

A reflective-participative approach to professional development in teaching of Liberal Studies in schools

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Abstract

This paper introduces a reflective-participative approach to professional development in teaching of Liberal Studies in schools. Since teachers are academic workplace learners, the use of workplace learning theories in professional development programmes is encouraged. After having analyzed the characteristics of some workplace learning theories (i.e., reflective practice and participative learning), a combined approach to professional development which emphasizes learning through experience is designed and tried out. Initial outcomes show that the approach is practical and effective. We hope that this unique professional development approach could contribute to the continuous improvement of the teaching of Liberal Studies in school settings.

Keywords

teachers' professional development, Liberal Studies, workplace learning theories, reflective practice, participative learning, focus group

摘要

本文旨在介紹一個包含「反思實踐」及「參與學習」的通識教育教師專業發展方法。正因為教師是學術工作場所中的學習者，所以在設計教師專業發展時應滲入工作場所學習理論（Workplace learning theories）。經過我們分析一些工作場所學習理論的特性之後，我們設計出一套揉合了「反思實踐」（Reflective practice）及「參與學習」（Participative learning）的教師專業發展方法，並對它作出測試。初步的研究結果顯示這方法是實用和有效的。我們希望這套獨特的教師專業發展方法能為持續提升通識教育科的教學質素作出貢獻。

關鍵詞

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Introduction

This paper explores a unique approach to continuous professional development in teaching of Liberal Studies in school settings. As the teaching of Liberal Studies under the New Senior Secondary (NSS) would require teachers to have a new set of subject-content knowledge, pedagogical skills and attitude, this proposed approach combines participative learning and reflective practice as a means to facilitate the professional staff development in Liberal Studies. This reflective-participating approach is primarily focusing on fostering an apposite attitude of the teachers who want to shoulder the challenge of NSS Liberal Studies teaching. It is expected that this professional development approach could complement other professional development programmes or activities that mostly aim at the enhancement of subject-content knowledge and pedagogical skills.

Academic workplace learners

What I hear, I forget.

What I see, I remember.

What I do, I understand.

~ A Chinese proverb ~

As teaching is a professional practice, we place much attention on the actual implementation of the lessons. For teachers, pedagogical knowledge acquired from traditional professional development programmes is 'propositional knowledge' and therefore it may not be directly applicable and transferable to the academic workplace (Brockbank and McGill, 1998). This may be because workplace learning requires the ability to reflect upon ill-structured

materials of learning from real life working (or teaching) situations (King and Kitchener, 1994), and this is very different from traditional learning programmes that have a well-structured framework for teaching and learning (Hager, 2000). Herrington and Oliver (1995) argue that meaningful learning will take place when learning happens in the social and physical context within which the knowledge gained will be applied. That means that learning from 'textbooks' or 'ready-made' programmes is very different from learning from authentic activities, or "the ordinary practices of the culture" (Brown, Collins and Duguid, 1989, p.34).

Although work-based learning is of low status (Reeders, 2000), various workplace-learning approaches for Liberal Studies teachers should be promoted because they are more flexible than conventional professional development programmes, and allow learners to acquire new knowledge with respect to their job requirements (Bates, 1995; de Vry and Hyde, 1997; Selwyn and Gorard, 1999). The importance of participative learning (learning from experience) for professional development at an individual reflection level then becomes eminent. It is our belief that professional development programmes based on workplace learning theories are likely to have more influence on the teaching of Liberal Studies as other professional development programmes are mostly prescriptive in nature.

Reflective practice

Self-reflection is a way of modifying and improving on-job skills without the need for external motivation

(Bandura, 1986). Avery and Baker (1990) point out that humans have the ability to self-monitor their own current performance, to decide whether it is up to standard, and then to improve or maintain it. They also believe that good teachers constantly seek to learn from their own performance and from their students. This kind of professional reflection is referred to as 'reflective practice' to distinguish it from the more general conception of 'reflection' (Brockbank and McGill, 1998). There is a wide body of literature on reflective practice in teaching since it is considered important for an educator to become a reflective teacher or practitioner (Moon, 1999). Schön (1987) called this professional enhancement practice 'professional artistry' where professionals deal with the distinctive, the unexpected, the uncertain, the value conflicts and the undetermined conditions of daily practice in which there is no corresponding 'propositional knowledge' to resolve (Brockbank and McGill, 1998). Hence, according to Schön (1987) propositional knowledge is of limited use because it disregards the realities of professional life and practice. Teachers should therefore engage in reflective practice (Brockbank and McGill, 1998; Moon, 1999) that is in line with Schön's ideas of (1983, 1987) 'reflection-in-action', 'reflection-on-action' and 'reflection-for-action' in order to learn from experience so as to engage in continuous improvement of teaching.

Although the conception of 'learning from experience' is not new, it was Kolb (1984) who explicitly modeled it into a formal cycle called the 'Experiential Learning Cycle.' Basically, it is a cycle of four recurring processes consisting of 'concrete

experiencing of an experience', 'reflective observation', 'abstract conceptualization' and 'active experimentation' (Kolb, 1984). However, Boud et al. (1985) comment that Kolb himself has not elaborated much about the process of reflection in his Learning Cycle. Therefore even though Kolb's (1984) cycle might match the concept of reflective practice (Moon, 1999), it is not very helpful in promoting the practice of reflection in teaching. As such, Gibbs (1988) developed a six-stage reflective cycle, a form of experiential learning cycle, to facilitate reflective practice. The six stages are:

- Description - "What happened?"
- Feelings - "What were you thinking and feeling?"
- Evaluation - "What was good and bad?"
- Analysis - "What sense can you make of the situation?"
- Conclusion - "What else could you have done?"
- Action Plan - "If it occurs again, what would you do?"

(Moon, 1999, p.73)

This illuminates the fact that reflection in teaching and learning will not necessarily just happen; it does require suitable structured conditions to encourage it (Moon, 1999). It is for this reason that reflection should not be just any spontaneous response to a learning experience; it should be intentionally structured in a way that will facilitate reflection for continuous teaching improvement. Reflection should be structured with a clear purpose, e.g. to point in the direction of professional development, because "different types of reflection exercises will generate different types of reflection"

(Moon, 1999, p.171).

According to Brockbank and McGill (1998) there are four applications of critical reflective practice.

They are:

- Personal Reflection - to reflect alone;
- Reflective Dialogue with another colleague - telling a story (to reflect after an event with a colleague);
- Reflective Dialogue with another colleague - being part of the story (to reflect with a colleague before and after an event);
- Reflective Dialogue with another colleague - enabling the development of reflective practice (e.g., for a group of colleagues in a workshop format).

(Brockbank and McGill, 1998, p.109)

These four applications of reflective practice provide a useful framework for thinking about the level of reflection in which teachers should engage. Based on this presumption, we developed a structured way that might facilitate reflection and participation; working towards teaching improvement in schools - a situated reflection exercise based on Gibbs' (1988) six-stage reflective cycle. This exercise is an opportunity for consistent, structured and supported reflection that [1] can provide a 'distilled' experience to learn from, [2] the facilitator can provide a structured framework for reflection, and [3] the participants, through sharing the same experiences, can support each other through the reflection process (Baldwin and Williams, 1988).

Participative learning

According to Heron (2002) a comprehensive model of learning consists of four basic ways of knowledge acquisition. They are 'experiential knowing' (by meeting/ encounter/ engagement with people, places, processes and things - that is, by participation in the being of what is present); 'presentational knowing' (by intuitive grasp of the meaning of the patterns and forms of nonverbal imagery, as in the various arts, in immediate perceiving, in memory and dreams); 'propositional knowing' (mediated by language); and 'practical knowing' (knowing how to do things, manifest in a whole array of skills and competencies - spiritual, psychic, aesthetic, intellectual, political, interpersonal, emotional, technical, clinical, etc.) Among the four ways of knowing, Heron (2002) regards 'experiential knowing' as fundamentally spiritual. This illustrates the importance of participative learning - learning through experience. Moreover, Montuori and Purser (1996) suggest that participative learning is more suitable than calling in 'expert' in a state of uncertainty or if the problem is ill-defined. At present the direction of development in Liberal Studies is not clear (Lam and Cheung, 2005); therefore we think it is appropriate to bring in this reflective-participative learning in our professional development programmes.

Focus Group as a platform for reflective-participative learning

A focus group is a popular tool for collecting insights and opinions from a target group (Puchta and Potter, 2004). It has been commonly used to elucidate the

feelings and thoughts of participants towards an issue in such a way that might not be able to reveal quantitatively (Fern, 2001). Although the format of the meeting encourages free and easy discussion, comments and suggestions are recorded for subsequent analysis and interpretation to answer the prescribed objectives of the focus group.

A Focus Group usually involves six to ten selected people to spend one to two hours discussing a subject with a moderator/facilitator. According to Krueger and Casey (2000), focus group interviewing is a qualitative approach to gathering information inductively and naturalistically. The basic uses of a focus group are problem/goal identification, planning, implementation, assessment (Morgan, Krueger and King, 1998), understanding concerns, and policy making and testing (Krueger and Casey, 2000). Moreover, a focus group is not for getting consensus or educating people although it is sometimes used to inform decision (Krueger and Casey, 2000). As the basic use of a focus group is to listen and gather information, it is a good qualitative data collection method to be used in Liberal Studies where group discussion is a common place for students in responding to an issue or exchanging ideas.

To try out the effectiveness of this reflective-participative approach, two focus group discussions were conducted. These were specially designed to provide a "testing ground" for Liberal Studies teachers to practice a focus group discussion, with the guidance from the authors who served as a moderator. With a current social issue as the focus of discussion, participants are expected to familiarize themselves with the skills in listening and expressing

viewpoints, as well as to learn how to respect the others. This also lets participants appreciate the role and responsibilities of a moderator and/or as a focus group member. The design for a focus group is to conduct a discussion until it has reached the point of theoretical saturation - the point when members are not gaining new insight (Krueger and Casey, 2000). When the discussion was over, they were required to reflect on their own performance and comment on each other in terms of their attitudes. To do these, they had to be fully aware of the tension in the discussion.

Methods

1. First Focus Group

The first focus group discussion was held in October 2005 when Hong Kong was hosting World Trade Organisation's (WTO) 6th Ministerial Conference. This was a big event in Hong Kong and everybody was talking about it at that time. We then naturally set an issue relating to this Conference. Finally, we agreed to use "WTO Conference in Hong Kong - Good or Bad to Hong Kong?" as the issue. It was a hot issue and we expected the focus group would have a heat discussion on it. Seven students from a postgraduate diploma in education (PGDE) course were invited to this first focus group discussion. These participants were chosen according to their academic background, this was because we would like to have views and comments from different perspectives. They were graduates from seven different academic disciplines, viz. Chinese, English, Mathematics,

Economics, Sociology, Business and Physical Education. One of the authors took on the role of the moderator. There was no need for the participants to prepare anything for this focus group and they did not know the issue for discussion before hand. They only got to know the issue right at the focus group.

2. Second Focus Group

In the second focus group discussion held on 23 January 2006, five student-teachers from a PGDE course were participated as members and one of the authors served as the moderator. Again, they came from different academic disciplines. The issue for discussion was related to the implementation of the Government's 5-day week scheme. This time, each of the participants was given a set of newspaper articles about the 5-day week scheme just before the discussion. The participants were allowed to read through the materials for 15 minutes so that they would have more background information for consolidating their viewpoints before they had actually engaged in the discussion.

In both of the focus groups, the moderators had a short opening briefing to make explicit what this exercise was about. It was made clear to the participants that the aim of the focus group discussions was to collect qualitative data about the issues. Moreover, a focus group was neither a debate nor a session to get consensus; this was conducted only to solicit viewpoints and comments. Through the focus group

discussions, the participants would then develop a better understanding about the issue regardless their standpoints on it. For instance in the second focus group, one of the participants argued that he could have offered more meaningful comments if he was given more time to read through the materials provided before the discussion. However, we reminded him that a focus group towards a current issue can be held more than once. If there were some points that had yet been clarified or there were not enough information to further the discussion or stimulate any insights, then a second or even third focus group could be conducted until it has reached what Krueger and Casey (2000) called "the point of theoretical saturation". This is especially the case if focus group discussion is used in learning and teaching of Liberal Studies. These were emphasized to the participants to pre-empt any misunderstanding about the nature of this focus group exercise. With the consent of the participants, the focus groups were video-taped for analysis.

Discussion

It was observed that the participants started their discussion towards the issue by using their "commonsense" (Chi, 2005), and then they started to provide some personal experiences and more concrete examples. For example in the Second Focus Group, a participant who was on the side of the Government's

5-day week scheme first mentioned that efficiency was more important than merely counting the number of working hours. This "quality is more important than quantity" kind of statement is what we referred to as "commonsense" because it is hard to judge its validity and reliability since little supporting evidence is involved (University of Texas at Arlington & Texas Department of Protective and Regulatory Services, 2003). He then put forward his support for the 5-day week scheme with his own working experience in a Government Department to substantiate his view. We found that this discussion pattern was quite common in both of the focus groups.

Although we found that most of the participants were consistent in the way that they looked at the issue, some of them had nonetheless changed their viewpoints in the course of discussion. This demonstrated that the Focus Group discussion did let the participants have a closer look at the issue and then think it over again. For those who were assertive towards their standpoint, the focus group required them to look for supportive evidence to substantiate their beliefs. For those who had changed their viewpoints no matter during or after the focus group, it required them to have an open attitude towards an issue and form new beliefs. However, whether the participants had changed their viewpoints was not our main concern; we cared more on whether they understood the interactions and tensions involved in affecting the changes. According to Coon (2006), attitudes on an issue were highly related to one's cognitive component (beliefs, ideas), affective component (emotion, feelings) and behavioural component

(predispositions to act). Take the WTO Ministerial Conference issue as an example, each participant would have a belief (cognitive) about whether hosting the WTO Ministerial Conference was beneficial to Hong Kong or not. They might respond emotionally (affective) to hosting the event, finding them either respectable and delightful or intolerable and obnoxious. Then they would have a disposition to act (behavioural) in the focus group discussion, either supporting or protesting again the hosting of the WTO Ministerial Conference in Hong Kong. Although we would not know what each participant would actually "act" towards the issue at the end of the day, we had provided a platform for them to analyze the issue and make rational and coherent comments on the issue. These were to a certain degree in line with the nature of Liberal Studies, "to enable them (the students) to become informed, rational and responsible citizens of the local, national and global community" (CDC & HKEAA, 2007, p.3). We highlighted this tension among cognitive, affective and behavioural components in the post-discussion briefing to let the participants know how to use a focus group in facilitating issue enquiries in Liberal Studies.

During the discussions, there were deliberate interactions between the moderator and the members. The purposes of having these interactions were twofold. First, this could let participants to have a first-person experience as a member of a focus group. They also needed to experience how to think aloud and reflect on what they were trying to put forward. Second, this could demonstrate to the participants what qualities a focus group

moderator should have. According to Greenbaum (2000), a moderator should be:

- hard working
- self motivation
- self confident
- a quick learner, able to assimilate large amounts of complicated material very quickly
- friendly, with the ability to develop a quick rapport with people
- a good listener who is comfortable listening rather than talking
- an excellent memory and strong powers of concentration

In the focus group, we had demonstrated as far as possible to the participants that a moderator should not always playing a passive role, he or she has to facilitate the exchange of ideas while not to dominate the discussion. Moreover, a moderator also needs to clarify serious misconceptions to the participants while not to interfere seriously with the conversations. That means he or she needs to ensure the participants to have a smooth discussion of the issue without being occupied in some dilemmatic arguments due to misconceptions.

Since the interactions and tensions were noted and were shared right after the focus group, the participants had a better picture of their attitude towards the issue. Besides their attitude towards this particular social issue; we were also interested in the 'typical' way they deal with an issue. It is because their way of dealing with an issue may have direct effect on how their students would approach an issue. Hence, our aim is simple and clear. We would like to make use of this focus group exercise

to let the participants aware of their attitude in approaching an issue.

We believe that after the participants had engaged in a focus group, they would gain an experience in this kind of discussion either as a member or a moderator. They would then acquire the skill in conducting a focus group and share it with their students. That is why we put forward the reflective-participative approach to professional development. In the post-discussion briefings, we had emphasized the importance of reflection and participation. The participants realized and agreed that by taking part in the focus group and reflecting on how well they performed, they started to develop the necessary attitudes and skills to become a Liberal Studies teacher.

We want our students to develop multiple perspectives through inquiry or discussion of contemporary issues (CDC & HKEAA, 2007). However, we believe that not many teachers have engaged in such kind of formal discussion about an issue from multiple perspectives, just like what the students are required to do in Liberal Studies. If the teachers themselves do not have such first-hand experience, how could they convince the students to discuss or inquire into an issue with open-mind and multiple perspectives? The continuous cycles in this reflective-participative approach thus provide an opportunity for the Liberal Studies teachers to really reflect upon what sort of attitude they should have when participating in any form of discussion and inquiry.

The two cases demonstrated that the use of focus group as a reflective-participative approach provided

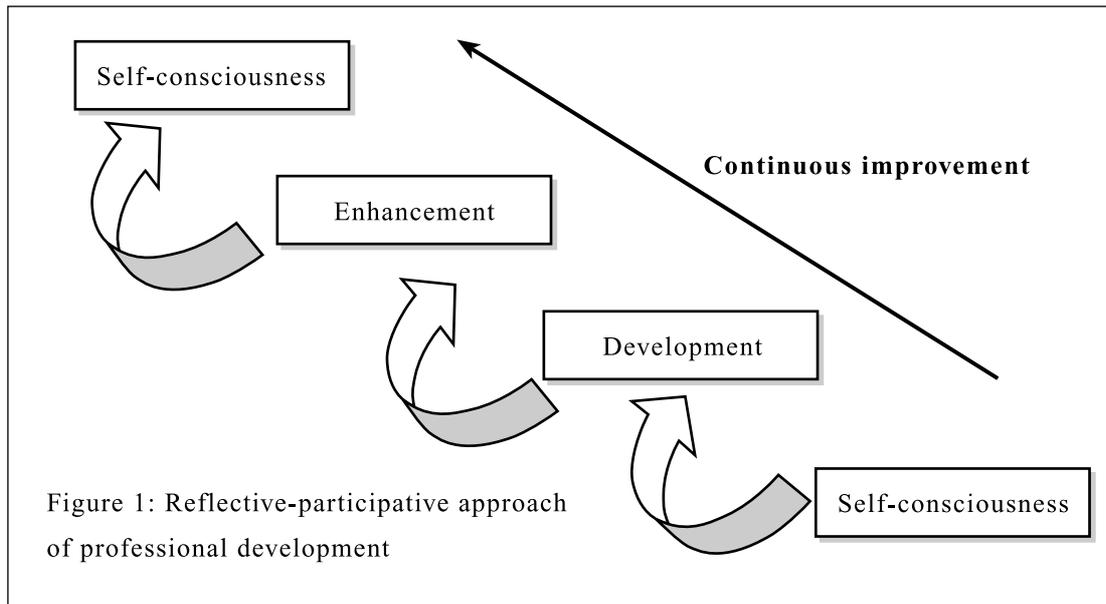
the participants with a good platform to develop necessary qualities that a Liberal Studies teacher should have. If they had not been engaged in this specially designed development programme, they might not be aware of the tensions in a focus group discussion, and hence might not be able to provide an appropriate guidance to the students in a Liberal Studies class. It was very encouraging to see the initial success of this approach; most of the participants (student-teachers) in the focus groups valued this opportunity to have a formal discussion to a current issue which helped them to have a reflection on their role as a member in a group discussion, or later as a moderator. This also had an extra benefit that the participants might learn how to respect the others even though they were having contrasting views towards an issue. We trust that this reflective-participative approach is effective and is a congenial way to foster apposite attitude of the Liberal Studies teachers.

The professional development model

We in general agree that a Liberal Studies teacher should have certain competences in teaching the subject. The elements to form such competences include knowledge, skills and attitude. While the training of knowledge and skills could be easily organized, it is attitude that is most difficult to deal with. However, teacher's attitude is a key element to the successful teaching of Liberal Studies, as what we have demonstrated in the focus group exercise. If a teacher does not possess the appropriate attitude that is required by Liberal Studies, the learning environment that the teacher built might not be able

to enhance the learning experience of the students, and would probably adversely affect student learning in the long run. As such, we placed much effort in developing participants' apposite attitude in the teaching of Liberal Studies. A teacher with apposite attitude is open-minded and responds appropriately to a particular situation and issue. We believe that through deliberately engaging (participation) in a focus group, the teachers would be more aware of their own attitude in responding to an issue, and then gradually develop the necessary attitudes (reflection) that a Liberal Studies teacher should possess.

This reflective-participative approach of professional development consists of cycles of three progressive stages, viz. Self-consciousness, Development and Enhancement. Figure 1 summarizes the various stages involve in the developmental processes. Through this reflective-participative approach, it is expected that there will be a continuous improvement in the teaching of Liberal Studies by developing apposite attitude of LS teachers.



In the 'Self-consciousness' stage, we would assist the participants to understand themselves in terms of attitude. The focus of this stage is to let the participants develop self-consciousness and to reflect upon their performance according to Gibbs' (1988) six-stage reflective cycle in a focus group discussion. In order to help participants to develop their own understanding towards attitude, Cattell's 16 Personality Factor Model (Conn and Rieke, 1994) (Figure 2) is used as a tool, although there are other psychological inventories to measure the affective and cognitive components of attitudes (Crites, Fabrigar, and Petty, 1994). We found that Cattell's 16 Personality Factor Model is simpler, more generic and easier to understand. Moreover, the use of Cattell's 16 Personality Factor Model is not for accurately measurement but for the individual participants to have an image of their attitude. It is believed that when the participants have a better understanding of their own attitudes, they might move away from the extremes of particular factors which

might not be suitable in the teaching of NSS Liberal Studies. After all, it is attitudes that prepare us to act in certain ways (Coon, 1006). This echoes what we discussed above that a Liberal Studies teacher would need to possess not only certain subject-content knowledge and pedagogical skills, but also apposite attitude in the teaching of Liberal Studies.

A post focus group interview of two participants had showed the effects of this Self-consciousness stage on fostering an apposite attitude.

I was dubious at the beginning. But when I spoke up (in the focus group), I had a sense of "being respect". And I also learned how to be an active listener... In our group, one of the members dominated the discussion and he expressed his views in a very coercive way. However in the reflection part (of the focus group), he initially denied that

he had behaved in that way. But eventually he seemed to understand the need to be open-minded and respect the others. Hence, I realized that we might not be able to see our own attitude when we were expressing our views and that we really needed to have constant reflection on this (the attitude),

especially we are a Liberal Studies teacher. [Participant A]

This focus group did help me to be more aware of my attitude and let me discuss an issue with multiple perspectives... The video-recording of the focus group would definitely facilitate our own reflection on the attitude. [Participant B]

Descriptors of Low Range	Primary Factor	Descriptors of High Range
Reserve	Warmth	Warm
Concrete	Reasoning	Abstract
Reactive	Emotional Stability	Emotionally stable
Deferential	Dominance	Dominant
Serious	Liveliness	Lively
Expedient	Rule-Consciousness	Rule-conscious
Shy	Social Boldness	Socially bold
Utilitarian	Sensitivity	Sensitive
Trusting	Vigilance	Vigilant
Grounded	Abstractedness	Abstract
Forthright	Privateness	Private
Self-Assured	Apprehension	Apprehensive
Traditional	Openness to Change	Open to change
Group-oriented	Self-Reliance	Self-reliant
Tolerated disorder	Perfectionism	Perfectionistic
Relaxed	Tension	Tense

Figure 2: Cattell's 16 Personality Factors (Adapted From Conn & Rieke, 1994)

In the 'Development' stage, a portfolio is used to assist the participants to develop according to their own characteristics and needs. This portfolio, with Cattell's 16 Personality Factors, will serve as a guide for individual development. Participants can take up other Continuous Professional Development Programmes that suit their developmental needs.

In the 'Enhancement' stage, participants should have more understanding on their attitude. They would design their learning activities for Liberal Studies classes according to their own personal styles. Participants will share their designed activities and teaching experience. We believe that behind each experience sharing there should be a purpose, whether it is made explicit or not. For instance, sharing a successful teaching experience may be persuasive in convincing others to adapt to a teaching method that was effective in a certain situation. Sharing a problematic case may be a warning to the others not to repeat the same mistake. Hence we insist to have a structured experience sharing session so that the participants can share their experiences in a formal setting.

The professional development approach introduced in this paper suggested the use of focus-group as a platform to develop LS teachers' attitude. In actual implementation, teachers can pick any current issues related to the 6 modules of Liberal Studies (CDC & HKEAA, 2007) as a discussion topic for a focus group. As the emphasis of the approach is on the attitude that teachers adopted in the discussion, there is no need for them to exhaust all the perspectives and standpoints. As such, most focus groups could last for an hour or less and can be held

anytime or when teachers meet together for lesson preparation. This professional development approach apparently would not take too much time from Liberal Studies teachers in a school. Besides, frequent running of focus groups is not necessary. Roughly speaking, once in every two months would be a favourable practice. Given the special nature of this subject, if teachers can spare an hour or so once every two months to develop their professional attitude in the teaching of Liberal Studies, we trust that it is very worthwhile.

Conclusion

"Teaching Liberal Studies can be challenging. It calls upon teachers to be open to new knowledge and ready to take on the new paradigm about learning and teaching which underlines the current curriculum reform" (CDC & HKEAA, 2005, pg. 81). We trust that this unique professional development approach could contribute to the continuous improvement of the teaching of Liberal Studies in school settings. We want to conclude this article by quoting a credo of active learning by Silberman (1996, p.1):

What I hear, I forget

What I hear and see, I remember a little

What I hear, see, and ask questions about
or discuss with someone else, I begin to
understand

What I hear, see, discuss, and do, I acquire
knowledge and skill

What I teach to another, I master.

References

- Avery, G. and Baker, E. (1990) *Psychology at Work* (2nd Ed.). New York: Prentice-Hall.
- Baldwin, J. and Williams, H. (1988). *Active Learning: A trainer's Guide*. Oxford: Blackwell Education.
- Bandura, A. (1986). *Social Foundations of Thought and Action: a social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bates, A. (1995). Technology and the Future of Education. *Technology, Open Learning and Distance Education*. London: Routledge.
- Boud, D., Keogh, R. and Walker, D. (1985) (Eds.). *Reflection: turning experience into learning*. London: Kogan Page.
- Brockbank, A. and McGill, I. (1998). *Facilitating Reflective Learning in Higher Education*. Buckingham. Philadelphia, PA: Society for Research into Higher Education & Open University Press.
- Brookfield, S. (1995). *Becoming a Critically Reflective Teacher*. San Francisco: Jossey Bass.
- Brown, J.S., Collins, A. and Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher*, 18(1), pp.32-42.
- Chi, M.T.H. (2005). Commonsense Conceptions of Emergent Processes: Why Some Misconceptions Are Robust. *Journal of the Learning Sciences*, 14(2), pp.161-199.
- Conn, S. R. and Rieke, M. L. (1994). *The 16PF Fifth Edition Technical Manual*. Champagne, IL: Institute for Personality and Ability Testing, Inc.
- Coon, D. (2006). *Psychology: A modular approach to mind and behaviors* (10th ed.). Belmont, CA: Wadsworth/Thomson Learning.
- Curriculum Development Council & Hong Kong Examination and Assessment Authority (2005). *Proposed New Senior Secondary Curriculum and Assessment Framework - Liberal Studies* (2nd Draft). Education and Manpower Bureau, HKSARG.
- Curriculum Development Council & Hong Kong Examination and Assessment Authority (2007). *New Senior Secondary Curriculum and Assessment Guide (Secondary 4-6) - Liberal Studies*. Education and Manpower Bureau, HKSARG.
- de Vry, J.R. and Hyde, P. (1997). Supporting Faculty Exploration of Teaching with Technology. *CAUSE/EFFECT*, 20(3), pp.45-48.
- Fern, E.E. (2001). *Advanced focus group research*. Thousand Oaks, CA: SAGE Publications.
- Gibbs, G. (1988). *Learning by Doing: a guide to teaching and learning methods*. London: Further Education Unit.
- Hager, P. (2000). Know-How and Workplace Practical Judgement. *Journal of Philosophy of Education*, 32(2), pp.281-296.
- Heron, J. (2002). Living Spirit - New Dimensions in Work and Learning. *Keynote Speech of International Conference on Organisational Spirituality*, 22-24 July 2002. <http://www.human-inquiry.com/Keynote2.htm> (accessed on 15 March 2006)

- Herrington, J. and Oliver, R. (1995). Critical Characteristics of Situated Learning: implications for the instructional design of multimedia. *Proceedings on Australian Society for Computers in Learning in Tertiary Education Conference 1995*.
<http://www.ascilite.org.au/conferences/melbourne95/smtu/papers/herrington.pdf> (24 Nov, 2000).
- King, P. and Kitchener, K. (1994). *Developing Reflective Judgement*. San Francisco, CA: Jossey-Bass.
- Kolb, D.A. (1984). *Experiential Learning: experience as the source of learning and development*. Englewood Cliffs, N.J.: Prentice-Hall.
- Krueger, R. and Casey, M.A. (2000). *Focus Group (3rd edition) - A practical guide for applied research*. Thousand Oaks, CA: SAGE Publication.
- Lam, C.C. and Zhang, S. (2005). Liberal Studies: An illusive vision? *Hong Kong Teachers' Centre Journal*, Vol.4, pp. 35 - 42.
- Montuori, A. and Purser, R. (1996). Ecological futures: Systems theory, postmodernism, and participative learning in an age of uncertainty. In D. Boje, D. Gephart, & T. Joseph, (Ed.). *Postmodernism and Organization Theory*, pp. 181-201, Newbury Park: Sage.
- Moon, J.A. (1999). *Reflection in Learning & Professional Development: theory & practice*. London: Kogan Page.
- Morgan, D.L., Krueger, R.A., King, J.A., (1998). *Focus Group Kit*. Thousand Oaks, CA: SAGE Publications.
- Puchta, C. and Potter, J. (2004). *Focus group practice*. Thousand Oaks, CA: SAGE Publications.
- Reeders, E. (2000). Scholarly Practice in Work-Based Learning: fitting the glass slipper. *Higher Education Research and Development*, 19(2), pp.205-220.
- Schön, D.A (1983). *The Reflective Practitioner: how professional think in action*. New York: Basic Books.
- Schön, D.A. (1987). *Educating the Reflective Practitioner: toward a new design for teaching and learning in the professions*. San Francisco: Jossey-Bass.
- Selwyn, N. and Gorard, S. (1999). The Role of Educational Technology in Establishing a "Learning Society". *British Journal of Educational Technology*. 30(4), pp.374-376.
- Silberman, M. (1996). *Active learning: 101 strategies to teach any subject*. Boston, MA: Allyn & Bacon.
- University of Texas at Arlington & Texas Department of Protective and Regulatory Services (2003). Training on Using Data to Make Decisions (Accessed 2 Feb 2007). <http://www2.uta.edu/ssw/trainasfa/glossary.htm>