Perceptions of medical educational research activity among medical educators undergoing educational leadership programs

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Abstract : Educational Research (ER) is yet to be well established in many Asian countries and its requirements, obligations, advantages on teaching-leaning methods are yet to be fully exploited and acknowledged. Creating awareness of ER and receiving opinions on the existing trends and gaps in ER and its subdivisions may invoke interest in participants on what can be done in future and provide wider prospective and outlook on the potentials of medical ER. Methodology: Cross-sectional study design was used to survey 36 fellows and faculty on the PSG – FAIMER list server. Results: Overall response was 58% (36 out of 62). All respondents were involved in ER and were looking forward to disseminate the benefits of it. While there was full consensus that teaching-methodologies were part of ER, all the participants were not aware of the existence of curriculum, assessment and attitudes of students under ER. 40% of respondents felt the need to incorporate ER in the curriculum and around 37% wanted to further train themselves through on-line sessions. Conclusion: This study has shown that regulatory and institutional supports are likely to motivate the medical faculty in accepting and pursuing ER.

Key words : Medical educational research, faculty development, continuing medical education, continuing professional development, educational scholarship, educational leadership.

INTRODUCTION: Medical educational research is research conducted to investigate behavioral patterns in pupils, students, teachers and other participants in medical educational institutions. It is a growing field and its importance in South East Asian countries is yet to be fully established. For the lack of intensification of educational research various reasons have been reported like low socioeconomic conditions, cultural and religious values and beliefs, incongruence among the mission and the vision of the medical schools, inadequate leadership, lack of funding, practically no exposure to educational research during UG medical training, lack of collaboration and commitment, and unforeseeable short-term outcomes. Therefore, it has not substantially influenced educational policy and medical practices in Asia[1].

Asset mapping[2] can lead to an in-depth understanding of a community by identifying their resources, networks, prevalent issues and ideas, how these are already connected, and where potential connections exist. The PSG-FAIMER Regional Institute Fellowship builds an educational leadership community with careful selection based on their motivation and previous achievements. The community is further empowered through online reinforcement of mentor-learner web (ML-Web) learning[3] where the interpersonal learning environment facilitated effective learning, and rejuvenated the learning experiences and network established during the face-to-face sessions. While some[4,5] of the participants have already had publications on medical educational research, many were just about to begin.

The purpose of this study was to discover PSG-FAIMER fellows and faculty interests in medical education research and to learn on the existing assets to develop educational scholarship

further. To achieve that a Survey on educational research was administered among the participants of the PSG-FAIMER ML-Web to assess whether an interest in medical education research exists and who conducts the research. Further, we collected information on faculty experience with education research, especially the problems faced and how they were overcome. The results of the survey were further subjected to content analysis[6] to gauge the current efforts in medical education research. This paper is presented as a case study of a community of medical educators in South Asia in enhancing medical education research within the framework of their respective institutes of medical education.

METHODOLOGY: A survey [Appendix-1] was designed with the objective of capturing the present status and knowledge on Educational Research, identifying the gaps, and recommendations of possible changes and improvements in the future of Educational Research. Transparency of intent was established in the introduction and clear lines of questioning followed. The questionnaire was uploaded through Survey Monkey®.

Designing the questionnaire: The survey questionnaire was constructed using both close ended and open ended questions to establish mixed method. Designing of the questionnaire was done by the first author and opinion was sought from a closed group discussion with faculty. Single best response questions, multiple response questions were chosen and separated. To minimize non-response and to accommodate busy informants, short questionnaire with ten questions were chosen.

Content classification: The questionnaire items could be classified into the following subscales: there were six questions on general information on knowledge and personal perspective component of ER, two questions on the online components of ER, and two questions on the future scope and possible enhancement of ER, but the questions were distributed according to easiness in building them up online and are discussed in the same fashion

Participants: All participants were FAIMER faculty and Fellows (2007, 2008 and 2009 batch of PSG – FAIMER Regional Institute who have been included in the list server of our programme). Most of the respondents were from India and few were form Malaysia, Nepal and South Africa. Informed consent was received through the email and the survey questionnaire. Since the participants were all in full time University jobs and many were medical practitioners, a holistic approach was sought for designing the questionnaire. The questionnaire was pre- validated by conducting the survey on Faculty and peers who gave valuable suggestions. To allow maximum participation, the survey was started on June 1, 2009 and closed on June 24, 2009. This was conducted as part of the June, 2009, ML – Web Intersession activity of FAIMER fellowship programme.

The number of respondents was 36 (58%) out of the possible 62 registered participants of the mailing list. Many respondents (19) replied in

the list server that the survey was a great learning experience. Respondents who had any problem in filling some questions responded by email and directions and clarifications were given for responding. Since SurveyMonkey® gives option to save answers and come back later, many respondents found it uncomplicated and straight forward. Reminders were sent every three days to ensure participation.

The non respondents cited reasons for inability to complete survey as they were busy, traveling, had prior engagements, didn't want to reveal information which was personal.

Statistical Analysis: Frequency analysis and Content Analysis of the responses were undertaken manually.

RESULTS: Out of all respondents, 77% of respondents were from India. 8.3% were from Malaysia and 2.7 from Nepal, South Africa and United Kingdom. Result of Present study is tabulated in following table. The percentages may not sum up to exactly 100% because of rounding errors.

Table 1

Can you identify which of the following falls under the scope of Medical Education Research (Please choose all that apply)	
Medical Curriculum	94.3%
Student Assessment	91.4%
Teaching learning Methodology	100%
Attitudes and skills of students	82.9%

Table 2

Can you rate the following according to order of importance for the reason why there is so little research in Medical Education in your country?					
	Lack of knowledge of ER	Lack of funding (socio-economic condition)	Lack of time	Lack of interest from faculty	Lack of administrative Support and encouragement
1	**60.6%**	6.1%	6.1%	18.2%	9.1%
2	15.2%	15.2%	15.2%	39.4%	15.2%
3	8.8%	8.8%	14.7%	32.4%	35.3%
4	2.9%	26.5%	**29.4%**	11.8%	29.4%
5	15.6%	**40.6%**	28.1%	0.0%	15.6%

Note: Rank Item Rating Average

1. Lack of knowledge on educational research = 4.00
2. Lack of interest from faculty = 3.62
3. Lack of administrative support and encouragement = 2.74
4. Lack of time = 2.39
5. Lack of funding = 2.19

Table 3: Rate the top 3 of the following results from your own personal perspectives for getting actively involved in Educational Research.

Top 3 answers	Open an opportunity to do a higher degree.	Allows present my findings at a national or international conference	Enhance chances of my promotion	Help bring about educational reform in my institution	Helps to enjoy my work more	Opens opportunities for collaborative research
1st choice	3	2	3	13	11	3
2nd choice	2	5	2	6	10	10
3rd Choice	4	4	4	9	5	9

First choice: Maximum responses of 13 participants voted for educational reforms in the institutions, Second choice: Maximum answer by 10 participants was for enjoyment of work and collaborative research, Third choice: Maximum responses of 9 respondents were for educational reform and collaborative research.

If we pool the choices (first, second, third put together), 28 persons believe that ER is important to bring about educational reforms in the Institute, 26 believe that it will be enjoyable and 22 feel that it will lead to opportunities of collaborative research. In other words, a significant majority of the respondents look at ER as a necessary way of bringing educational reforms and encourage collaborative research leading to enjoying the process.

Table 4:

How strongly do you believe that research ideas can be upgraded by online discussion forums?				
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
14.3%	0.0%	5.7%	60.0%	20.0%

In response to question Which discussion came out best in the PSG FRI ML Web list server during 2007 and 2008? For 2008 7 response was for Educational research in 2008, while in 2007 response was topic Assessment, Interactive Teaching, IT in Medical education, Leadership and Distance learning respectively by 3,2,2,1,1, respondents

As far as Research Methods often used in the home institute in concern response was Qualitative Research (7), Survey (2), Interviews (2), Quantitative (1), Focus group discussions (2), Conceptualization(1).

And Research design most used was as follow

- Non –experimental research design: Survey (6), Questionnaire (2), Interview (1), Observations (1), Qualitative Design (6)
- Quasi-experimental: Quasi-experimental :1 , Pre-post design (2), Cross sectional design (3),
- Not sure what is research design (4)

Common Problems encountered while attempting education research were

- Lack of motivation, interest and cooperation among faculty and peer (11)
- Lack of time (7)
- Statistical: Validation of questionnaire (2), Data analysis (2)
- Others: Getting collaborators (1), Funds (1), Student participation (2)

Respondents institute preference for further training in Educational research were : Online training (37.1%), A course at their own Institute (14.3%), At FAIMER regional institute (22.9%), At national or international conference (11.4%), Any other (14.3%)

Note: Under other suggestions, the responses were thus: "collaboration", "online training on need based programme", 'distance learning with peer group interaction", "Further training in FAIMER Philadelphia to learn on nuances and subtleties of ER".

Reversal of code of Q. 8a and 8b revealed the Ranking average as 4.46 and 4.73 respectively indicating that respondents strongly agree the use of innovative IT in medical education and student feedback for curricular reforms

Table 5:

	Strongly Support	Support	Neutral or Don't know	Oppose	Strongly oppose
9a. Should innovation in technology (like video displays, virtual resources) be used in medical teaching to add value to education and to encourage faculty to do ER? What is your view for such a proposal	54.3%	40%	2.9%	2.9%	0%
9b. How would you rate the importance of student's feedback on educational innovations in bringing about curricular reforms?	78.8%	15.2%	6.1%	0%	0%

Table 6: **Which of the following would help to encourage more educational research at your institution? Can you rate the top 3 of them according to importance?**

Top 3	Recognition or an award from the Dean	Funding to attend and present findings at an educational conference	Establishing research teams that could assist new faculty to get involved in educational research	Encouraging more colleagues to apply for FAIMER Regional Institute	A special workshop on educational research conducted by educational research experts
1st choice	10	4	12	3	6
2nd Choice	2	14	7	5	7
3rd Choice	7	4	6	11	7

Top answer for first choice: Establishing research team to assist faculty, Maximum answers for second choice: Funding to attend conference, Maximum answers for third choice: Encouraging colleagues to apply to FAIMER

Table 7:

What do you think is the most important thrust that the regulatory bodies can give to promote ER in your country?	
a. Incorporate Educational Research in curriculum	40.0%
b. Make changes in regulations for recognition of Institute	31.4%
c. Set high standards for research	8.6%
d. Get feed back from Institutes on Educational Research	20.0%

Respondents response to other survey item was

- Past and present involvement in educational research : 100%
- Agreement that research ideas can be upgraded by Online discussion forums: 60%
- Preferring to further their training in educational research by on line training : 37.1%
- Reason for lack of educational research in their respective countries : Lack of Knowledge 60.6%
- Strongly support that innovation in technology Should be used in medical teaching to encourage Faculty to do education research and add value to Education: 54.3%
- Strongly support the importance of student feedback on educational innovations in bringing about curricular reforms : 78.8%

Top 3 choices for personal perspectives for getting involved in Educational research was

- Educational Reforms
- Enjoyment of work and collaborative research
- Educational reform and collaborative research

Top 3 choices for Encouraging Educational research at their Institution was

- Establishing research team to assist facility
- Funding to attend conferences
- Encouraging colleagues to apply to FAIMER

For getting more participants into ER,the voting is most for establishing research teams, recognition from Dean, and encouraging colleagues to apply to FAIMER. Among rows(Question 9), conducting workshops on educational research consistently scored rank 3 in 1st row, rank2 in 2nd row and rank2 in 3rd row.

Most of participants believe lack of knowledge as one of hindering factors for ER, the answers chosen to increase ER (online discussion and incorporation into) seem to reflect this and is inclined towards increasing knowledge. Interestingly there is interdependence between different responses.

DISCUSSION: While all precipitants agreed that teaching-learning method was included in Educational research, they were not having full consensus of the embracement of curriculum, student assessment and skills/attitudes of students in educational research (Table 1). They were later apprised during the online sessions and posting of results about this.

The reason for so little medical education research taking place in their respective countries was mostly answered as Lack of Knowledge of ER, followed by Lack of funding for ER and lack of interest from faculty. The last choices on lack of time and lack of administrative support scored equally at 29.4% (Table 2). Wide spread conduction of educational research workshops, conferences and symposium can create awareness and interest in the approaches and subtleties of educational research. To a great extent the extension and spread can be done by online forums and e-discussions.

Under the top 3 ratings for "your own personal perspectives for getting actively involved in Educational Research", most (13) of the FAIMER faculty and fellows felt it would bring educational reform in my institution/ department, followed by (11) who felt they will enjoy my work now (Table 3). Among the second choice, enjoyment and opportunities for collaborative research were highest voted for. For the third choice, the participants choose collaborative research and educational reforms most. This indicates the preference of the participants towards improvements in Home Institute and personal satisfaction at the highest levels.

In order to familiarize the respondents to the ongoing scholarly activity in the ML-Web, feed back on preferred list-server experiences of previous years (2007 and 2008) was elicited. Question 5 was included to get an idea on current educational research practices of the participants.

All the participants (100%) reported they have taken part in at least 1 educational research in the past 5 years. Among the common research methods and designs found useful for educational research (88.6% respondents).

Since all our participants had undergone Medical education training, most of them had responded to the answer. Qualitative analysis was the top preference and it falls in line with medical education research which is social science oriented[7].

The maximum number of answers which were discussed for common problems encountered in ER was: Lack of motivation, interest and cooperation among faculty and peer. This demonstrates the need for Institutional support in countries which are developing and not well established in Educational research. Lack of time has been quoted as the next major obstacle. This is very true in the face of faculty crunch and long hours of teaching and absence of qualified faculty to run the department in South East Asian countries. The medical educators have suggested various reforms and means to overcome them as shown in result.

Most important factors for overcoming the problems mentioned by our participants are perseverance, motivation and mobilization of others.

The FAIMER programme conducts a 1 week residential programme for interested health professional educators followed by online intersession session for 1 year. The same pattern is followed in the second year of the programme. Most of the (37%) of the participants felt that online sessions were suitable for have further training in educational research. The paradigm shift or creep towards online education for professional development has been reported by Donovant, 2009[8].

Results of survey on innovation in technology is depicted in Table 9a.There is growing evidence that traditional lectures are passive and students are slowly shifting to interactive learning. In certain Asian countries like India, presence of IT technology is absent in many Medical schools. All teachers are not provided with computer and net facility. Moreover students don't have the well equipped computer laboratory as socio-economic conditions are poor. Many students cannot afford to visit cyber café. In the presence of such dismal conditions, there is very little awareness of the tremendous speedy and revolutionary changes taking place world over. More over faculty who are of older generation and cannot keep in face with power points, virtual resources and video display will need special training enabling the shifting of teaching from traditional to blended learning. Sooknanan[9] mentions the government campaigns to implement educational computing through out the educational system in Trinidad and Tobago. The advantage of technology in learning has also been cited by Straub[10].

Student feed back is not compulsory in many Indian Medical Schools. In the dearth of qualified medical teachers and sprouting of new medical schools, quantitative assessment is of prime importance than qualitative

assessment of teaching-learning methods. In Malaysia Medical schools, feed back of student is done but generally not mandatory for curricular reforms. Recommendations of improved course organization, web based organization, improved current research, applied learning by students feed back have been duly acknowledged and incorporated in curricular reforms. 78.8% of the survey participants strongly supported that the student feed back in bring about educational innovations to ultimately cause curricular reforms is vital

Effectiveness of student**s**' evaluations of teaching effectiveness (SETs) as a means for enhancing university teaching has been reported by Marsh and Roche[11] ; Penny and Coe[12]. Brann and Sloop[13] have provided insight on student feedback on the perceived effectiveness of the technology and curriculum development which is very similar to our findings.

Poling the results of question 9: 25 respondents believe that establishing research teams is very important. 22 stress on funding. Not surprisingly, 20 feel that a special Workshop will be very helpful. 19 respondents believe that official recognition can be a good incentive. An equal number of 19 respondents want colleagues to become FAIMER Fellows - but that also has propaganda or marketing bias - the familiarity of the respondents with the FAIMER experience.

In most of the medical schools in India, generally a separate research Unit is absent in Medical Universities and funding are generally scare and not sanctioned for International conferences. Hence the knowledge transfer becomes intricate and most of the Researchers have to depend on personal funding based on their interests.

40% of the participants desired that there is a need to incorporate "Educational Research" in curriculum. The curriculum may need attention to bring about fundamental changes in educational research**.** The speeding of ER incorporation and process would be extremely elevated and the vision of achieving a strong education research oriented teaching curriculum can be attained smoothly and swiftly. The advantages of such an addition in curriculum are many. This would make ER mandatory and necessarily subject faculty to participate in research activities. Many of the clinical doctors are busy in practice and hence would have less time as teacher. Also to consider the 271 medical schools in India (which is also the producer of 30,408 doctors approximately per year) and 14 medical schools in Malaysia (7 governments and 7 private), uniformity of Research based curriculum may be mandatory for an efficient transition. The ER in curriculum would disseminate knowledge, improved technology in teaching-learning and would ultimately help in building a stronger community with efficient research based, critical thinking doctors. Overly Norman[14] has reported on incorporation of ethnography into the curriculum is itself an approach to ethnic awareness as students learn the skill of learning from others. 31.4% felt that changes in regulation for recognition of Medical schools

would be better. This would presumably be more effective for new medical schools which are established. The already existing medical schools may be indirectly forced to upgrade themselves on educational research (under the threat of derecognizion). The next generation of medical students would benefit largely by curriculum inclusion of educational research. While 20% opined that getting feed back from Medical Institutes would be a solution, 8.6% felt the need to set high standards for educational research. 2 participants gave "other" views: "Give due recognition to teachers for their work in Educational research" and "simplify the process of getting approval for research projects on educational research".

Take home Message:

Medical schools must consider seriously the incorporation of educational research in the medical curriculum.

A survey on the PSG list server provides baseline information about existing knowledge and attitude in Educational research in South Asian countries.

Around 60% agreed that Educational research ideas can be upgraded by on line discussion forums

Our survey indicates that educational reforms, enjoyment of work and collaborative research as the reasons for involvement in Educational research. The highest desire expressed is on establishment of research team to encourage ER in their home institute.

At Institute level, it may be necessary to have evidence based collection of interested faculty in ER and form a core group of trained Medical Educationists.

In **conclusion**, this study has shown that regulatory and institutional supports are likely to motivate the medical faculty in accepting and pursuing ER. Economically disadvantaged countries can adapt a positive approach by online discussions and service links.

Future direction: Could conduct such survey in faculty who has had no formal training in Medical education to create awareness and evoke interest.

Limitation: We have restricted the survey to the PSG-FAIMER list server participants who have all undergone Medical education training through FAIMER.

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