
**Teachers As Researchers and the Development of Teacher Professionalism**  
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**ABSTRACT**

The engagement of teachers in research has long been advocated as a potential way to develop teacher professionalism (Cochran-Smith & Lytle, 1993, 1999; MacLean & Mohr, 1999). However, it is still a rather new concept to teachers to conduct research in a classroom setting in Hong Kong. In this paper, the influence of a school-university partnered project on the development of teacher professionalism has been examined. The project aimed to promote collaborative IPjBL. Four local primary schools have participated and specifically these teachers from four different subject areas – Chinese, General Studies and Information Technology teachers and teacher librarians. With the aid of Web 2.0 technologies, they have worked collaboratively in equipping their students with various knowledge and skills across disciplines by implementing IPjBL. It has been found that the school-university partnered project enhances the development of teacher professionalism. The culture of teacher-as-research has also been cultivated in the participating schools. Taking up role as a teacher-researcher has been suggested to be a potential way to further develop teacher professionalism.

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**Introduction**

The Education Bureau (EDB) of the Hong Kong Special Administrative Region (HKSAR) has incorporated project-based learning (PBL) into its General Studies (GS) curriculum for primary schools with the aims of facilitating students’ development of basic knowledge, investigation skills, and problem-solving capabilities (EDB, 2002). A school-university partnered project was organized to promote the collaborative inquiry project-based learning (IPjBL) in four local primary schools. In the project, four different subject teachers — Chinese, General Studies, Information Technology and the teacher librarians — have worked collaboratively in equipping their students with the necessary knowledge and skills to implement IPjBL. As a new teaching approach, IPjBL offers opportunities for teachers to collaborate with other teachers (both within school and among schools) and scholars from university. This practice provides teachers with an opportunity to reflect on their teacher professionalism and to engage in research, taking up the dual role of both teacher-practitioner and teacher-researcher.

The school-university partnered project can be divided into two phases. In the first phase, Primary 4 students were guided by the aforementioned four kinds of teachers to do their IPjBL group projects in General Studies (GS) (Chu, 2009; Chu et al., 2010). In the second phase, Primary 5 students used Wiki (Google Sites is used in this project) to do their IPjBL in GS and English collaborative writing (Chu et al., 2010).

This study attempts to understand the development of teacher professionalism of the teachers through their participation in the project. Two rounds of focus group interviews have been conducted. The first round of interview was conducted in the first phase of the project. The influence of the project to teachers’ development on professionalism was examined. In addition, the reasons for a limited number of teacher researchers were examined (Chow et al., 2010). The second round of interview was conducted in the second phase of the project. In this paper, how teachers have developed their teacher professionalism after gathering more experience from the project will be addressed.
Teacher professionalism

‘Teacher professionalism’ is associated with different meanings. Hoyle (1980) defined professionalism as the quality of the manner of conduct within an occupation, the application of knowledge on obligations, integration of skill between members, and the contractual and ethical relations with clients. According to Tschannen-Moran (2009), teacher professionalism is the perceptions of taking one’s work seriously, demonstrating a high level of commitment and going beyond what is expected to fulfill students’ needs. Teacher professionalism is essential for educational excellence (Toh, Diong, Boo, & Chia, 1996). Hall (1968, as cited in Toh et al., 1996) identified five attributes that are considered to be most relevant to teacher professionalism: use of the professional organization as a major referent, belief in service to the public, belief in self-regulation, sense of calling to the field, and autonomy for decision making. Lam (1983) described teaching experience, academic and professional qualifications, and professional developments as possible determinants of teacher professionalism, while Toh et al. (1996) identified professional development and training as the most significant factors of teacher professionalism but not the others.

Teacher research

Many terms such as ‘action research’ (Elliott, 1991; Zeichner, 1993), “practitioner research” (Zeichner & Noffke, 2001), “collaborative inquiry” (Bray, 2000), “critical inquiry” (Aaron et al., 2006), “self-study” (Bullough & Pinnegar, 2001) and “teacher-research” (Cochran-Smith & Lytle, 1993, 1999; MacLean & Mohr, 1999) have been used to describe different kinds of teacher research. Teacher research is a process in which educators investigate research “problems” by using their proposed investigative methods to observe and analyze, and the results will be shared with others (Bissex & Bullock, 1987; Cochran-Smith & Lytle, 1999; Goswami & Stillman, 1987; Kincheloe, 2003; Loughran, 2002; MacLean & Mohr, 1999; Myers, 1985). Qualitative data such as observational data, oral inquiries and journals (Cochran-Smith & Lytle, 1993), as well as narrative formats are usually used. It is said that school-based teacher research is the most effective method of generating educational knowledge (Hargreaves, 1998).

Teacher research as professional development

Providing continual and meaningful professional development is important for teachers (Atay, 2008). Teacher research facilitates the professional development of both pre- and in-service teachers and promotes critical reflection, change and reform in K-12 settings (Roulston, Legette, Deloach, & Pitman, 2005). Through the research process, teachers learn to investigate questions they found in their teaching practices, make observations, draw conclusions, and apply their findings to their pedagogy (Shakir-Costa & Haddad, 2009). Teacher research has positive effects on the professional competence of teachers since action research helps developing teaching as an evidence-based profession (Furlong & Salisbury, 2005). Francis, Hirsh and Rowland (1994) also discussed that “teacher research raises the status of the occupation of teaching in the society and produces knowledge about teaching and learning useful to other teachers, policy makers, academic researchers and teacher educators” (Atay, 2008). This implies that teachers are true professionals only when they actively apply educational theories into practice (Biggs, 1994; Gibbs, 1994).

Teacher research has a great influence especially on teachers themselves (Oja & Smulyan, 1989). The influence is mainly in the cognitive, affective and interpersonal aspects. Cognitively, as teacher's abilities of applying theories into practice may be increased by conducting research, their content and pedagogical knowledge may be enriched as well (Kirkwood & Christie, 2006). More advanced critical thinking may also be stimulated when the teacher-researchers make reflections on the effectiveness of their teaching practice (Allen, Cary, & Delgado, 1995) and begin to be more flexible and open-minded (Oja & Smulyan, 1989). Affectively, teachers may be more sensitive to students’ needs by adopting a more learner-centered approach in teaching (Mclaughlin, 2004). Conducting research may also enhance teachers’ self-confidence and self-efficacy in their teachings (Boudah & Knight, 1998). Teachers usually feel more confident to be leaders as they have already learned to be proactive, and to act as a change-maker in their schools (Price & Valli, 2005). Zeichner (1993) also reported the more analytic and focused approach enables teachers to establish a sense of intellectual engagement and professional renewal.

The future of teacher-researchers

Campbell (2003, p.383) stated certain main factors that promote high-quality teacher research: “autonomy and control of research questions and project design by the teacher researchers; a high quality of support for research projects; robust processes of self-monitoring, critical reflection and evaluation; transparent procedures for dissemination and promoting debate of research projects and findings; the establishment of critical communities in which teachers’ research is made public.” The emphasis on critical reflection, analysis and external authorization in research made teachers choose to conduct research instead of using other methods to
examine their teaching and learning issues (Watkins, 2006). Atay’s (2008) study on teachers who participated in an in-service education and research training showed that many teachers have developed research skills in classroom for further research practice. Some teachers also pointed that conducting research increased their sense of professionalism and raised their awareness in teaching practices. In general, the role of teacher-researchers in developing teaching and learning knowledge should be acknowledged; both the academics and the practitioners have to understand more about each other’s interpretation and concept on educational research (Watkins, 2006). Partnership between teachers and higher institutions is vital for the future of school-based research (Rose & Garner, 2002). Appropriate training, motivation, and support will enable teachers to carry out meaningful research (Watkins, 2006).

**Research Methods**

The data of this research is collected through focus group interviews. Nine focus group interviews were conducted with 40 teachers to collect in-depth qualitative data on their experiences, comments and reflections on this school-university collaborative research project.

The focus group interviews were conducted in two rounds. The first round of interview was conducted during the first year of implementation of the project. Four focus group interviews were conducted in each participating school and one additional focus group interview was carried out with the teacher coordinators. The second round of interview was conducted during the second year of implementation as a follow up interview. Four focus group interviews were conducted in each participating school in the second round. Each focus group interview lasted for 45 to 60 minutes with a group size from five to ten.

There were nine questions prepared for interviews in the first round while in the second round of interviews four questions were prepared (see Appendix). The questions asked for teachers’ comments on the new teaching approach from the IPjBL project and tapped into teachers’ understanding of their personal development of teacher professionalism.

Participating teachers come from four local primary schools teaching four different subject areas, including Chinese, English, General Studies (GS) and Information Technology (IT) teachers and teacher librarians. Some of the teachers taught only one of the above subjects, while others taught more than one subject. Eight teachers took the role as teacher coordinators (TC), who were responsible for meeting with the investigators of the IPjBL from the university and leading their colleagues in school in carrying out the projects.

All the focus group interviews were recorded and transcribed. NVivo 8.0, a Computer Assisted Qualitative Data Analysis Software (CAQDAS), was used to assist in data analysis. Coding was done using NVivo with themes identified. Pseudonyms are used for all schools and teacher-participants for confidentiality.

**Findings and Discussions**

**The school-university partnered project fosters development of teacher professionalism**

With the aim to help teachers develop teacher professionalism, the influence of a school-university collaborative research project is examined in the end of each school year. In the second phase of study, this project adopted new Web 2.0 tools such as Google Sites, instead of pen and paper, in doing IPjBL. Together with the experience gained from the first phase of this school-university project, the active participation of teachers has been found to further present them with opportunities to develop their teacher professionalism ranging from knowledge enrichment of incorporating information technologies into teaching, strengthening collaboration with university experts, establishing a knowledge sharing community inside and outside school, to improving curriculum design and teaching strategies.

**Knowledge enrichment** Based on the experience from the first phase of study, teachers have further built up their knowledge in the implementation of IPjBL, IT literacy and information literacy through various channels. Since the new teaching approach involved the use of Web 2.0 technology, teachers have learnt new IT skills, particularly in the use of Google Sites, from the workshops provided by university experts. While teachers can scaffold students to use the new Web 2.0 technique they have learnt, their newly acquired computer knowledge was strengthened and enriched through in-class teaching at the same time. Lily, a GS teacher, believes that she is learning together with her students:

For teachers, they might also need to take time in learning Google Sites while they are teaching it to students. For example, my students asked me how to change the order of pages, and I told them I would answer them later. Then I tried to drag and drop the pages and play around, and
found that ‘I could do it!’ Sometimes we will encounter many unexpected problems that we need to solve. Honestly, I cannot teach them. We can only learn together.

In response to teachers’ suggestion from the first focus group interview, the research team has written three teaching guides (Chu, et al., 2010; Chu, Law, Choi, Mak, & Pun, 2010; S. K. W. Chu, et al., 2010) to provide teachers with more solid instructions on the implementation of IPjBL in the classroom. Several teachers found the teaching guide especially helpful. Chinese teacher Clarice shared how the teaching guide aided her:

This is my first year joining the project. At the beginning I did not really know what it was about, but I could rely on the teaching guide. I find the teaching guide useful as it provides me with clear information and instructions on how to implement the project.

**Collaboration among teachers and schools** One of the aims of the school-university project was to promote collaborative teaching in IPjBL among teachers from four different subject areas including Chinese, General Studies and Information Technology teachers and teacher librarians. As teachers have to work collaboratively to equip students with various interdisciplinary skills and knowledge to complete the IPjBL, the collaboration has brought more interaction and communication among teachers to share their experience and teaching plans. Clarice, also a new teacher joining the project, mentioned how interaction happened within schools with her colleagues:

When I am not sure what I have to do, I would also take my initiative to ask my helpful colleagues and they kindly give me some instruction as they took part in this project last year. It is fortunate to have support from my colleagues; otherwise, I would have been helpless.

The collaborative teaching approach allows teachers of different subjects to understand the roles of other subject teachers more comprehensively. For example, teacher librarian Helen finds that the collaborative teaching approach has deepened the mutual understanding in among different subject teachers:

I think this IPjBL project provides a platform for teacher librarians to communicate and collaborate with other subjects’ teachers. Teacher librarians can know more about the contents of other subjects, but not only limited to library lesson.

Knowledge sharing community has been established, both inside and outside school. As teachers from different participating schools regularly attended workshops and meetings organized by university, opportunities for knowledge exchange and experience sharing on teaching strategies, school administration and implementation of IPjBL no longer only happened among teachers within the same schools. Inter-school collaboration has naturally occurred through the discussions. In the words of Helen, she highlighted how teachers from different schools collaborated:

In the meeting with teacher librarians from the other three participating schools, we shared the teaching materials, discussed the challenges and potential solutions, and reflected on the problem to avoid or learn from others’ experience. The meeting not only encourages collaboration and idea exchange among institutes, but also broadens my horizons. Although we seldom meet each other face-to-face, we often communicate through email.

Helen further stresses the benefits brought by the collaboration:

The exchange of ideas has brought me lots of insight into my teaching, ranging from the approaches to teach Library lessons, the use of textbooks, to how to search books in public library. The most practical advantage of this program would be the sharing of resources like worksheets which saves me a lot of time in preparation.

Teacher coordinator Luke agreed with Helen and added that:

It is a very good opportunity to share with other schools. Sometimes, the preparation done by my colleagues probably focuses only on our students. The collaboration with other schools would remind us some key points that may be missing in our ongoing strategies or future strategy planning.
Although instructions have been given by experts in university to teachers on the implementation of IPjBL, unexpected challenges arose in the course of real practice. IT teacher Kelvin exclaimed that the enhanced interaction among schools was an important vehicle for him to seek professional advice:

Sometimes I had gatherings with other IT teachers from different schools and we would do sharing on the difficulties we encountered in teaching. We would discuss how to improve and cope with the challenges in teaching.

**Curriculum design and teaching strategies** From this school-university project, teachers have gained new insights into their teaching plans and approaches so as to better equip their students with the essential skills and knowledge across disciplines to accomplish IPjBL, and more importantly to maximize the learning process and effect. As Chinese teacher Ada emphasizes that inter-disciplinary teaching is a new direction for curriculum design:

We often mention ‘inter-subjects’ and collaboration between subjects, which means we not only teach students of different subjects in separate classes, but also have to help students to become capable of integrating their knowledge from all the subjects and allow students applying the knowledge they have acquired. And this is our course development direction.

Cora, the panel of IT, believes that adding new elements to teaching plan is beneficial to both students and subject development of IT:

In the past, students usually did project with books or PowerPoint. But in this project, students tried to use Google Sites, a web-based presentation, to complete their reports. Although this project came to an end, is it possible to do project with Google Sites in the coming year? This brings new directions to IT teachers. Shall we continue to collaborate with the General Studies? This approach gives us a brand new concept to try it out. These new elements will surely help the development of teaching in the coming years.

In addition to curriculum design, this new mode of collaborative teaching has led to profound changes in teaching strategies to enhance students’ learning. According to GS teacher Charles, the new teaching method is more effective than the conventional approach:

I have taught GS for two years as well and I had joined this program in those two years as well. I think the most significant results of the collaboration is significantly reflected in the subject of General Studies. When I tried to compare the final products of students done in last year with those in this year, I found that students become more knowledgeable. This IPjBL has granted them high level of autonomy and hence strengthen their leadership skills. Sometimes the traditional teaching approach may limit the potential of students.

**Teacher professionalism** Because of the implementation of IPjBL, many teachers believe that they have advanced their teacher professionalism in various aspects. As a teacher coordinator, Tiffany feels that she has improved a lot in both her teaching and communication skills:

Throughout the whole project, I really gain a lot in term of the professional development of teachers. Admittedly there is room for improvement in internal communication and collaboration among teachers. This makes me rethink my role as a coordinator and the inefficiency of my teaching.

Chinese teacher Daisy adds that this experience also helps her understand more about students’ learning process and abilities:

As students have to use many methods and skills to complete their project work, we can understand more about the students’ learning difficulties from different perspectives. We can formulate a much clearer teaching approach to enhance their capabilities.

The knowledge that teachers gained from the project can be applied to real practice in classroom, which also reflects the development of teacher professionalism. Chinese teacher Claudia concludes that it is a refreshing experience to her teaching:
After joining this project, there are some changes in my teaching style. In the past, I often relied on textbooks. But now I would use more internet resources in my teaching. For example, I collaborate with other GS teachers to do newspaper clipping from Google and use them as a new source of teaching material for reading and summary writing. This project makes me more flexible and capable in dealing with the instant needs of students.

The school-university partnered project cultivates the culture of teacher-researchers

According to the first round of focus group interviews, teachers admitted that they felt reluctant to conduct education research because of the lack of support from schools and university, and personal factors that related to teachers themselves. The main obstacles were time constraint on teachers who have to take up multi-roles in administration and teaching, and the lack of interests and skills to conduct research. However, the current situation has been improved and the culture of teacher-researchers is forming among teachers from the four participating schools.

Less constraint In Hong Kong, the duties of teachers do not only include teaching, but also taking charge of extra-curricular activities and administration work. The preoccupation with such heavy workload makes teachers cannot spare more time for research study. Noticing the past situation, university has provided teachers with more resources and support to tackle the time constraint so that teachers could spend less time on preparation work but focus more on their research work. For example, IT teacher Chris talked about how university experts eased their workload throughout the project:

In the project this year, the University of Hong Kong has given us more support, like the handbook on Google Sites, which has helped a lot. There are also pre-made worksheets provided so that we could distribute the materials to students to use it during class, which saves me a lot of time.

Less reluctance Since the second phase of the school-university partnered project, more teachers have become more interested to engage in research. From the words of Andrew, he believes that this project is a turning point for their teaching approach and has given inspiration to teachers:

At first, many of my colleagues questioned if the project works or leads to better results than before as the previous things were already good enough. Hence, we carefully observed everything at the beginning. This program undoubtedly provides us with clear teaching approach and solid timetable for our reference. It also gives us a chance to think on many issues like the division of labor, how collaborative teaching carried out and the future planning. Before carrying out this project in real, our colleagues thought that there was no need to explain to them what and how to implement IPjBL. But it was not true. Thanks to the advice and direction given by the university, we accumulate valuable experience. We are so very grateful to HKU for the chance they gave us to have collaboration.

Teachers have taken their initiatives in various aspects to acquire essential IT skills and information literacy. Many teachers admit that after taking part in this project, they are more willing to learn new technology like Google Sites as they find students enjoy this new mode of learning process. As mentioned by IT teacher Kitty, her students demonstrated active learning:

Students’ interests in learning are increased after using Google Sites in the second term, compared to the first term when they use paper and pen only. They tried to search for pictures and some groups even tried to insert Youtube videos. The learning process is much more fruitful because it is more systematic and there is more information available for the students.

Lily from the same school as Kitty agrees and adds that she feels glad to learn with students:

This new model of learning is interesting to students. They are willing to try, and they will ask their teachers actively if they encounter any difficulties.

Apart from the willingness to acquire new knowledge and skills, some of the participating teachers have even taken a further step towards the role as a teacher-researcher. Several teachers gave presentations in a symposium sharing their hands-on experience in the implementation of IPjBL and the learning process of their students.
students. The challenges they have come across during the project have also been discussed. Each of them has also published a conference paper regarding their sharing. This clearly illustrated the competency of frontline teachers to be a teacher-researcher.

**Conclusion**

This project has equipped frontline teachers with strong background knowledge, relevant IT and research skills, and student-centered teaching experience. Teachers have also developed their teacher professionalism in various aspects including IT literacy, information literacy, communication skills, curriculum design, teaching strategy and formulation of future teaching plan. It is shown that the project helps teachers develop their teacher professionalism.

In fact, the lack of a teacher-as-researcher culture may be related to the examination-oriented education system and the conventional role and duties of teachers which does not support or encourage teachers to engage in research. These external social factors may not be able to be altered in a short period of time. However, it is foreseeable that many teachers would take part in research through classroom teaching, given that they are supported by university experts. It is envisaged to promote the culture of teacher-as-researcher in Hong Kong. Because of the challenges brought by the ever changing technology and education reform, taking up role as a teacher-researcher may be a potentially practicable way to further develop teacher professionalism.
Appendix

Focus group interviewing questions with participating teachers in the first round of interviews:

1. What is your expectation from this project (IPBL)?
2. What is your opinion on collaborative teaching? In term of its benefits, challenges, and practicality?
3. How would you describe the current new initiative (IPBL, sponsored by QEF) as compared to those (please name some of them, whether they are top-down from outside, such as from EDB, School-based, or self-initiated) that you have engaged in?
4. What do you learn, in terms of teaching, from this (IPBL)?
5. How do you perceive the students’ ways of learning throughout the lessons or learning activities as initiated by this project?
6. Overall speaking, after joining the project, how do you describe the relationship between IPBL and your daily teaching practice?
7. Could you tell us something about your teacher professionalism since the participation of the project? Any changes?
8. Is there any change to your teaching beliefs after joining this project? If yes, in what way(s)?
9. Could you draw or write something as a summary of your experiences/learning in this project?

Focus group interviewing questions with participating teachers in the second round of interviews:

1. What is your overall impression about the Project (from different perspectives, such as leadership and implementation levels)
2. What do you perceive as effective ways to deal with ongoing demands in curriculum changes/development?
3. Could you tell us something about your teacher professionalism since the participation of the project?
4. What do you expect from the partnership model between University and School?
References


