Article

Participatory action research: The key to successful implementation of innovations in health professions education

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Background. Health professions training is undergoing major innovative changes aimed at improving the quality of health professionals. Unfortunately many of these innovative changes in training have met resistance from lecturers and students simply because they are just imposed on them. One way of ensuring acceptability and success of innovative and evidence-based training methods in health sciences could be the use of participatory action research approaches.
Objectives. To explore the experiences of students and lecturers as well as identify potential benefits regarding the use of a participatory action research approach in a real learning context.
Methods. This was an action research study using a participatory approach.
Research findings. Participants reported satisfaction with the action research process and said it was a valuable learning experience. Key benefits of participatory action research identified included: empowering and actively engaging participants, combination of scholarly work, learning and immediate action, promotion of collaborative inquiry and team-work in initiating changes in training.
Conclusion. Participatory action research has the potential to result in acceptable and sustainable educational innovations because it involves the active involvement of all stakeholders affected by these interventions.

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Health professions education has undergone major transformations and innovations. Such innovations are in areas like curriculum reforms, faculty development, new methods of student selection, advances in technology and new methods of training.[1] Many of these reforms have been informed by educational research from lecturers in training institutions.[1] However, innovations have sometimes been resisted by both lecturers and students, even when they have been guided by evidence-based educational research.[2] This is partly due to the fact that such reforms are often imposed on lecturers and students to implement.[2] A key issue fuelling resistance to change by lecturers and students is the lack of active participation and engagement in these reforms.[3] One way of addressing this challenge could be to use participatory action research (PAR) methods to make many of the innovations acceptable to all stakeholders. In this paper we discuss the potential of PAR in health sciences training. This was part of a larger study conducted on feedback in which PAR was used.

Reason and Bradbury[4] defined PAR as a form of research that focuses on the effects of a researcher`s actions on routine practice within a particular context. The goal of such research is to engage people and improve performance in a chosen area of concern.[4] These key ingredients of PAR have also been alluded to by Chatterton *et al*.,[5] as well as by other authors in reported literature.[6-8] Cahill[9] cautions that: 'The challenge for PAR researchers who are serious about social change is to think through how to effectively provoke action by research that engages, that reframes social issues theoretically, that nudges those in power, that feeds organizing campaigns, and that motivates audiences to change both the way they think and how they act in the world.'

Active participation by all members therefore remains the focal point in the research process. Action in PAR signifies that the research process is geared towards generating activities that lead to change within a context. It is such activities that eventually address the identified need in the community.[8] PAR is an interpretive approach concerned with subjective interpretations of reality lived by individuals. This type of research surpasses mere publications in journals, but has social implications that affect the real lives of people engaged in it and creates strong relationships between researchers and participants.

Chatterton *et al*.[5] therefore pointed out key elements of PAR as:

- It focuses on bringing change, actively engaging all people within a community to work towards this change.
- It is unique to a particular context as it revolves around unique needs within a particular group of people.
- It emphasises teamwork and active collaboration, where researchers and participants work together to analyse a problem situation and generate actions to solve the problem.
- It is an iterative process involving actions and constant reflection during the process.
- It creates awareness among participants about their current situation and the need to take action to create change.

Despite the potential advantages of PAR in sustaining innovations in health professions education, many educators in the health field have given it little attention. The purpose of this study was to explore the potential of PAR in successfully implementing the use of a structured feedback form for students` assignments in a resource-constrained health sciences institution. This was part of a larger study that investigated the use of qualitative formative feedback in teaching and learning. However, in this paper the authors focus on the PAR approach in the process.

Methods

Research design

The study was qualitative PAR done at Makerere University College of Health Sciences (MaKCHS).

Study participants

The study included all second-year undergraduate medical radiography students and their teachers at MaKCHS. There were 18 students in total and 9 teachers, i.e. a total of 27 participants.

Data collection methods

Initially, focus group discussions were conducted with second-year medical radiography students and teachers. There were four focus groups, one with teachers and three with students. Each student group had six participants. Interview questions for the focus groups explored participants` experiences of feedback. The responses were audio-recorded and then transcribed. After analysis of the interview data, two meetings were held with the participants to design a written feedback form; one meeting was held with the teachers and the other meeting with students.

In the meeting with teachers, a structured feedback form for student written assignments was designed. The form was then discussed with the students in the second meeting to get their input as well. The structured feedback form was then implemented. Students were given one assignment every 2 weeks for 8 weeks. Teachers provided written feedback on the assignments using the form. The written feedback was given to each of the students 3 days before the next assignment to enable them to act on the feedback received. At the end of the 8 weeks, a second round of focus group discussions was conducted to explore the experiences of participants regarding the feedback process.

Data analysis

Thematic analysis was used. Analysis commenced even as data collection proceeded. As data collection and analysis progressed, codes were developed, refined and revised in an iterative process. Ongoing data collection, comparisons of codes within and between interviews confirmed and clarified the codes. Clustering and partitioning of codes led to the emergence of categories that were also iteratively refined, revised and related to each other. Established categories of data were classified into themes.

Quality assurance

The focus group discussions were conducted in a quiet place and questions used were first pre-tested. All responses were audio-recorded verbatim and each group would listen to the recorded interview before leaving to make clarifications. Data were securely kept and participants were often consulted during analysis to validate the emerging themes. Participants read through the draft reports written out of this study and agreed that their experiences were represented.

Ethical issues

Participants provided written consent. Responses were kept confidential from the rest of the public. Nobody was identified by name. Permission to carry out this study was jointly granted by the review boards of the Faculty of Health Sciences, Stellenbosch University, and the College of Health Sciences, Makerere University.

Research findings

The findings focused on the PAR process. Two major themes emerged from analysis of data: (*i*) experiences of PAR; and (*ii*) potential benefits of PAR. In both themes, the idea of collaboration and stakeholder empowerment in health professions education innovations was evident.

Experiences of PAR approach

It was evident that prior to this study none of the participants had any previous experiences in PAR. Both teachers and students reported that they had never been told about PAR before, and it was a whole new experience to them. The participants however admitted that actively participating in such a research process had a great impact on them.

The following key comments illustrate their experiences:
'This is a whole new experience for me. I have never been engaged in such a research process where I am a study participant at the same time almost working as a researcher. It has been a learning point for me and has introduced me to a new method of giving research a humanistic touch,' one lecturer said.

Another lecturer commented: 'The way we have been actively involved to come up with a feedback form is quite interesting. Sometimes innovations fail simply because the primary users are never involved. If the form had been just imposed on us, I doubt if it would have been accepted. At some point it even felt like it is not a research process. I have learnt a lot from this exercise.'

This was a whole new experience for the students as well. The following statement summarises the common expressions students gave: 'We thought we were not doing research initially as all activities involved seemed to fit in well in our learning schedules. In fact we thought it was another teaching method being introduced. Personally as a student, I had never seen any of my teachers giving me a research report to give him comments. I am proud to have been part of this.'

The above observations are significant, though not surprising. Teachers and students in health sciences view research from a positivist paradigm and are novices to the more interpretive and constructivist PAR approach, which explains the whole new experience observed.

Potential benefits of PAR

Participants generally reported that the whole research process was beneficial to them and probably to the institution. The perceived benefits accruing from PAR were further explored. Key among these were that PAR results in both knowledge generation and immediate action, gives stakeholders authority to direct the research process, addresses real contextual needs, promotes team work and collaboration. These were evident in some of the responses from participants:

'I have learnt that if all of us get involved in formulating new policies in this institution, life would be much easier for us', one lecturer said.

Another lecturer reported: 'This kind of process promotes team work and collaborative inquiry in our work. In the end, we come up with a product that we have all contributed to and this is likely to be more acceptable

because all fears are settled during the process. I wish our leaders in this institution could employ such participatory approaches.'

Students' comments equally pointed out the benefits of the whole process. 'This process has empowered and engaged me to positively contribute to how I learn. Now I feel valued in the whole teaching and learning process by my lecturers`, one student said.

Another student said, '… teamwork and empowerment have come up as strong factors in this process. This is what today's health professionals need to solve challenges in communities. We all need to work together and contribute ideas towards a common desired goal.'

Analysing the responses from both themes, it can be observed that the participatory approach created a sense of collaborative teamwork among lecturers and their students. At the same time it can be deduced that the process empowered participants to actively take part in activities that directly impact on them on a day-to-day basis.

Discussion

The major purpose of this study was to explore participants' experiences of PAR and potential benefits of the whole process. Analysis of data revealed that it was a rewarding experience to all participants. The greatest advantage of PAR appears to be the active involvement, collaboration, engagement and empowerment of stakeholders in the process of initiating changes in health professions training.[10,11] In many situations, changes are just imposed on teachers and students in the hope that they will implement them, ignoring their inputs. This study has shown that actively engaging and empowering lecturers and students in educational innovations and changes is likely to yield not only acceptance, but also sustainability. Cameron[12] alluded to this observation. Actively engaging all stakeholders in educational innovations is also one way of fostering teamwork and collaboration in health professions institutions.

Additionally, PAR is likely to promote a culture of collaborative inquiry, teamwork, continued learning and ownership of actions within a community. In this study, both teachers and students worked together as a team to design the feedback form. It is most likely that this teamwork approach contributed to the ownership of the intervention introduced. Additionally, most participants also viewed it as a learning process. This therefore makes PAR a form of educational process where participants combine doing research, leading to scholarly work as well as learning in a real contextual work environment.[13] It also empowers participants to gain skills of taking control of their teaching and learning needs within their context; these skills can then be applied as more needs arise. The idea of teachers involving students in such research processes also provides an opportunity for students to contribute to changes and innovations that influence and affect their learning. With the current advocacy of training change agents in health professions,[1] PAR is one way of achieving this as both teachers and students work together to implement new ideas in their work environments.

Despite the fact that PAR was a rewarding and satisfying experience to all participants, it seemed all new to them. This is probably because PAR was a new paradigm to many lecturers and students in this institution. Such a research process involves continued active participation and engagement of all stakeholders likely to be affected by the research outcomes.[6] This approach has not been common in this institution. Perhaps this explains why some participants even felt they were not doing research. However, it was exciting to note that many drew longlasting lessons from the exercise. The implication of this is that such lecturers and students can then transfer the knowledge and skills obtained to other situations within their contextual environments in which they can use a similar approach to initiate changes in a collaborative and engaging manner.

Although PAR is likely to sustain innovative changes in health professions training, it has received little attention in health sciences institutions. Why is this so? The answer is not straightforward, but largely lies in lack of skills and exposure of faculty members to this type of research. One way of mitigating this is through faculty development programmes that emphasise the role of educational research in general and PAR in particular within health sciences training. This study has highlighted some key benefits of engaging in such a process. The major contribution of this study is that an educational intervention (the structured feedback form) was successfully implemented and accepted by both lecturers and students within the context of a resource-limited setting using a participatory and teamwork approach.

However, the authors are cognizant of the fact that the positive observations noted could have been partly influenced by other factors and not solely attributed to the researchers' intervention or process involved. Despite all this, the study still identifies key attributes of PAR that are likely to influence the successful implementation and sustainability of innovations in health professions education, especially in resource-limited settings. More studies using the same approach in other settings are however still needed to supplement the observations identified in this study. Additionally, more studies are needed to compare acceptability of educational innovations using PAR and traditional conventional research paradigms, such that a comparative discourse is presented. The major limitation of this study was the small numbers of participants and potential bias arising from non-probability sampling. Nonetheless, this study could be a basis for using PAR in other contexts.

Conclusion

This study has revealed that PAR has the potential to empower, involve and actively engage all stakeholders in significant innovations in health professions training. When people actively participate and contribute to such innovations, they are more likely to be accepted and implemented as originally intended, especially in resource-constrained settings.

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