Student-led Peer-assisted Learning: The Kuppi Experience at the Medical School of the University of Ruhuna in Sri Lanka

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ABSTRACT

Context: Peer-assisted learning (PAL) is described in the literature and is generally initiated with faculty assistance. The PAL process described here, called Kuppi classes, is exclusively organized and run by the students of the medical school of the University of Ruhuna.

Aim: To explore students’ experiences with Kuppi classes as a learning process.

Methods: A phenomenological research method with focus group discussions and in-depth interviews for data collection was used. Selection of students for the study ensured representation of genders, academic years of study, both Kuppi tutors and tutees, and both those who did and did not pass the prior examination in the medical school on the first attempt.

Findings: According to tutee and tutors, Kuppi was developed as a parallel process to fill in gaps in students’ understanding and better explain unclear aspects of the formal curriculum. Within the Kuppi, students successfully use informality, familiarity and social bonds with one another to acquire the knowledge required for their examinations.

Conclusions: This student-initiated PAL process appears to be succeeding for the students of our school. Some of their experiences may be helpful in implementing a PAL process or even improving the formal teaching processes in medical schools with similar academic, social and cultural environments. The need for a second, student-led curriculum should alert faculty to shortcomings in the formal curriculum and classes.

Keywords: Alternative teaching, informal learning, Kuppi classes, peer-assisted learning, social factors in learning
Background

Peer-assisted learning (PAL) is a process of acquiring knowledge and skills through active help and support from peers\(^5\). Although instructors in PAL are not professional teachers or ‘experts’ in the subject they teach, studies have shown that the effectiveness of PAL is equal to schools’ primary or formal teaching process as measured by both students’ perceptions\(^2\) and performance on examinations\(^3,4\).

PAL originated as a student initiative and as a way to cope with unsupportive teaching but has become increasingly systematized as a pedagogical technology supported by teachers\(^5\). Some researchers have pointed out the limitations of student-initiated PAL and have emphasized the importance of staff involvement in the process. Light commented that unless PAL is initiated by staff it will not be widely accepted by students\(^6\). Student-initiated PAL may exclude students who do not have relationships with their peers who developed the PAL\(^7\). In student-initiated PAL, groups are made by students and often consist of students with similar knowledge, values and backgrounds, which can limit learning opportunities for other students\(^7\). PAL processes described in the literature commonly receive considerable contribution from school administrators and academic staff.

*Kuppi Classes at the School of Medicine of the University of Ruhuna*

The curriculum in the medical school of the University of Ruhuna in Sri Lanka is a discipline-based, traditional five-year curriculum. PAL, which has existed for many years in the medical school, is called *Kuppi* classes: the word ‘*Kuppi*’ means a small bottle in Sinhala, a local language in Sri Lanka. This PAL process is exclusively organized by students and is conducted as an informal and clandestine process parallel to the formal teaching, neither facilitated nor moderated by the faculty or administrators. *Kuppi* classes include a highly organized teaching process mirroring certain organizing principles used in formal teaching-learning activities. This includes a division of the overall syllabus into sections, allocation of different tutors for different subject areas, preparing weekly and monthly schedules and notifying students in advance of classes. Participation in these classes is optional and only some students participate; however, the number of student participants in some classes has exceeded 120 out of a class size of 150 students. *Kuppi* classes have been conducted for students in all years of study, from the first year through the fifth year, but are more commonly held for students in the early years. All subjects have been covered with *Kuppi* classes but more so for preclinical courses. Teaching methods consist principally of ‘lectures’ and small group teaching sessions. *Kuppi* tutors are mainly students in the same year of study as participating students, but they are often those who passed the examination on the first attempt whereas the participants/tutees are those who are preparing for the second attempt at the same examination. Sometimes senior students also act as *Kuppi* tutors. Tutors are volunteers and are not rewarded or recognized formally for their work.

There have been no previous studies of this type of student-initiated PAL. We believe that this study of a student-initiated and student-run PAL process will add new information that can be applied to PAL process or other educational processes in other schools with similar and perhaps even different social structures and cultures. Therefore, we explore the experiences of the students of our school concerning how they used *Kuppi* classes in their learning. We used qualitative research methods to gather and analyze data within the context of a phenomenological approach.
Methods

Study Sample

Students included in the study were volunteers from the second through fifth class years. Volunteers were recruited with the help of the class representative or a selected student organizer. Final selection of students for the study was done assuring representation of males and females, PAL tutors as well as tutees, and those who had passed previous examinations in the first attempt as well as those who had not.

Interview and Focus Group Discussion

Data collection was initiated through focus group discussions. Four focus groups were conducted with the participation of eight medical students per group, on average. Each focus group consisted of students from a single class year. To augment the information learned through the focus groups, seven in-depth, one-on-one interviews were conducted with other students. Selection of students for interviews was done using the same approaches used for focus groups. In-depth interviews were conducted until data saturation was achieved. Focus group discussions and interviews were moderated by the first author, while the second author acted as the recorder. Neither author was involved in teaching the participating students during the time period of the study and will not be involved in teaching them in the future. The study was approved by the Ethical Review Committee, Faculty of Medicine, University of Ruhuna.

Analysis

All interviews and focus group discussions were tape-recorded. Both English and Sinhala languages were used during the discussion and interviews. Sections in Sinhala were translated into English by the second author. Translations were compared and re-examined by the first author. Audiotapes of the interviews were transcribed verbatim by both authors and then analyzed qualitatively. Both authors independently read transcripts, developed a coding frame for the analysis, and then coded all transcripts. Data from interviews and focus group discussions were analyzed together.

Material about participants’ experiences with Kuppi classes as a teaching-learning method was identified and used for systematic text condensation, according to the principles of Giorgi’s phenomenological analysis. The analysis followed four steps: (1) reading all of the material to obtain an overall impression, bracketing items that conformed with our preconceptions; (2) identifying units of meaning representing different aspects of students’ experience, and coding for these units; (3) condensing and summarizing the contents of each of the coded groups; and (4) generalizing descriptions and concepts concerning our research question of ‘How did students use Kuppi classes as a learning method’. Both authors agreed that there was no new information from the last interview conducted hence decided it was the saturation point.

Results

The sections below present the important themes derived from the qualitative analysis of the data, along with illustrative quotes from participants. The origins of quotations are indicated with a G for focus group discussion and with an I for interview, as well as whether the source was a tutee or tutor.
Developing a Supplement to the Formal Teaching

A Way of Adapting to the Teaching Methods in Medical School

Students expressed difficulties adapting to the teaching methods of the medical school, which were different from the methods they encountered in secondary school. They use Kuppi classes as a method to help them transition from school education to university education.

'Students don’t know how to study when they first come to the faculty. It [Kuppi] is very much similar to the setup that we got used to for 13 years in school. Students use Kuppi as it’s similar to school teaching. By the time they come to the final year, the learning pattern changes.' (I) (Tutor)

A Solution to the Neglected Areas in the Formal Teaching

The students expressed a need for this type of informal teaching in certain instances to fill gaps in the formal curriculum. As an example, students hardly received assistance from the faculty when they prepared for repeat examinations.

'There is not much help from the departments for the repeat examinations [2nd MBBS]. Therefore, it is [Kuppi] very important for us.' (G) (Tutee)

A Solution for Language Difficulties

The English language is used for teaching in this medical school, whereas secondary education for almost all students was in their local languages. Kuppi classes helped them overcome a language barrier and helped them learn more effectively.

'Knowledge of English is very little. Therefore, it helped a lot as it was done in Sinhala [a local language].’ (G) (Note: Everybody in the group emphasised this.) (Tutee)

Some students faced difficulties in translating the knowledge gained through Kuppi in the local language to English while answering examination questions.

'We have a problem of translating, as the Kuppi classes are conducted in Sinhala. It’s difficult to write answers [which must be in English].' (G) (Tutee)

An Alternative to the Faculty

When comparing Kuppi tutors with faculty, some students mentioned the superiority of some Kuppi tutors.

'Some people [Kuppi tutors] have the ability to teach so wonderfully, but in [formal] lectures, we don’t get that type of teaching most of the time'. (G) (Tutee)
Students want more examination-focused teaching from faculty. Since faculty did not offer teaching of this nature, students organized Kuppi classes.

‘Everything is given as model answers [in Kuppi]. We are not given answers like that in the (formal) lectures or in (formal) tutorials.’ (G) (Tutee)

A Method for Reviewing Information

Students who had undergone the formal learning process wanted to review the information and refresh their memories of this information when it came closer to the examination. This was particularly important for the students who had limited time to prepare to repeat an examination they had failed.

‘We don’t have enough time to go through the books and search for the content that we have to study. There were some students who had to do all three subjects within 45 days.’ ‘Some units which were done for a whole term with [formal] lectures can be covered in 3 – 4 hours by Kuppi.’ (G) (Tutee)

Usage of Familiarity and Social Bonds

A Familiar Tutor

In Kuppi classes, tutors were familiar to the tutees, which allowed the tutees to ask questions to resolve points on which they were unclear.

‘As they are friendlier, it’s easier to ask questions from the seniors [tutor of Kuppi classes] rather than asking from the staff. We can repeatedly ask and clear the areas that are not clearly understood. It can’t be done in lectures. We are very reluctant to do that during the lectures in formal teaching.’ (G) (Tutee)

A Familiar Place

Students used a common room, cafeteria, hostel or own residence for Kuppi classes. They felt a familiar and relaxed environment facilitated the learning process.

‘We can even go and have a cup of tea and come back when we are sleepy or tired.’ (G) (Tutee)

‘We didn’t have to spend extra time for travelling as the Kuppi classes were held in our boarding places.’ (G) (Tutee)

Stress Relieved with Familiarity

Several students noted the stress of examinations. Studying with colleagues in a closely bound group reduced their stress. Organized and active help from colleagues promoted a sense of security about the examinations.
"It was such a great help for the repeated students to be in a group. It reduced a lot of their stress and it helped a lot to study." 'When the exam gets even closer, we are under so much stress that we can’t even think of studying. It’s very helpful during that time.' (G) (Tutee)

Social Bonds with Colleagues

Students have developed tight social bonds with other students and used it favorably for Kuppi classes. Social bonds for students meant not just being familiar with the tutor, but something more, including their friendships with other tutees.

'The friends who were with us always made us study well. When we were bored and lazy, they would bring us back to the lesson and help us to concentrate better. We were under a lot of stress at that time. They would always stay with us and tell us that 'this is how you should work' and 'this is what you should do now' and 'this is what you should not do now'. (G) (Tutee)

Concerns about the Quality of Teaching

Selecting Appropriate Peer Tutors

Usually, tutors were students who had passed the examination with higher grades than the Kuppi students. However, some students who had not passed the examination with higher grades also conducted the Kuppi classes because they were good teachers.

'Most of our Kuppi teachers were people with first classes or second uppers [had good results in the examination].' 'Kuppi was conducted by some students who have repeated the exam [that is, they had initial poor scores on the examination].' 'Some students who had only ordinary passes for the examination were better teachers than the students who had first classes.' (G) (Tutee)

Staff’s Concern about Quality of Teaching

Some students were of the view that staff opposed the Kuppi classes due to an unacceptable quality of teaching.

'The staff clearly says that they do not like Kuppi classes. They are under the impression that if students want to teach, they should have some qualification to teach.' (G) (Tutee)

Use of Alternative Teaching Methods

Kuppi tutors used different teaching methods than the formal instructors, which helped tutees remember difficult areas of the syllabus.

'But in [formal] lectures, we don’t get that type of teaching. Sometimes there are mnemonics for remembering long lists of things. Some of them are in Sinhala which we call ‘Gong part’ [a Sinhala word for mnemonics used by students].’ (G) (Tutee)

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Kuppi tutors have sometimes used methods such as ‘story telling’ which might not be easily incorporated into the formal curriculum.

‘They tell various stories to keep us away from sleeping. ’ ’It’s less boring and less sleepy. We always try to continue even though we want to get up and go when we are lazy.’ (G) (Tutee)

Use of questions and answers were mentioned as teaching methods. These methods seem useful in refreshing tutees’ knowledge with their active participation.

‘We ask lot of questions from the students and they argue back. And if we face any problem, we quickly turn the book and check it and get it corrected’. (I) (Tutor)

Poor Ground Rules in the Class

Sometimes Kuppi classes were not properly moderated by the tutors. It was not easy to maintain good group dynamics without proper ground rules.

‘There were more chances of going outside the subject when there is lot of people. People start talking all sorts of nonsense. We couldn’t hear what the person on the other end is telling. Then some may start to discuss in smaller groups inside the group among themselves.’ (I) (Tutor)

Poor Resources for this Informal Process

Most students mentioned the poor resources available for the PAL process, which was the case because Kuppi classes were maintained as an informal, clandestine process.

‘It’ll be very beneficial if students could have a separate microscope for studying.’ (G) (Tutee)

‘It’s very difficult for 80 to 100 students to stay in that small room. When we are there for about four to five hours the room gets heated up.’ (G) (Tutee)

Concerns on the Quality of Knowledge

Acquiring Knowledge that is Highly Focused on Examinations

The aim of the entire Kuppi process is to equip students with abilities that will allow them to pass examinations, using ‘easy methods’ within a limited time.

‘They would tell us 'don’t worry, you don’t have to study everything' and will tell us only the things that are important [for the examination].’ ‘Some subject areas are not asked for the main exam although they are asked for the assessments. We
skip those areas as we don’t have enough time. It’s like; we don’t need to learn anything beyond the exam paper’. (G) (Tutee)

Lesson-notes are in an examination-oriented document which has been passed down by generations of medical students who had participated in Kuppi classes.

‘It has an integrated, direct and short lesson from beginning till end. It’s simply a document which contains all the facts based on MCQs and essays.’ (I) (Tutor)

The participants were able to learn the tutors’ examination-related experiences, which was a valuable opportunity to get an insight on the examination for the tutee.

‘They tell us about their experiences during the examination. They also tell us about the blunders that they have made during their examination.’ (G) (Tutee)

Acquired Knowledge is Easily Forgotten

Students recognized that knowledge acquired through the PAL process is forgotten easily, since it was learned in ways principally to allow students to pass their examinations.

‘We forget a lot [the knowledge acquired in PAL] after the exam, as it’s aimed only for the examination.’ (G) (Tutee)

Learning Wrong Facts and Concepts

Students have, at times, learned wrong facts and concepts through Kuppi classes. There are no quality control or monitoring processes.

‘There were situations where some students who have worked well have missed grades and some have failed the exam because of these Kuppi classes. There is no standard to this type of teaching. They just come and teach whatever they want.’ (G) (Tutee).

Better Knowledge for the Tutor

The tutor benefitted from the opportunity of engaging in reflective knowledge-building processes whereas the tutee was engaged in a passive knowledge-acquiring process.

‘The benefits are for the tutors who will remember that section (of the syllabus) very well for the rest of their lives.’ (I) (Tutor)
Discussion

Informality of the process and familiarity with tutors are well-described advantages of PAL\(^9\text{-}^{11}\). Student-teacher distance, called cognitive distance, is generally greater in Eastern cultures like in Sri Lanka than in Western cultures. In addition, higher respect received by the teachers might accentuate students’ inhibitions in the formal teaching sessions within the Eastern cultures. Narrow cognitive distance and less internal inhibition in students have been described as an important benefit of PAL\(^12\). The PAL used in our school and described by this study’s students exemplifies how PAL can be used to overcome some cultural factors that can inhibit the learning process within the formal curriculum. There are lessons in this study about effective teaching that could be incorporated into the formal curriculum of schools. This study’s data suggests that PAL can be used effectively in countries with similar social and cultural influences. Cultural differences in medical student learning have been well-described between Western and Asian cultures\(^13\text{-}^{15}\), therefore our school’s experience with PAL may not translate in all ways to schools in all cultures.

As a novel finding, our students noted the importance of a familiar venue for the PAL classes as an environmental factor facilitating their learning. Studying in the presence of friends at a familiar and comfortable place has advantages, which may improve learning. Several previous studies have emphasized the influence of the environment for medical students learning in non-PAL teaching activities\(^16\text{-}^{17}\). This environmental factor appears to also be important to the PAL process and helps students benefit from its informality.

Students also identified \textit{Kuppi} classes as a source of relieving examination-related stress. Learning from colleagues in a relaxed, familiar environment and working in a closely bound group may provide a sense of ‘security,’ reducing the examination-related stress. This has not been previously described in studies of PAL. \textit{Kuppi} classes also helped our students adapt to the university learning environment, which is considerably different from their pre-medical school experience in terms of educational methods and the language used. These issues, including the influence of language, adapting to the new teaching methods of medical school, and student stress, can be common problems for medical students in many countries and demand the attention of faculty and administrators.

\textit{Kuppi} classes in our school have adopted teaching methods not widely used in the formal curriculum, including mnemonics in the local language, stories to keep students alert, relaying personal experiences to enlighten students about the examinations, and a questioning and answers format. Many teaching activities in the traditional curricula in medical schools are faculty-led and students act as passive recipients. Methods used by \textit{Kuppi} tutors such as ‘questioning and answers’ can be incorporated into the formal teaching methods of medical schools with traditional curricula, providing students with more opportunity for discussion and active learning.

The PAL process also appears to address students’ disappointment with some aspects of the faculty, curriculum and formal teaching process of this medical school. It seems that there are many justified reasons for students to initiate the \textit{Kuppi} process. Certain aspects of the formal teaching-learning process in this medical school need to be evaluated carefully considering students’ concerns that surfaced in this study. It is also important for the school to now consider the future of \textit{Kuppi} process. The faculty should consider whether to intervene to address the negative aspects of \textit{Kuppi} classes or whether to allow them to continue as an entirely student-lead, ‘clandestine’ process. Administrators may need to consider these aspects in planning and developing future educational process at this medical school.
The students emphasized the importance of the examination-oriented teaching process that takes place in *Kuppi* classes. *Kuppi* classes help students easily learn how to answer recall type questions. If school administrators change examinations to assess higher order cognitive skills, students will likely redesign the PAL process accordingly and thereby improve the education and knowledge retention that happens through the PAL process.

Students mentioned that they need to consider other qualities of individuals beyond their examination result success when selecting tutors. It helps for peer tutors to be skilled communicators and facilitators\(^\text{18}\). Some students in our study mentioned that it was important for *Kuppi* tutors to be more knowledgeable than tutees about the topic being covered. Previous studies have shown that peer tutors also benefitted during the process by improving their communication, teaching\(^\text{19}\) and leadership skills and improving their motivation to learn\(^\text{20}\). Tutors are volunteers and motivated for this process, since there was no reward system for teaching. This shows the possibility of running the PAL process purely with internal motivation of peer tutors, if other environment factors are provided.

The findings of this study may be applicable to other medical schools that have a traditional, teacher dominated, non-student centered teaching process. This informal PAL may be most beneficial in medical schools in countries with high cognitive distance between students and teachers, more internal inhibitions among students, and high familiarity and social bonds between students.

Limitations of this study include the fact that we only collected data about students’ perceptions using a qualitative research method, but the effects of the *Kuppi* classes on students’ examination scores and their knowledge may be different from what they have perceived. Since some faculty members do not like *Kuppi* classes, some students may have been reluctant to divulge some information in the interviews and discussions mediated by authors, who are members of their faculty. However, our students criticized their faculty, curriculum and the school’s formal teaching methods, which suggests that they were not inhibited in expressing their opinions.

**Conclusions**

These data suggest that our school’s student-initiated PAL process is successful, offering several advantages over the staff-initiated PAL processes that have been described in the literature. Our students’ familiarity with one another and social bonds have been used in their self-led PAL in highly favorable ways. Nevertheless, our students have concerns about quality of the information they gain through their PAL and, as faculty, we note that students principally learn to pass examinations and may not acquire and retain the knowledge they will need as physicians. Some of the experiences documented here may be useful in implementing PAL processes and even enhancing the formal curriculum and teaching processes of other medical schools with similar academic, social and cultural environments.

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