

Reciprocal benefit to senior and junior peers: An outcome of a pilot research workshop at medical university

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Abstract

A study was planned to explore and evaluate the role of senior peers in the learning process of their juniors during a Research Methodology workshop, and to assess educational advantages for seniors in leading roles. Twenty medical students participated with 15 juniors (1st to 3rd year) and 5 seniors (final/fourth year) divided into 5 groups with one senior student each at Foundation University Medical College, Islamabad, Pakistan. The seniors supervised and engaged the groups to develop research questions, formulate objectives, review literature, outline study designs, develop study tools/questionnaire and finally shape their projects in synopsis. Overall advantages to both juniors and seniors through this peer-assisted learning model were assessed by feedback proformas with open and closed-ended questions. Senior peers' facilitation was effective in the learning process of junior peers. Senior peers also gained academic benefit by exercising their leadership qualities through teaching and maintaining group dynamics.

Keywords: Peer assisted learning, Junior students, Senior students.

Introduction

Peer Assisted Learning (PAL) has been defined as 'the development of knowledge and skill through active help and support among status equals or matched companions'.¹ The propensity of mutual benefits to learners in this learning strategy has attracted educationists, especially in medical education. Amongst many advantages of PAL, preparing students as educators, improving communication skills and examination scores through reciprocal social support are significant. Utilising peers as tutors provides an additional advantage to medical educators when resources are restricted and the number of students is high.² Role of senior medical students in tutoring junior peers is especially important in this regard and it has been shown

to be almost as effective as qualified hired tutors in teaching clinical examination on standardised patients.³

Importance of PAL has been acknowledged by many medical educationists and is being utilised worldwide in clinical scenarios,^{4,5} but the role of peers in promoting research awareness remains under-investigated. Literature review suggests positive role of peers in learning mostly clinical skills and procedures, but there is paucity of studies examining their role in the promotion of research culture.^{1-3,6} At Foundation University Medical College, Islamabad, although PAL has not been utilised as a formal tool for teaching, yet high achievers in final year class are often found voluntarily teaching their peers in small groups, especially during clinical rotations. We hypothesised that role of senior students in promoting research culture amongst juniors could have considerable impact on learning and generating knowledge and, therefore, needed to be explored. At our institute, senior classes i.e. final year and fourth year, are taught research methodology module during which they formally prepare a research project and carry it out working in small groups. Due to keen interest shown by junior students to participate in research projects, a research methodology workshop with the assistance of experienced senior peers was planned by the faculty of University Research Cell. In addition to imparting basic understanding of techniques and methods in medical research, the objective of this workshop was to evaluate the role of senior peers on the learning process of juniors in small group activities during the workshop and also to assess educational advantages to the seniors.

Methods and Results

After approval from the institutional ethical review board the observational study comprising 10 male and 10 female students was conducted in the university Computer Lab in two sessions over a period of six hours. Fifteen (75%) undergraduates from first, second and third year courses were selected on the basis of their previous academic record (all modules passed with above 65% marks) and research interest (volunteers interested and ready to spare time in their academic session). Students were divided into five equal groups with colour codes, led

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Table-1: Responses from junior students after the workshop.

Summary of Questions From Juniors	Responses/15
Liked working in small group	14(93%)
Found Senior Peers helpful	13(87%)
Felt dominated by seniors	2(13%)
Technical Guidance from seniors (computer skills and power point presentation)	13(87%)
Given enough time	13(87%)
Comfortable to communicate	14(93%)
Learned something new from seniors (making research question, construction of objectives, using pubmed and other search engines, preparation of study tool, layout of synopsis)	15(100%)
Group dynamics were maintained (good teamwork, positive conflict resolution, time management and peer support)	12(80%)

Table-2: Responses from senior students after the workshop.

Summary of Questions From Seniors	Responses /5
Liked working in small group	5(100%)
Felt improvement in teaching skills	3(60%)
Felt improvement in their own learning	4(80%)
Comfortable to communicate	5(100%)
Everybody presented in their group	4(80%)
Assigned tasks were completed in time	4(80%)
Will carry out the prepared projects with junior peers	4(80%)

by senior peer tutor to help and guide them during the workshop. The names were kept confidential. Five senior students from final and fourth year courses who had gone through research module as part of curriculum along with experience of at least one paper publication were selected as peer tutors. They were explained the aim and procedure of the workshop, given pre-reading material relevant to the workshop, and were asked to prepare themselves for leading roles. Workshop content was distributed amongst the facilitators to carry out in the two sessions. The objective of the first session was to introduce the students to the aims of research, hands-on literature search, coming up with research question and formulation of objectives. Senior and junior students settled in their groups and were introduced to the facilitators and to each other. After each brief 10-15 minutes coaching from the facilitators, the students worked in small groups of four each, including senior peer in the tutoring role. The workshop proceeded with group presentations and critical analysis of each other's research questions and objectives. The second session began with 30 minutes of didactic teaching on the basic study designs, sampling techniques and study tools (only in descriptive studies due to limited scope of the current workshop). Students developed outline of study

questionnaires to meet the objectives they prepared in the first session on Power Point and presented them for open discussion among peers and facilitators. Later, they demonstrated a sketch of their study in the form of formal titles ending with commonly used referencing style.

Closed and open-ended questionnaires were distributed to both seniors and juniors after the workshop. From junior students, questions regarding overall learning environment, help from seniors, improvement in communication and benefits of workshop were asked. Junior students were asked indirect questions regarding the maintenance of group dynamics (good teamwork, positive conflict resolution, time management and peer support) by seniors in leading role during the workshop. Seniors were asked about improvement in their teaching and communication skills. Frequencies and percentages of responses were computed (Table-1 and 2).

The proforma included open-ended questions for which space was left to accommodate the answers. Responses were collected and themes concluded were comfortable communication, enjoyable learning for juniors, and aim of project completion by junior students. For the senior students, improvement in confidence and teaching skills along with intent to complete project with juniors was learned. Most of the junior peers found senior peers helpful.

Discussion

The study was an effort to explore mutual educational benefits to seniors and juniors with an intention to familiarise junior peers to basic research methodology and allow the senior students to develop their leadership and teaching skills. Juniors learned from the seniors and found the learning environment comfortable where they could easily rectify their reservations from seniors without hesitation. Students also found this learning strategy more enjoyable as depicted by one of the responses..."I never thought learning could be fun".

The seniors acquired a chance to practically apply their prior knowledge and research experience through teaching their juniors which was evident in their post-workshop responses, where 3 out of 5 seniors felt improvement in teaching skills. It has been documented and experienced that teaching improves one's own learning.^{7,8} This model of PAL was also motivating for seniors because 80% found improvement in their own knowledge too. This result supports the proposal that medical students are future faculty members and will have teaching roles.⁹ The earlier study recommended formal development of knowledge, skills and attitude in medical education to facilitate their role as professionals.⁹

Maintenance of group dynamics and plan to carry out and complete the research project by senior students was assessed by interpreting responses to indirect questions reflecting their leadership qualities, including communication, maintaining harmony, time management and conflict resolution. These favourable qualities observed in the senior students may be attributed to their sense of responsibility as group leaders and pre-workshop intimation about their roles as valuable teachers.

It can also be claimed that the aim of generating awareness and familiarising the junior students to research methodology was also achieved to some extent because 80% of the participants wanted to further study and complete the partially prepared projects in this workshop. However, for the objective achievement of this goal the students will be followed up on a monthly basis to find out progress of their projects with senior peers.

Conclusion

Role of senior peers with previous research experience was found invaluable in their juniors' learning in terms of providing educational guidance, comfortable learning environment, freedom to express ideas and making

learning enjoyable. Senior peers also gained academic benefit by exercising their leadership qualities through teaching and maintaining group dynamics.

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