self-development.

In September 2005, we introduced the concept of learning styles to students studying in the Institute of Textiles and Clothing. We had around 70 final-year students registered for "Strategic Fashion Management". We made a 90-minute presentation on "Using Your Learning Styles". The session was similar to the one delivers to students in "Training and Development".

RESEARCH METHOD

In 2005/06 academic year, we successfully collected 61 completed LSQs from textiles and clothing students in September 2005; 54 from management students in January 2006; and 193 from MBA students in August 2006. The details, with the number of male and female students, are listed in Table 1:

Table 1: Data Collected in the 2005/06 Academic Year

Student Groups	M	F	Total	Date of Collection
Textiles and Clothing	6	55	61	September 2005
Management	18	36	54	January 2006
Undergraduates Sub-Total	24	91	115	
Fashion Business	16	25	41	August 2006
Financial Services	26	12	38	August 2006
General Management	36	12	48	August 2006
Design Management	17	9	26	August 2006
Information Technology	35	5	40	August 2006
Postgraduates Sub-Total	130	63	193	
PolyU Total	154	154	308	

Table 2: Mean Scores of LSQ for Undergraduates

Student Groups	M/F	n	Activist	Reflector	Theorist	Pragmatist
	M	6	11.0	13.0	13.0	12.5
	F	55	11.2	14.3	11.0	12.2
Textiles and Clothing Sub-Total		61	11.2	14.2	11.2	12.2
	M	18	10.8	15.9	12.3	12.5
	F	36	10.7	16.2	11.4	12.5
Management Sub-Total		54	10.7	16.1	11.7	12.5
	M	24	10.9	15.2	12.5	12.5
	F	91	11.0	15.0	11.2	12.3
Undergraduates Total		115	11.0	15.1	11.4	12.3

Table 3: Mean Scores of LSQ for Postgraduates

Student Groups	M/F	n	Activist	Reflector	Theorist	Pragmatist
	M	16	10.4	15.0	12.8	14.9
	F	25	10.8	15.2	13.4	13.7
Fashion Business Sub-Total		41	10.7	15.1	13.1	14.2
	M	26	11.0	15.6	14.0	13.8
	F	12	8.6	14.6	12.4	13.8
Financial Services Sub-Total		38	10.2	15.3	13.5	13.8
	M	36	11.1	15.4	13.1	13.8
	F	12	11.0	13.9	14.0	13.8
General Management Sub-Total		48	11.1	15.0	13.4	13.8
	M	17	10.4	15.2	13.8	14.4
	F	9	11.8	14.2	12.5	12.9
Design Management Sub-Total		26	10.8	14.9	13.3	13.8
	M	35	10.9	14.9	13.8	13.9
	F	5	9.6	17.6	15.2	15.2
Information Technology Sub-Total		40	10.7	15.3	14.0	14.0
	M	130	10.8	15.3	13.5	14.0
	F	63	10.5	14.9	13.3	13.7
Postgraduates Total		193	10.7	15.1	13.5	13.9

Table 4: General Norms for 3,500 People in the UK (Honey and Mumford, 1992)

	Activist	Reflector	Theorist	Pragmatist
Very strong preference (Highest scoring 10%)	13-20	18-20	16-20	17-20
Strong preference (Next 20%)	11-12	15-17	14-15	15-16
Moderate preference (Middle scoring 40%)	7-10	12-14	11-13	12-14
Low preference (Next 20%)	4-6	9-11	8-10	9-11
Very low preference (Lowest 10%)	0-3	0-8	0-7	0-8
Mean Score	9.3	13.6	12.5	13.7

With the returned LSQs, we collected data from 308 students studying at the PolyU. We can compare the learning styles of 115 undergraduates and 193 postgraduates, as well as 154 male students and 154 female students. Moreover, we have data for five concentrations in our MBA program, including fashion business (41), financial services (38), general management (48), design management (26), and information technology (40). The data, with similar group size, can provide a good platform for comparison of learning styles in Hong Kong.

FINDINGS AND ANALYSIS

After we collected all LSQs, we entered the data in the computer and generated the mean scores of LSQ for both undergraduates and postgraduates in Table 2 and Table 3 respectively.

As the maximum score for each style is twenty, it seems that the four highest numbers represent your preferred learning style. However, numbers cannot provide too much information, unless you compare your scores with your counterparts, against the general norms. For statistical purpose, Honey and Mumford (1992) divide the scores into five groups, ranging from very strong preference (the highest scoring 10%) to very low preference (the lowest scoring 10%). Based on 3,500 returned questionnaires, Honey and Mumford (1992) build the general norms of the LSQ profile in the UK as listed in Table 4:

For comparison purpose, participants can first compare with the mean score in the general norms. In this case, they can find out whether they are above or below average. If they are above average in each style, they are on the safe side. However, if they are below average in any one style, it means there are rooms for further improvement. In the long run, there is a need to develop the general norms in Hong Kong for better comparison and understanding. For the time being, we can compare the score with the general norms developed in the UK.

Table 5: Mean Scores of PolyU Students

Student Group	n	Activist	Reflector	Theorist	Pragmatist
Undergraduates Sub-Total	115	11.0	15.1	11.4	12.3
Postgraduates Sub-Total	193	10.7	15.1	13.5	13.9
Male Sub-Total	154	10.8	15.2	13.4	13.8
Female Sub-Total	154	10.8	15.0	12.1	12.9
PolyU Total	308	10.8	15.1	12.7	13.3
Mean Scores of the General Norms in the UK	3,500	9.3	13.6	12.5	13.7

Table 6: Mean Scores of PolyU Undergraduates

Student Group	n	Activist	Reflector	Theorist	Pragmatist
Textiles and Clothing Sub-Total	61	11.2	14.2	11.2	12.2
Management Sub-Total	54	10.7	16.1	11.7	12.5
Male Sub-Total	24	10.9	15.2	12.5	12.5
Female Sub-Total	91	11.0	15.0	11.2	12.3
PolyU Undergraduates Total	115	11.0	15.1	11.4	12.3
Strong Preference of General Norms in UK		11-12	15-17	14-15	15-16

First of all, let us analyze the results of the PolyU students as a whole. Table 5 presents the mean scores of undergraduates and postgraduates as well as male and female students studying at the PolyU.

Comparing the mean scores of 115 undergraduates and 193 postgraduates, postgraduates are better in Theorist and Pragmatist. Undergraduates are better in Activist; while postgraduates and undergraduates have the same score in Reflector. As a result, if undergraduates would like to study MBA five years after their graduation, they have to develop better in Theorist and Pragmatist. There is evidence that the more you accumulate your experience, the less you behave as Activist.

Among 154 male students and 154 female students, they have the same score in Activist. However, male students perform better as Reflector, Theorist, and Pragmatist. As a result, there are rooms for improvement for the female students to catch up with their counterparts.

When we compare the mean scores of PolyU students against the general norms in the UK, PolyU students perform better in Activist, Reflector, and Theorist. However, the UK counterparts work better in Pragmatist. As the general norms in the UK were based on the results of managers with working experience, it is better to compare the results of postgraduates at PolyU. In this case, PolyU MBA students perform better in all the four learning styles.

Against the general norms developed in the UK, all the mean scores at the PolyU are above the mean scores.

In addition, PolyU undergraduates have strong preference in Activist. All students at the PolyU, including males and females as well as undergraduates and postgraduates, have strong preference in Reflector. However, in terms of Theorist and Pragmatist, PolyU students only achieve moderate preference, i.e., middle scoring 40%.

Second, let us analyze the undergraduates in more detail. Table 6 presents the mean scores of the undergraduates.

Comparing 61 textiles and clothing students with 54 management students, textiles students work better in Activist, while management students perform better in Reflector, Theorist, and Pragmatist. The reason might be there were more female students in textiles and clothing, and they were better in terms of communication skills.

When we compare the mean scores of 24 male students and 91 female students, male students behave better in Reflector, Theorist, and Pragmatist. In contrast, female students work better in Activist. It proved our assumption in the previous paragraph.

Against the general norms in the UK, both textiles and clothing students and female students have strong preference in Activist. However, all male and female students as well as management students have strong preference in Reflector. It proves that all undergraduates have rooms for improvement in both Theorist and Pragmatist.

Table 7: Mean Scores of PolyU Postgraduates

Student Group	n	Activist	Reflector	Theorist	Pragmatist
Fashion Business Sub-Total	41	10.7	15.1	13.1	14.2
Financial Services Sub-Total	38	10.2	15.3	13.5	13.8
General Management Sub-Total	48	11.1	15.0	13.4	13.8
Design Management Sub-Total	26	10.8	14.9	13.3	13.8
Information Technology Sub-Total	40	10.7	15.3	14.0	14.0
Male Sub-Total	130	10.8	15.3	13.5	14.0
Female Sub-Total	63	10.5	14.9	13.3	13.7
PolyU Postgraduates Total	193	10.7	15.1	13.5	13.9
Strong Preference of General Norms in UK		11-12	15-17	14-15	15-16

Table 8: Mean Scores for Undergraduates and Postgraduates

Student Groups	n	Activist	Reflector	Theorist	Pragmatist
Textiles and Clothing Sub-Total	61	11.2	14.2	11.2	12.2
Fashion Business Sub-Total	41	10.7	15.1	13.1	14.2
Management Sub-Total	54	10.7	16.1	11.7	12.5
General Management Sub-Total	48	11.1	15.0	13.4	13.8

Third, let us analyze the mean score of postgraduates in more detail. Table 7 presents the mean scores of the PolyU postgraduates.

The data collected from the PolyU postgraduates were all from the 2006 cohort of MBA class. The 193 MBA students comprised of five concentrations. In terms of gender, there were 130 male students and 63 female students.

When we compare the gender difference, male students work better in all four learning styles. Against the general norms in the UK, male students achieve strong preference in Reflector. However, for the other styles, whether they were male or female students, the PolyU MBA students are moderate preference. As a result, there is not much difference in terms of gender, except male students perform better in Reflector.

Among the five concentrations, fashion business students score highest in Pragmatist (14.2) and lowest in Theorist (13.1); financial services students score highest in Reflector (15.3), and lowest in both Activist (10.2) and Pragmatist (13.8); general management students score highest in Activist (11.1) and lowest in Pragmatist (13.8); design management students score lowest in both Reflector (14.9) and Pragmatist (13.8); and information technology students score highest on both Reflector (15.3) and Theorist (14.0).

Against the general norms in the UK, general management students attained strong preference in Activist while information technology students achieved strong preference in Theorist. All but design management students have strong preference in Reflector; and none achieved strong preference in Pragmatist.

Compare with 63 female students, 130 male students score better in all four learning styles. Moreover, against the general norms in the UK, male students achieved strong preference in Reflector.

Four, based on the results of the mean scores of different student groups, undergraduates can better prepare for their further study. Table 8 gives the mean scores for undergraduates and postgraduates.

For textiles and clothing students, if they want to study fashion business in five years' time, they have to develop better in terms of Reflector, Theorist, and Pragmatist. Moreover, they have to change their behaviors in Activist.

For management students, if they want to study general management in future, they have to develop better in Activist, Theorist, and Pragmatist. At the same time, they have to change their behaviors in Reflector.

CONCLUSION

Based on the findings and analysis, we can draw the conclusion on learning styles of students at The Hong Kong Polytechnic University. One, for PolyU students, they scored strong preference in Reflector; and only undergraduates sub-group score strong preference in Activist. They only attained moderate preference in both Theorist and Pragmatist.

Two, for PolyU undergraduates, they scored strong preference in both Activist and Reflector. However, they only attained moderate preference in both Theorist and Pragmatist.

Three, for PolyU postgraduates, they scored strong preference in Reflector. In contrast, they only attained moderate preference in Activist, Theorist, and Pragmatist.

Four, there was not much difference in terms of gender because they attained more or less the same scores. The only difference was female undergraduates perform better in Activist while make postgraduates work better in Reflector.

Five, the mean scores of all groups of student are above average when compare with the general norms in the UK. We can say that the learning styles of Hong Kong students are better than their counterparts in the UK. However, there are plenty of rooms for further improve in both Theorist and Pragmatist.

LIMITATIONS

Our analysis is only based on 308 returned questionnaires collected at The Hong Kong Polytechnic University. It is difficult to generalize the results to the PolyU, not to say the eight universities in Hong Kong. However, it is a good starting point to explore the research in learning styles. When we collect around 1,500 to 2,000 questionnaires, we can develop the general norms in Hong Kong. As a result, it can depict a better picture to students for their personal development.

RECOMMENDATION

Based on the results of LSQs, teachers can divide students in groups with a good mixture of different learning styles. As a result, it can improve group work and discussion. Teachers can give more encouragement to the reflectors and challenge the outspoken activists to balance the learning climate in the classroom.

When students find out that they are weak in certain style, they can make use of the prescriptions issue by Honey and Mumford on self development. If they are increase different behaviors, they can improve their learning styles. The beauty of learning styles is that it can be changed with personal effort in self development.

The LSQ was developed in the late eighties. With the inception of computer and internet, our working behaviors have changed a lot. We need to revise the behavioral statements according to the working behaviors nowadays. We need to develop a general norms based on the data collected in Hong Kong. In this case, we can minimize the cultural difference in terms of research instruments.

Finally, we can make use of LSQ to design and deliver management training and development programs. Based on his experience and research, Mumford (1988, 1993, 1995) provides plenty of ideas for implementation.

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