

Mosston's Reciprocal Style of Teaching: A Pilot Study in Hong Kong

Chung LI and Wai Keung KAM

Hong Kong Institute of Education

Abstract

Background: Mosston's "spectrum of teaching styles" which composes of 11 pedagogical approaches in physical education (PE), has been popularly promoted for maximizing students' learning in the Western countries. However, very few of them have been put into practice and studied in Hong Kong. This article concerned a report of a pilot study on one of the teaching styles, reciprocal teaching.

Aims: The study aimed to examine students' and teacher's experiences when engaging in learning and teaching in reciprocal teaching. Sample: 3 classes of 80 male students (Form 3 : 31 students, Form 2 : 26 & Form 1 : 23) from a local secondary school and their PE teacher were invited to participate in the study.

Methods: Attached to the action research perspective, 3 teaching units of gymnastics, swimming and handball were conducted in the form of reciprocal teaching. Data composed of students' reflective journals and interview as well as teacher's self review were collected at the end of the teaching units.

Findings: both the teacher and students experienced reciprocal teaching positively. Students perceived their learning as active and comfortable. They were satisfied with their mastery of skills, taking peer tutoring roles, engaging in observing, taking care of others and seeing their partner's improvement. They also encountered with those dissatisfying experiences of boring, simple and repetitive learning content, difficult skills and the undesirable learning attitude of some of the students that they feared of ending up with discipline problems and learning nothing. Their articulation with their improvement in collaboration, communication and presentation skills, building up confidence, team spirit and learning attitude of trying hard was found.

Conclusion: The reciprocal teaching might solve some of the current PE problems of passive learning, little collaboration and weak accountability of learning as well as empowering students in their learning. Students' worries concerning reciprocal teaching might end up with learning nothing. Their worries may generate pedagogical implications on how reciprocal teaching can be implemented fully. It is suggested to launch large scale studies relating to the application of reciprocal teaching on different levels of students and other PE teaching contents.

Keywords: Peer-assisted learning, innovation, teaching styles.

Mosston之互惠式教學法：香港的一項先導研究

李宗，甘偉強

香港教育學院

摘要

背景：包括11種體育教學法之「Mosston教學光譜理論」在西方國家早已十分普遍地推行。但是，上述教學法在香港極少被採用及研究，故此，本文嘗試報告其中一種名為「互惠式教學法」的先導研究。

目的：本研究旨在探討學生與教師於互惠式教學法之學與教經歷。

取樣：一所中學三班共八十名男學生（三十一名中三生；二十六名中二生和二十三名中一生）及其體育教師被邀請參與是項研究。

方法：本計劃以行動研究為依據，透過「互惠式教學法」進行體操、游泳及手球等學習單元教學，研究數據包括學生之反思日誌和訪談及教師的自我檢視。

結果：教師與學生均予以「互惠式教學法」正面的評價，學生形容他們感受到積極、正面及舒適的學習氣氛。他們感到滿足的經歷包括擔當觀察者及實踐者的角色觀察及關顧同學及看著同儕進步等。惟沉悶、簡單及重複的學習內容和未能掌握艱深的技能成為他們不快的經歷。互惠式教學法的學習經歷使他們學會協作、溝通和表達等技巧，從而建立信心、團隊精神和努力嘗試等學習態度。但是，他們也因一些不認真的同學所帶來的紀律問題影響學習而感到煩惱。

總結：互惠式教學法可解決部份體育課堂的問題如學生較被動的學習，課堂較多以遊戲、練習及身體訓練為主，過程較少加入協作的元素和學習忽略問責等。此外，學生的煩惱帶來改善此教學法的啟示。本研究建議開展大型的研究，探討應用互惠式教學法於不同程度的學生和其他體育教學內容。

關鍵詞：同儕協作學習、創新教學、教學模式

Introduction

In Hong Kong, school physical education (PE) has undergone considerable academic, professional, educational and scientific advancement in the past decades (Li, 2008). However, it has not been accepted as a mainstream subject in some schools in Hong Kong. It may be due to the cause of the failure of the subject to provide students with meaningful experience mentioned by Misner and Arbogast (1990). As a matter of fact, some local PE lessons have commonly been conducted by the teacher-centered pedagogy which emphasizes on class management, safety and instructional efficiency rather than students' learning. As the result, students' motivation, autonomy and being active in learning are hindered. PE teachers usually claim to cultivate students' collaboration, communication and social skills through group work. However, evidence of such learning has rarely been evident. Moreover, unfavorable teaching environment of large class size, inadequate PE equipment, increasing students' discipline problems are common that affect the provision of quality teaching for maximizing students' learning. Means of improving local PE provision are necessary.

Mosston's Spectrum of Teaching Styles

Mosston's "Spectrum of Teaching Styles" is one of the models popularly promoted in the Western countries for maximizing students' learning. However, it has rarely been promoted in Hong Kong. The spectrum was published by Mosston in 1966 which has later been expanded from 8 to 11 styles (Mosston, 1966; Mosston & Ashworth, 1994; 2002). The spectrum categorizes the chain of decisions made by teachers and/or students in the learning and teaching phases of the lesson (the pre-impact-planning, impact-teaching and post-impact-evaluation phases). At one end of the spectrum, the reproduction styles (Style A to E) signify teacher's

domination over the decisions across all three phases of the lesson. The styles assume that students learn by replicating known information or imitating a motor skill which are more akin to didactic, teacher-centred and direct instruction. Towards the other end, the production styles (Style F to K) categorise students' learning by discovering and utilizing cognitive operations like problem solving, inventing and creating new movement patterns. The styles are based on the non-versus approach on teaching (Sicilia-Camacho & Brown, 2008) highlighting "no one style is the only or best universal teaching-learning approach" and "all when used appropriately contribute to human development in different ways" (Chatoupis, 2009, p.193). The styles carry with them philosophical assumptions ranging from behavioural to constructivist orientation of learning illustrating diversified views of "how students learn" and "best learn".

The spectrum is thought to be capable of catering students' diversity, meeting multiple PE objectives, providing a coherent, comprehensive, universal, systematic, practical and integrated framework and options for teaching and learning (Mosston, 1992; Cothran, Kulinna & Ward, 2000). As early as 1973, Nixon and Locke (1973) commented that the "Spectrum of Teaching Styles" is "the most significant advance in the theory of physical education pedagogy in recent history" (p.1227).

Reciprocal Teaching Style

Among the 11 styles of teaching, reciprocal teaching (Style C), carries similar concept of peer assisted learning, peer tutoring (Ward & Lee, 2005) reciprocal peer tutoring (Ernst & Byra, 1998; Iserbyt, Elen & Behets, 2010) or peer-mediated accountability (Ward, Smith & Makasci, 1998). The style is thought to be more capable of solving the problems of large

class size, inadequate equipment, limited class time and limited individual feedback provided for students facilitating their learning (Jackson & Dorgo, 2002).

The content and process of learning are purposefully structured for implementing reciprocal teaching. The role of the teacher is to plan the lesson, compile learning tasks and performance indicators possibly with the task card. He or she then pairs students with clear role definition and switching of “doer” and “observer”. The doer practises the learning task with the feedbacks from the observer. The teacher provides feedbacks to the observers to help doers’ learning (Mosston & Ashworth, 2002; Byra, 2004; Iserbyti, Elen & Behets, 2010). The role definition and switching are thought creating a positive interdependence between partners.

Following Iserbyti, Elen and Behets (2010) and Ward and Lee (2005), Vygotsky’s (1978) social-historical perspective may be more appropriate in explaining the theoretical framework of reciprocal teaching. The theory adopts pedagogical concept of social constructivism, which assumes the fundamental role of social interaction in the development of human cognition. Learning is triggered by social interaction with the impact of “more knowledgeable other” and creating “a zone of proximal development”. A zone of proximal development is defined as the actual and potential levels of development “as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky (1978, p.86)). The social learning environment of peer tutoring, the guidance of the teacher and collaboration with their peers commonly structured in reciprocal teaching serve as opportunities for more knowledgeable others for tutoring as well as trigger the zone of proximal development for the students to achieve the learning task.

A number of PE researchers from the Western countries have conducted studies on reciprocal teaching. Goldbergers and Gerney (1986) and Ernst and Byra (1998) compared the effects of reciprocal teaching with the command style of teaching (Mosston’s Style A). In general, students were found improving in their skill performance under the conditions of reciprocal teaching. The results were valid for different-aged students and across various motor tasks.

Similar finding was shown from the study conducted by Iserbyti, Elen and Nehets (2010) on 86 University Kinesiology students’ (aged 17-19) learning in Basic Life Support programme. With the experimental pre- and post-test design, they confirmed that guidance comprising role switching and role definition enhanced skill retention in the reciprocal peer tutoring with task cards.

Goldberger, Gerney and Chamberline (1982) and Goldberger and Gerney (1986) highlighted in their findings that reciprocal teaching “provided more feedback, expressed more empathy, offered more praise and encouragement to each other, and requested more feedback from each other when compared to the control group” (Goldberger, 1992, p.43).

Ernst and Byra (1998) inquired how students’ physical, cognitive and social learning might best be facilitated in the reciprocal teaching. 60 junior high school students were paired by their skill ability during an 8 lesson unit of juggling. They found that all students improved the juggling scores from pre- to post-test except the control group. The low-ability students improved greatly regardless of which persons they were paired. Similarly, all students (except the control group) were found having significant improvement in score of the knowledge gain (ability to identify skill elements of the movement) between the pre- and post-test regardless which partners they were paired. All students were also

found relating their positive learning experiences with providing and receiving feedback to and from partners. It appeared that skill and knowledge gains were apparent while engaging in the socializing process unique to the reciprocal teaching.

Similarly, Byra and Marks (1993) studied students at elementary school level concerning the effects of different pairings when engaged in reciprocal teaching. They found that students provided more specific feedbacks to partners. They felt more comfortable receiving feedbacks when they identified their partners as friends. Grouping by ability was found having no effect on amount of feedback provided or received, or the comfort level of either the observer or doer. It was assumed that students would be interacted more when being required to provide feedback and task-related information.

By using the interviews and questionnaire techniques, Byra (2006) examined the perceptions of 15 fifth-graders while engaging in reciprocal teaching. In his study, the students “reported being empowered (i.e., able to make decisions about their partner’s performance), challenged (i.e., able to analyze a partner’s movement and give feedback), and fully engaged (i.e., socially, cognitively, and motorically) within a positive, and enjoyable environment” (p.3).

Although considerable amount of studies have been conducted on the effectiveness of reciprocal teaching in the Western countries, little is known about how PE teachers and students experience their teaching and learning in Hong Kong. Students and teacher are central to teaching and learning processes. Thus inquiring how they experience their teaching and learning is important. On the other hand, relatively few studies have accounted for students’ and teachers’ experience in PE (Dyson, 2006), in particular, reciprocal teaching in this study (Byra, 2006). Accordingly, launching a study on the

how they experience the reciprocal teaching is a timely initiative.

Methodology

This pilot research project aimed to investigate how students and PE teacher experienced their learning and teaching conducted in the form of reciprocal teaching. The action research perspective was attached as theoretical reference. Action research is simply defined here as an interactive inquiry process for solving or tackling the practice problem or issue of the teacher with the intention of understanding underlying causes about personal and organizational change (Reason & Bradbury, 2007). It carries practitioners’ wisdom of practice, empowering and acknowledging their practices, and enhancing their professional development (Elliott, 1991; Stenhouse, 1975). Accordingly, interpreting and understanding students’ and the PE teacher’s experience as well as underlying causes while engaging in an innovative instructional model, reciprocal teaching, was the major focus of the study.

A secondary school situated in the western part of the New Territories was invited to participate in the project. The School emphasized on promoting students’ all round development, inquiry attitude and life-long learning capability. The school management supported the PE curriculum by providing necessary resources for the planning and implementation of respective formal and co-curricular programmes. Moreover, the PE teacher has initiated innovations for maximizing students’ learning before. Accordingly, the decision of inviting the school as a collaborative partner for the project was made. 3 classes of secondary 1, 2 and 3 with the total of 80 male students (Form 3: 31 students, Form 2 : 26 & Form 1 : 23) were invited to participate in the study. Three teaching units of gymnastics (Secondary 2), swimming (Secondary 1) and handball

(Secondary 3) were conducted in the form of reciprocal teaching suggested by Mosston and Ashworth (2002) respectively. Each teaching unit composed of 10 lessons. Each lesson lasted for 40 minutes. In designing the teaching units, all possible measures for structuring positive learning environment were conducted. Respective teaching themes of gymnastics, swimming and handball were structured. Students were paired up for their peer tutoring. Opportunities to learn were increased and means of promoting their self-responsibility; fostering accountability and switching from teacher-centered to student-centred teaching were ensured throughout the lessons.

The interview and reflective journal for students and teacher's self review were adopted as data collection techniques because they were thought to be versatile and flexible. Nine students were invited for the interviews. A stratified sample with 3 students with the "high", "average" and "low" sports skill proficiency respectively were invited to attend the interview. The sample of the "high" level of skill proficiency included 3 students with the pseudonyms of H1, H2 and H3. They had represented their schools in the inter-school competitions. Another 3 "average" level students with the pseudonyms of M1, M2 and M3 were those who had participated in the interclass and inter-house sports competition. The group identified as the "low" level of skill proficiency included students L1, L2 and L3 who had never participated in any sports competition in schools. The inclusion of students with different sports skill levels was intended to compose a representative sample for the interview. All interviews were conducted at the last session of the teaching units. Before the interview, all interviewees were briefed with the purpose and details of the study as well as their rights and obligations. Upon receiving their consent, the interview was conducted which lasted for about 15 minutes each.

The duration was regarded suitable for collecting all necessary information as well as maintaining students' concentration. Major issues to be inquired included their feeling about the reciprocal teaching, critical experiences encountered, major differences when compared with that of their previous lessons, satisfying and dissatisfying experiences, their perceived learning and difficulties encountered.

At the end of the teaching units, 10 students from each of the 3 classes were randomly selected and invited to complete the reflective journals. The guiding questions in the reflective journal for students included the kinds of experiences impressed them most; the activities that interested/satisfied them most; the activities that troubled/dissatisfied them most and their learning resulted from the teaching units. They were explained with the details of the study, their rights and obligations as well as the guarantee of their confidentiality and anonymity. Upon receiving their consent, they were asked to complete the reflective journal at their own time and return it the day after.

During the implementation of reciprocal teaching for the 3 teaching units, the teacher was asked to record his self review after each lesson as well as at the end of each unit. The self review mainly concerned his articulations of general impression on reciprocal teaching, effective teaching activities, difficulties encountered and students' learning outcomes perceived as the result of the reciprocal teaching.

Through inductive analysis, all data were transcribed, organised and coded. Emerging and recurring themes concerning students' and teachers' experiences of the reciprocal teaching were decontextualized (Strauss and Corbin, 1998). To illustrate the holistic picture of students' and teacher's experiences, students' reflective journals and interviews as well as teacher's self review were mingled together

and presented for illustrating the themes.

The credibility of this research was enhanced through triangulation of data from students' interview and reflective journals, and teacher's self review. The transcripts of interviews and reflective journals were gone through expert review of a male PE teacher educator. The PE teacher educator was invited to review and verify the transcriptions of the interviewing dialogues and reflective journals. With over 10 years PE teaching experience in secondary schools, he was familiar with students' learning in PE. He also had experience in conducting qualitative research and thus was competent in reviewing and verifying the translated transcripts. With his comments and suggestions, wordings and descriptions in some transcripts were amended and adopted.

Results

Three classes of Form 1, 2 and 3 students from a secondary school experienced their learning in gymnastics, swimming and handball in the form of reciprocal teaching respectively. Nine students with different skill levels and pseudonyms of H1, H2 and H3, M1, M2, M3, L1, L2 and L3 participated in the interview while 10 students from each class were randomly selected to complete the reflective journal at their own time. A total of 24 reflective journals identified as Q1, Q2 to Q24 were received for analysis. The return rate was 80%.

The teacher was an experienced PE teacher with more than 20 years of PE teaching. He tried the reciprocal teaching last year. In his self review, it was recorded that he planned the lesson and compiled with various learning tasks. The progression was decided from simple-to-complex and from part-to-whole principles (Byra, 2004). With reference to the "PE Learning Outcomes Framework" recommended by the PE

Section, Education Bureau of Hong Kong (2008), task cards with performance indicators were compiled for helping students to provide feedbacks and facilitate their peer tutoring role. Students were paired up according to the suggestion of "self-selection" made by Byra and Marks (1993) and Mosston and Ashworth's (1994). The teacher monitored the lesson closely and provided feedbacks to the observers during peer tutoring. Students were allowed time to listen, discuss, make decisions, work together and solve problems. He monitored the lesson flow, assigned students to switch roles and praised students for their positive communication skills. Through inductive analysis and constant comparison, the following themes were identified:

Theme 1: Reciprocal Teaching Could Provide a Positive and Comfortable Learning Environment

Most students experienced a more positive and comfortable environment with less pressure in reciprocal teaching. Having ample opportunities for practice, trying out new ideas and receiving encouragement, they were not afraid of making mistakes and preferred their learning with their peers. Students' positive articulations did not differ from the levels of their skill proficiency. L1 described his experience in the interview, "I felt the pressure when learning was monitored by the PE teacher...However, when learning happened between me and my classmate, I felt more comfortable and relaxed. We not only learnt from each other, but also had great fun". H1's experience was positive. He commented,

I was proud of taking the role as the observer for it provided me with opportunities to teach my classmate. I was much eager to try out without the direct supervision of teachers... I felt easier when making mistakes in front

of my classmates. Such learning is quite encouraging. (H1)

M1 recalled his similar experience by commenting that, I was free to try out new ideas and provide feedbacks to my classmate. I was particularly delighted when my partner could perform the skills because of my clear instructions. Although, he sometimes refused to take my advice and we did argue for a couple of times, we were able to learn from each other... I prefer reciprocal teaching. (M1)

L3 echoed, "...the learning atmosphere was much better (when being taught in the reciprocal style). We felt more relaxed. Making mistakes seemed not to be a big deal then...I was encouraged to learn from my classmate even though gymnastics was difficult for me".

In the reflective journals, students also recorded similar experiences while involving in reciprocal teaching. Complementary remarks as "relaxed" (Q15; Q5); "learnt a lot" (Q4); "swimming with my classmate was of great fun" (Q18); "could have fun in the PE lesson" Q17; Q10; Q11); "very interesting and joyful. That was what I was looking for" (Q16; Q24); "could learn and make progress with each other" (Q19); "delightful learning atmosphere and we shared knowledge with each other" (Q2); "playful" (Q7); "relaxed, fun but disciplined" (Q12) and "happy and relaxed" (Q9) were recorded.

Similar articulation was found in teacher's self review. It recorded that "reciprocal teaching could create a sound learning atmosphere" which "helped to promote fun, self-directed and motivated learning".

Both teacher and students accepted their teaching and learning in the form of the reciprocal teaching. It provided them with opportunities for peer tutoring within which they learnt with their peers. More important, they felt more comfortable in such learning

context and they were willing to try. Making mistakes naturally became part of their learning process. Unlike the direct supervision from teachers, it might not cause much anxiety. The finding matched well with that of the study conducted by Byra and Marks (1993) and Byra (2006) although with the sample of elementary aged students. More freedom and autonomy in learning process might help to promote active learning.

Theme 2: Students' Satisfactory Experiences Related to Their Skill Mastery, Taking Roles As Observers and Doers As Well As Peer Tutoring and Taking Care of Others

When being asked to write down their satisfying experiences in the reflective journals, most of the students related the experiences of involving in games and competition as well as skill improvement to "fun" and "happiness". In the interview, they claimed that having the opportunity of teaching others and mastery of the skills were their most satisfying experiences. H1 recalled in the interview, "handstand: I was happy because I knew how to do it with the support of my partner". Others also related their satisfying experience to skill mastery. M1 commented "being able to perform the skill of jump shot in handball was my greatest success". L1 said that "being able to perform the forward roll correctly with the support of my classmate was great". M2 also commented that "...because of the encouragement of my classmates, I performed the skill successfully. I think it was wonderful". L2 concerned his satisfying experience as "being able to execute the front scale because of the demonstration and instruction given by my classmates".

When engaging in learning experiences of reciprocal teaching, most students particularly liked taking the responsibility of being an observer as well as a tutor. They enjoyed providing instruction and

feedbacks. They also felt being important when giving support to their peers. In the interview, M3 and L3 experienced their satisfaction of helping others. M3 said “learning how to help my partner in need was good”. On the other hand, L3 responded that “I felt satisfied when I could help others”. H1 commented “I was happy of being the tutor and doer. I could learn a lot through teaching and learning...” H2 commented that, “I liked taking the role of being an observer, I gave my partner feedbacks and I helped him to improve. That was what people called satisfaction”. With a pleasing smile, L2 recalled that “I was not good at skill but I tried my best to observe my partner’s performance. I provided feedbacks in accordance with the task card. I was really happy when I found that my partner could master the breathing technique because of my feedback”. M3 expressed confidently, “Teaching others was a great fun especially when my partner could master the skill because of my tuition. I felt being important. When he thanked me for that, I felt great that I have never experienced such sensation in my PE lessons before”.

The following remarks were recorded in the reflective journals for illustrating their satisfaction of taking the tutoring role:

I felt satisfied when having the opportunity to take care of my classmate. (Q2)

I was proud of serving as a tutor. (Q15)

The experiences of serving as a learner and a tutor were most satisfying. I have improved a lot. (Q19)

In the teacher’s review, he wrote that he particularly liked the arrangement of pairing the students for peer observation and tutoring. He supplemented by writing that, “the swapping of role for the students serving as tutors and learners facilitated class management and participation”.

Through learning in the form of reciprocal

teaching, students have experienced considerable satisfying experiences of being the doers and the observers. They gave instruction and helped each others. More important, they had the opportunities of monitoring personal and partner’s improvement in learning. Besides, the pairing of students helped him to manage the class and promote students’ active participation.

Theme 3: Experiences That Students Disliked

In the interview, students were asked to recall the experiences that they disliked most. Some of them related to the boring, simple and repetition of the content learnt. In the interview, H1 complained, “I really hated my PE learning when it was too easy and boring”. M3 also commented that he did not prefer to learn skills that had been taught before. L2 questioned the repetitive content by asking that “why did we have to learn the same skills year after year?”

On the other extreme, some concerned the difficulty of the skills learnt. In the interview, L1 grumbled, “I disliked handstand as it was too difficult for me to master”. L2 had similar dissatisfactory experience. He said, “I disliked the difficult skill to be learnt ...I could not manage it even I tried my very best”. L3 supported by saying that, “sometimes, we had to learn skills that were too difficult for us. It was really frustrating when I couldn’t manage it even though I tried hard”.

Surprisingly, the highly skilled group concerned the unmotivated learning behaviours of some of their classmates. In the interview, H2 criticized that “I could not imagine why some of my classmates did not want to try anything in PE lessons. They just wondered around and wished the lesson could be ended as soon as possible. It ended up with learning nothing! I felt unhappy of seeing that”. H1, another high achiever,

complained that he was disappointed to see his classmate doing nothing, playing around and paying no attention to PE classes. He classified it as discipline problem. The teacher, in fact, saw unmotivated learning problem of some students. In his self review, he wrote, "some students were fooling around. They pretended to involve in peer tutoring most of the time. They actually chatted all the time. Sometimes, I just let them do it."

Students' failure in learning the skills, experiencing boring, repetitive and difficult skills as well as seriousness about learning in PE lessons were highlighted as some of their dissatisfactory experiences. In return, it conveyed pedagogical implications for PE teachers to structure appropriate content for their students.

Theme 4: Students' Learning Resulted from Reciprocal Teaching

In most of the PE lessons, students' learning has rarely documented. In the interview, students were asked what they had learnt as the result of the reciprocal teaching. Most of them identified their improvement in their observation, instructional and communication skills resulted from reciprocal teaching. Some claimed that they had learnt the skills of "communication" and "collaboration". They also expressed that they were "willing to try" and "gaining confidence". H1 commented,

I had tried every means to help my partner to perform the skill correctly. Sometimes, it was difficult to communicate with him. I tried by using demonstration. I tried pinpointing the teaching points extracted from the task card... I was happy when he could perform the skill correctly. I found myself improved in communicating with him".

H2 claimed that, "I supported my teammate to

learn. I improved my communication skill while giving instruction to him". L2 had similar articulation. He asserted, "my communication skill improved because of having the opportunity of teaching and learning with my partner". On the other hand, L3 claimed to be enriching in "collaboration" skill through "mutual support" with his partner. M1 and M2 concerned their improvement in collaboration while helping "those students in need" and "low achievers" resulted from reciprocal teaching. Through collaboration with their partners, they could eventually master the skills. L1 contended that he had improved his collaboration skills. With his demonstration, his partner worked harder. Others also related collaboration experiences that they gained while involving in the reciprocal teaching. Articulations of their learning with "cooperation" (M3); "providing support to other" (H1) and "helping each other" (H2).

Some students showed their willingness to try hard and building up their confidence. M2 stressed that he had confidence and was willing to try hard resulted from reciprocal teaching. L2 also said that "I could count on my partner and mastered my learning. With him, I was willing to practise". M3 claimed that he learnt to support his partner. They were both willing to try although the skills might be difficult. As the result, H1 and L1 commented, "I like reciprocal teaching style." H2 supported by saying that "I hope my PE teacher would adopt reciprocal teaching in next year".

In the teacher's review, it was recorded that he acknowledged the values of reciprocal teaching for maintaining students' interest, catering their diversity, promoting mutual understanding, enhancing their skills and techniques, promoting their self-actualization, fostering their positive communication and interpersonal relationship and sharing of knowledge.

Through mutual support and peer tutoring inbuilt in reciprocal teaching, students' experienced enhancement

of their social and generic skills like collaboration and communication. More important of all, they appeared to adopt a more active role in their learning, trying hard as well as building confidence.

Conclusion and Recommendations

Both students and teachers experienced positive learning and teaching conducted in the form of reciprocal teaching. They acknowledged that reciprocal teaching could provide them with more comfortable and positive learning and teaching context. It was suggested that purposefully structured peer-assisted learning provided motivating environment for learning in forms of comfortable, positive and relaxed. Accordingly, students' motivation, autonomy and being active in PE learning are enhanced.

Students particular liked to have the opportunities of peer tutoring and observing within which they learnt to give and receive tuition and feedback. The finding supports the suggestion of Mosston and Ashworth (2002) that reciprocal teaching can provide students with opportunities for expanding their socialization skills. Through learning in the form of reciprocal teaching, students have considerable satisfying experiences of taking the roles of doers and observers, providing instruction and taking care of others. Moreover, they have opportunities to take up responsibility of taking care of others and experienced the mastery of their learning like monitoring personal and partner's improvement in skills like swimming, gymnastics and handball. Reciprocal teaching is possible in providing students with some kinds of meaningful experience.

Students' illustration boring, repetitive and difficult skill content, seriousness about learning in PE lessons were highlighted as some of their dissatisfactory experiences. The worries of some students may generate pedagogical implications for teachers on how reciprocal

teaching can be implemented fully.

They had experienced their learning in terms of communication, collaboration, willing to try out and gaining confidence. Reciprocal teaching appeared to provide concrete learning evidence for students and teachers.

As commented by Cothran, Kulinna and Ward (2000), relatively little is known on students' perceptions about their learning in the reciprocal teaching. This study supplements to this body of literature. It should be admitted that efforts in promoting the reciprocal teaching are isolated in accordance with teachers' preferences in individual styles. It is necessary to develop a well-planned system to facilitate the implementation of reciprocal teaching in school. Sustained efforts are required for supporting teachers to continue putting on trail reciprocal teaching, by enlarge, Mosston's teaching styles, for facilitating students' learning in schools possibly through more collaboration projects, publication of teaching packages and initiating staff development programmes for PE tutors, pre- and in-service PE teachers concerning the implementation of the teaching style in full scale. It is also essential to establish a teacher network for applying the reciprocal teaching.

The limitation of this pilot study concerns involving only one local school with junior secondary students and thus hinders its generalization. It is suggested to launch a large scale study on implementing reciprocal teaching for all levels of schooling as well as content of PE in Hong Kong schools. Eventually, it would enhance students' learning. On the whole, the passion, dedication, innovation sensitivity and lifelong learning professional attitude of PE professionals are decisive for the programmatic success of the reciprocal teaching.

References

- Byra, M., & Marks, M.C. (1993). The effect of two pairing techniques on specific feedback and comfort levels of learners in the reciprocal style of teaching. *Journal of Teaching in Physical Education*, 12(3), 286-300.
- Byra, M. (2004). Applying a task progression to the reciprocal style of teaching. *Journal of Physical Education, Recreation and Dance*, 75(2), 42-46.
- Byra, M. (2006, July). Reciprocal style of teaching: A positive motivational climate, paper presented in the *AIESEP World Congress*, Jyväskylä, Finland.
- Chatoupis, C. (2009). Contributions of the spectrum of teaching styles of research on teaching. *Studies in Physical Culture and Tourism*, 16(2), 193-205.
- Cothran, D., Kulinna, P.H. & Ward, E. (2000). Students' experiences with and perceptions of teaching styles. *The Journal of Research and Development in Education*, 33(5), 93-102.
- Dyson, B. P. (2006). Students' perspective of physical education. In D. Kirk, Macdonald & M. Sullivan (Eds). *The handbook of physical education*. Great Britain: Sage.
- Elliott, J. (1991). *Action research for educational change*. Philadelphia: Open University Press.
- Ernst, M. & Byra, M. (1998). Paring learners in the reciprocal style of teaching. *Physical Educator*, 55(1), 24-37.
- Goldberger, M., & Gerney, P. (1986). The effects of direct teaching styles on motor skill acquisition of fifth grade children. *Research Quarterly for Exercise and Sport*, 57(3), 215-219.
- Goldberger, M. (1992). The spectrum of teaching styles: A perspective for research on teaching physical education. *Journal of Physical Education, Recreation, and Dance*, 63(1), 42-46.
- Goldberger, M., Gerney, P., & Chamberlain, J. (1982). The effects of three styles of teaching on the psychomotor performance of fifth grade children. *Research Quarterly for Exercise and Sport*, 53(2), 116-124.
- Iserbyti P., Elen, J. & Behets, D. (2010). Instructional guidance in reciprocal peer tutoring with task card. *Journal of Teaching in Physical Education*, 29, 38-53.
- Jackson, J.A. & Dorgo, S. (2002). Maximizing learning through reciprocal teaching style. *Teaching Elementary Physical Education*, March, 12-18.
- Li, C. (2008). The Development of School Physical Education in Hong Kong. *Journal of Youth Studies*, 11(2) 59-69.
- Misner, J.C. & Arbogast, G.W. (1990). Strategies for improving student learning and the status of PE. *Physical Educator*. Spring, 50-53.
- Mosston, M. (1966). *Teaching physical education*. Columbus, OH: Charles E. Merrill.
- Mosston, M. (1992) Tug-O-War, No more: meeting teaching – learning objectives. Using the Spectrum of Teaching Styles. *Journal of Physical Education, Recreation & Dance*, January, 56, 27-31.
- Mosston, M., & Ashworth, S. (1994). *Teaching physical education* (5th ed.). New York: Macmillan.
- Mosston, M., & Ashworth, S. (2002). *Teaching physical education* (5th ed.). San Francisco, CA: Benjamin Cummins.
- Nixon, J. & Locke, L. (1973). Research on teaching physical education. In R. Travers (Ed.). *Handbook of research on teaching*, Chicago: Rand McNally. 1210-1242.
- PE Section, Curriculum Development Institute, Education Bureau (2008). *Physical education learning outcomes framework*. Hong Kong: Government Logistics Department.
- Reason & Bradbury (2007). *Handbook of Action Research*, 2nd Edition. London: Sage.
- Sicilia-Camacho, A. & Brown, D. (2008). Revisiting the paradigm shift from the versus to non-versus notion of Mosston's spectrum of teaching styles in physical education pedagogy: a critical pedagogical perspective. *Physical Education and Sport Pedagogy*, 13(1), 85-108.
- Strauss, A. L. and Corbin, J. (1998) *Basics of Qualitative Research. Techniques and procedures for developing Grounded Theory*, United States of America: Sage.
- Stenhouse, L. (1975). *An Introduction to curriculum research and development*. London: Heinemann.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological process*. Cambridge, MA: Harvard University Press.
- Ward, P. & Lee, M-A (2005). Peer-assisted learning in physical education: A review of theory and research. *Journal of Teaching in Physical Education*, 24, 205-225.
- Ward, P., Smith, S.L. & Makasci, K. (1998). Differential effects of peer-mediated accountability on task accomplishment in elementary physical education. *Journal of Teaching in Physical Education*, 17, 442-452.

Authors

Chung LI, Ph.D.,
Department of Health and Physical Education,
Hong Kong Institute of Education
[cli@ied.edu.hk]

Wai Keung KAM, M.Ed.,
Department of Health and Physical Education,
Hong Kong Institute of Education
[wkkam@ied.edu.hk]

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