REVIEW ARTICLE

Tips for Managing Resistance to Innovation in Medical Education

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ABSTRACT

Resistance to innovation is a natural protective mechanism and it should be perceived as a "conditional acceptance" rather than outright rejection. The change agents need to take a number of steps to convert the conditional acceptance to a "welcome change". The aim of this article is to equip the staff members in the institutions of higher learning with tools for effectively managing the resistance to innovations in medical education. We examined the published literature in the area of managing the resistance to change and combined it with our own experiences in the established as well as new medical schools in two Asian countries and developed 12 tips to assist the change agents to manage the resistance to innovations effectively. Application of these tips will help change agents to use their time and efforts efficiently and effectively to achieve credible and lasting changes in the field of medical education.
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INTRODUCTION

The changing needs and expectations of the society, advances in the knowledge, newer approaches in teaching/learning strategies, innovations in the content delivery methods & instruments and novel approaches in students' assessment require unceasing changes in the curricula of medical schools. Generally, changes are carried out to solve specific problems, improve efficiency or achieve better outcomes. The process of change can be initiated by the medical school itself or in response to instructions from higher management or accreditation bodies.

Stressing on the need for curricular change, Bland et. al. stated that "Just as a continual stream of new technologies and discoveries brings advancements to patient care, so do innovations in teaching methods and curricular design constantly evolve to provide students with ''cutting edge'' curricula" (1 p. 575).

However, to incorporate any changes and/or to implement an innovative curriculum is an uphill task and is often a robust challenge even for highly motivated, energetic and dedicated Medical Educationists (2). In addition to the financial, administrative and infrastructural issues, resistance from stakeholders is a single most important challenge for change leaders.

Since the middle of 20th century medical education has been inundated with a number of innovations e.g., problem-based learning (PBL); team-based learning (TBL); case-based learning (CBL); flipped classroom; integrated curriculum; competency-based curriculum; community-based curriculum; programmatic assessment etc. Therefore, it is not surprising that as a teacher in medical school, one may have either faced resistance, mounted resistance or at least have witnessed resistance to change in medical education.

Reluctance to accept a change is a natural protective behaviour as some changes may not be beneficial or even may be harmful or it may be simply a fear of unknown. Therefore, this hesitancy in accepting a change should be interpreted as "uncertain situation" rather than "downright rejection". Resistance to change may even have positive effects in terms of achieving highest possible qualitative standards within the existing resources. It also guards against contentment and overoptimism that may develop in the "change-team". A number of factors such as financial implications, situational setting, aspects related to the use of technology and the pace of executing the change-plan need to be considered and managed tactfully when it comes to the stage of implementation (3).

In this article, based on our experience in a number of new and established medical schools in Malaysia and Pakistan and literature review, we will provide 12 tips to make the process of change in medical education smooth, efficient and effective. While preparing this manuscript, we organised an online discussion – one of

the routine activities – among the associates of "MedEd Webinar Series" - a voluntary organisation of Medical Educationists and Teachers across 14 countries and with an affiliation of over a thousand members (4).

The discussion question was related to the observation that most of the academicians in medical schools are generally happy to add new knowledge e.g., new treatment options in the curriculum content and to use the new tools of teaching e.g., PowerPoint presentations. However, they resist the new approaches to teaching/ learning e.g., PBL and CBL. "What, in your opinion, are the possible reasons for this selective resistance"? This question generated a passionate response from the participants mostly from Indian subcontinent where most of the medical schools follow the hybrid PBL curriculum. More than 50 members participated enthusiastically over a period of two days. The issues raised and the suggestions made are given in Tables I and II. In this paper we will present some of the conclusions drawn from this exercise.

Table I: Some of the reasons, brought up during MedEd Webinar Series Discussion, for the resistance to accept PBL as a teaching method

General reasons
• Facilitator's role is difficult and challenging (especially keeping silent and listening quietly). • Uncertainty of the outcome of adopting PBL; scared of "performance dip" among students • "By following true PBL curriculum, years of pedagogic training of Faculty goes waste! You have to start from the scratch again, as a beginner". • "The teaching method is not uniform and varies widely from person to person and institution to institution. As there is no uniform approach, it is difficult to use a "less agreed upon" methodology".
Attitude of Medical Educationists
• One serious issue is "holier than thou" attitude of Medical Educationists. • "Sorry to say, most of the Medical Educationists and authorities think that a teacher with a 30-years of teaching experience without MHPE (Masters in Health Profession Education) is inferior to a Medical Educationist with MHPE who, though, has zero teaching experience. So, no idea and no innovation can be successfully implemented if attitude of the regulatory and affiliated universities remains the same".
Lack of trust among Medical Educationists and Medical Teachers
• "There is a big communication gap between Medical Educationists and Teachers". • "I have seen the new leaders condemn the old ones as vehemently as the old condemned the new ones". • "Issues arise when a non-teacher or non-examiner Medical Educationist tells a senior professor, who had produced hundreds of world's renounced medical doctors, that your teaching and assessment methods are not correct". • "We should differentiate between Educationist and Medical Educationists. A Medical Educationist should have some experience as a Medical Teacher (Basic Sciences or Clinical) and some experience as an Examiner".

Bland et. al. (1) identified four distinct stages of curricular change: planning; initiation; implementation and institutionalisation.

One of the aims of "planning" stage is to prevent or minimise the likely resistance to change by establishing its need and benefits in the context of the institution/ medical school. During "initiation" stage, the change is introduced into the curriculum and during "implementation" stage it continues to be practiced while going through the process of modifications to adjust for any shortcomings. Once the change is implemented fully and practiced in routine without considering it as "new" way of doing things, it is said to be "institutionalised" (1).

Table II: Suggestions made during MedEd Webinar Series Discussion to manage mistrust between medical teachers and medical educationists

1. Institutional environment should reflect mutual respect between medical educationists and teachers in their daily activities.
2. Medical educationists and teachers should acknowledge each other's' strengths and roles.
3. Academic and administrative decisions should be made based on the evidence alone and not on the whims and fancies of influential staff members.
4. Capabilities of the students and the required attributes of the doctors in 21st century should be taken into account while making academic and administrative decisions.
5. The medical educationist should actively contribute in teaching (e.g., facilitating PBL sessions, teaching soft/transferable skills or other areas based on their expertise) and assessment (e.g., construction and vetting of questions; invigilation during exams) activities of the institution and not just work from office. This will help them to comprehend the real situation on the ground.
6. Changing curriculum is a laborious and lengthy process. The concerned academic and administrative staff members need to exercise patience and determination.
7. All the academic and administrative staff members should share the responsibility for bringing the change including the credit and discredit of success or failure.
8. The staff development activities may need to be repeated several times to cater for the busy schedule and availability of the staff members.

The organisation of the12 tips in this article follows these stages. The first seven tips relate to the planning stage.

Tip 1: Establish the need and/or benefits of the innovation

To make an innovation acceptable, it is crucial to establish its need and benefits. For a change to be lasting, there ought to be a widespread consensus that the change is necessary (5,6). The clear understanding of the proposed change and the belief that it holds promise for genuine improvement will influence the likelihood of its acceptance and implementation. The change must meet the standards of "reality and utility" (7) and be in line with the mission and vision of the institution.

The need for change may be highlighted through

presentation of problems, real incidents or scenarios on different academic and non-academic platforms e.g., curriculum committee meetings, school assemblies or by inviting the community leaders to give a talk to the academicians and tell what they expect from the doctors. Most of the time, bringing change is a "top-down" obligation whereas the accreditation bodies recommend the curricular change to the senior management of the institutions and the deans of medical schools who then direct the relevant committees to work on it, ultimately engaging the teachers and the students. However, sometimes the process may be reversed and the change may be initiated by the students and the teachers instead (3).

Sometimes the change may be needed urgently e.g., almost instantaneous change from face-to-face to online mode of teaching/learning due to COVID-19 pandemic or may take months to years e.g., implementing programmatic assessment.

As a change agent, one must separate the need from the proposed solution; let others make their suggestions and you introduce yours. This will help to establish a common ground before emphasising on the change you wish to introduce and implement. To achieve a widespread consensus on the need for a change is different from agreement on what the change should be (2).

The participants of the MedEd Webinar Series discussion (MedEd WSD) (4) proposed that there should be a brainstorming session among the stakeholders to come to an agreement about the actual need for the change and/or its benefits. However, this process of conveying, convincing and decision-making should be "short and sweet" as prolonged deliberations become bothersome and draining for the faculty especially if these activities interfere with the other responsibilities of the staff members (8).

Apart from articulating the need for the change and its urgency, the change-team should have an attractive and catchy slogan. Our slogan while introducing PBL curriculum was "Let's produce capable and skilful doctors and not just medical graduates".

Tip 2: Be ready with the answers to frequently asked questions
It is of utmost importance that all the questions raised about the innovation whether related to its need, concept, application or implications must be answered clearly and consistently. The conflicting and confusing answers and explanations by the members of the change-team may lead to incredible loss of the support. Therefore, the FAQs should be identified and standard answers established. Before answering any unfamiliar question, the members of the change-team must discuss with the leader and other colleagues and establish an agreeable answer. Some of the FAQs are listed below:

1. What is wrong with the existing curriculum? Why to fix if not broken?
2. How the new curriculum is going to be different than the existing one?
3. How the graduates of the new curriculum would be different from graduates of the existing curriculum?
4. What would be the role of teachers in the new curriculum?
5. How the new curriculum is going to affect the existing organisation?
6. Do we have enough resources to implement the change? If no, how and from where are we going to acquire the additional resources?
7. Has any other medical school implemented this curriculum? Is there any evidence that new curriculum has worked well elsewhere?
8. Will we have to change the existing assessment system as well?
9. Will national medical council / accreditation authorities accept this change?
10. Do we have the agreement/support of the higher authorities to implement this change?

It should be emphasised that change does not necessarily mean that the current curriculum is faulty. If we limit our approach to "fix only if broken", we may miss the golden opportunities to progress. By ignoring the credible innovations and adhering to the out-dated curricula, the institutions may be assumed as underachieving and risk to lose the support of the stake-holders (9).

Tip 3: Engage the key people
For successful implementation of a sustainable change, strong support is needed both from the administration as well as the academic staff of the institution. Prior to making the proposed changes "public", the key people from these two "categories" must be engaged and convinced.

The prospect of instituting and implementing the change becomes brighter, if the directive is issued from the higher authorities and the prospect of making the change sustainable is brighter, if the Faculty is sincerely convinced about the need for the change.

It is logical to seek the support of higher authorities – who can determine the fate of the initiative – before disseminating the information about the change in the institution. Be ready to explain the need for the change; the process of bringing the change; the effects of the change on the existing set-up and especially the resources that would be needed to bring about the change successfully. To win over the support from institutional authorities it may be necessary to show that the proposed change is cost effective.

They key people in this group may include administrators, registrar of the university, members of the senate, deans

and heads of the departments.

At Universiti Malaysia Sarawak, before proposing significant changes in the existing curriculum of the Faculty of Medicine and Health Sciences, the dean's office was convinced for the need of the change. Consequently, a committee was formed to examine the proposal before accepting and implementing it.

The key people in the academic group may include senior professors, heads of the departments, members of the curriculum committee and coordinators of the courses. To win over the agreement and support of these Faculty leaders may not always be easy, especially if the change is perceived to threaten their authority or breach the boundaries of their "territories".

Following are some suggestions in this regard:
1. Respect the difference of opinion as academicians who disagree are generally sincere people. They disagree because they have genuine concerns and they care about the betterment of the profession. They wish to make sure that the proposed intervention will bring positive changes and would not compromise the level of training of future doctors.
2. Acknowledge and protect the strength of the current system (10).
3. An "indifferent" or quiet group of lectures apparently do not disagree but may not necessarily accept the change. They may have their own personal reasons – both academic and non-academic – and may silently undermine the efforts to bring the change. They should not be ignored and a personal discussion with each of them or in a group may bring-up some important solvable issues. Some of these lecturers, with little support, may turn out to be strong supporters (2,11).
4. Acknowledge the academic and administrative contributions of the senior staff members for the development of the institution. Make it clear that the purpose of bringing change is to improve the present set-up and by no means implies that the existing set-up is useless or deficient.
5. Provide the published data and commentaries about the proposed change – both in favour and against.
6. Some members may have fixed ideas and refuse to study the materials provided – "do not want to waste their time". Some of the following suggestion may help to convince even the most uninterested, worst critics and closed-minded.

a. Presenting and discussing the relevant published papers at different forums such as journal club may catch their attention.
b. Ask them to review and comment on the relevant manuscript/s written by you or other members of the Faculty on the subject. This approach will help to convey the much-needed information.
c. Honour them by requesting them to be the chair of some of the sub-committees working on the proposed change. As a chairperson one strives to produce positive results rather than negative report.
d. Frequently ask for their experienced opinions to handle the difficult situations in relation to the proposed change.

Students are the stakeholders who will be impacted the most by changes in the curriculum. Therefore, it is vital that they are taken onboard as well. Moreover, the students can be effective opinion leaders and may reach naysayers in a different manner than Faculty colleagues do (12). After going through the first TBL session, students in our institution, were so impressed that they demanded the other lecturers to conduct similar sessions.

Tip 4: Establish the credibility of the "innovation-team"
An active task force with clearly defined responsibilities plays a crucial role in the planning, initiation and implementation of the change. The task force should be chaired by the change-leader (e.g., Medical Educationist) and should have representatives from different departments and administration of the medical school as members. To have even naysayers as members helps to address the potential resistance early on (3). The representatives of different departments can help in addressing crucial issues related to the curriculum (13). The change agents must establish their credibility and make the process of change transparent. If there are any doubts concerning hidden motives or hidden agendas (e.g., personal gains) on the part of the leader or leading group, there will be more resentment than support. The suspicious and disbelieving staff members may even try to undermine the initiative of the change (2). In the MedEd WSD the lack of trust between the Medical Educationists and Medical Teachers emerged as the single most important factor having negative effect on the sustainable implementation of the change – from traditional curriculum to PBL curriculum (Table I).

Realisation of one's own limitations and asking for assistance as and when required is a fundamental attribute of successful leaders. One must also differentiate between diverse academic views and personality idiosyncrasies or personal interests and deal with them accordingly. Role models and exemplary leadership skills are found to be critical factors to achieve success in change management (11).

Tip 5: Create a supportive environment.
Bland et. al. emphasised that "The importance of a positive and respectful work climate for successful curricular change cannot be overstated" (1 p. 578). A supportive environment in a medical school prevents problems in the implementation of a new curriculum or change in the existing one (3).

Create an environment which is "ripe for change" (14) i.e., all the stakeholders: (a) believe in the need for the change and are willing to work for it enthusiastically; (b) are reassured that the change being proposed is the

most appropriate in terms of producing safe and efficient graduates and is cost effective; (c) know that they have support of the administration for bringing this change; (d) believe that the appropriate facilities and resources are available and the target is achievable.

A supportive environment will be created by effective communication, maintaining and spreading the enthusiasm for change, harmony, preventing and resolving conflicts skilfully (1), appreciating the contributions of Faculty members, meeting the milestones and constantly updating about the progress of the "change plan". Some further practical steps to build the conducive environment for change are given below:

1. Every member of the "task force" should be clear about the milestones to be achieved and the progress should be presented on regular basis.
2. Frequent meetings with the team members, sharing good results, celebrating small wins, and maintaining optimistic behaviour helps in maintaining the enthusiasm.
3. Do not hesitate to share any emerging issues or problems with the team members; discuss any delays or setbacks, analyse the reasons and draw the strategies with the participation of the members.
4. Prevention and skilful resolution of conflicts is crucial for preservation and perseverance of the team. Practice transparency, truthfulness and frequent communication between team members to prevent misunderstandings and skirmishes.
5. Use platforms such as school assemblies to inform the whole Faculty about the status of the "project of change" on regular basis.
6. Faculty members who are not keen in bringing the change tend to "protect" their interest even on the cost of what students or institution may gain; winning over and giving them a feeling of ownership is the key to success (15).
7. The doubts about the motives of the change leaders and worries over their potential personal gains will have a negative effect on the process and progress of the change. Deal with the conspiracy theories by organising frequent open dialogues at the institutional level.
8. Make every effort to win the blessings of the senior staff members and take them onboard as their support will help to create a favorable environment for the change (3).
9. Uncover and face the problems upfront. Avoiding the issues or shrugging off opposing voices will inevitably lead to discontent and backlash (2).

Tip 6: Identify the likely factors contributing to resistance in your institution and draw a plan to address them

A good planner anticipates possible hurdles or difficulties and seeks to understand the fears and concerns of the stakeholders that may hinder the effective implementation of the change and takes steps to overcome or avoid the barriers or at the least tries to minimize their impact (11,16)

Contrary to medical practice which has been changing at a dizzying pace with little or no resistance (12), medical education has always faced strong resistance to change, however with one exception i.e., the urgent and rapid changes in the teaching/learning and assessment methods during COVID-19 pandemic. Perhaps the urgency of the situation during pandemic and non-availability of any alternative choices led to the quick acceptance of replacement of face-to-face teaching and assessment with online teaching/learning and assessment methods. The study of this phenomenon may suggest some solution to the resistance to change in medical education.

Interestingly the resistance to change in medical education has been selective. Though significant, but changes in the content (e.g., emerging infectious diseases) and tools of teaching (e.g., digital presentations) have been adopted readily whereas the changes in pedagogy (e.g., introduction of PBL) have almost always met strong and sometimes hostile resistance. One possible reason is that the advancements in knowledge in terms of contents and the ease of use and advantages of modern delivery tools are so obvious that one does not find any reason to resist. Whereas the methods and practice of teaching e.g., PBL or TBL sessions do not show obvious results immediately and academicians do not want to take "risk" of compromising on delivering information to students especially when they can use centuries old, well-established method of lecturing.

Lane (10), Chandler (11) and Thompson (17) described factors contributing to resistance to change under three heading: General factors; Factor related to change team; Factors related to staff members. Some of the factors have been mentioned in tip 5. Additionally, the reasons, specified by the participants of MedEd WSD, for resistance to change to PBL curriculum are given in Table I.

General factors

- Strong existing traditions or paradigms
- Lack of perceived need for change
- Conservative educational practices
- Lack of reward for innovations in teaching or curricular change efforts
- Overworked staff with lack of time to study or implement change
- Fear of loss of accreditation
- Feeling that the time and effort applied on the existing curriculum would be wasted
- Fear of unknown
- Low tolerance for change
- Individual idiosyncrasies

Factors related to the team/team-leader

- Many leaders in universities and colleges are

unprepared to lead the change
- Half-hearted attempts by the change-teams
- Lack of patience among change workers

Factors related to staff
- Surprise – decision taken without proper communication
- We've seen this before – expectation that the initiative is temporary and will die out soon
- Ripple effects – change in one area can disrupt other projects or activities, even ones outside of work.
- Fear of exposure of ignorance
- Lack of self-criticism attribute
- What is in it for me?

Tip 7: Draw a flexible "initiation and implementation" plan

Bringing a systematic change in curriculum is a laborious task and is usually a lengthy process. A large portion of time is spent in the initiation and implementation stages (1) of the change. At the Faculty of Medicine, Universiti Teknologi MARA, Malaysia it took us two years to implement an integrated curriculum (18). The Tehran University of Medical Sciences spent almost four years in evaluating their existing curriculum and developing a new competency framework for their MD programme (19).

It needs patience and perseverance as change hardly follows a smooth journey. It is not always possible to meet your targets as scheduled – one may have to move forward and backward many times throughout the change process. To achieve the consensus and a satisfactory outcome is more crucial than meeting a dateline. Unavoidable delays cause disappointment in the change agents, if the plan is too rigid.

Tip 8: Communicate with and involve all stakeholders

To incorporate their views and activate their interest and participation, all the stakeholders should be informed about the need for the change and the plans of activities ahead. The widest possible sharing of information and consulting all the stakeholders will bring them on board and will trigger a wave for the change in the institution (2). Platforms such as school meetings and assemblies, journal clubs, dialogues, debates, informal communications and other similar opportunities should be used to disseminate the information (20).

While formal presentations, informal discussions and distribution of resource materials are essential to enhance stakeholders' understanding and acceptance of the change, face-to-face interaction and demonstration of proposed teaching practices (e.g., a mock TBL session) along with the user's actual involvement in the planning and initiating of the change promotes commitment leading to successful implementation" (21).

The process of communication should follow the following principles:

1. Resistance is a positive response to change and does not necessarily mean the outright rejection of the proposed change.
2. People who resist the change are generally sincere individuals. They are concerned that the change may affect the level of medical education negatively. You need to allay their fears.
3. Acknowledge the contributions of the staff in the existing set-up and ask for their support in the new one.
4. Respect others' opinions and be ready to modify yours if deemed appropriate.
5. Answer all the question appropriately. If you need to get more information or consult colleagues ask for another meeting at another occasion.
6. Avoid insisting on minor issues.
7. Accept and acknowledge the authority of the subject specialists.
8. Deliver the change messages in a timely and transparent manner.
9. Tailor the messages for the intended audience and address the legitimate concerns.
10. Emphasise clear and compelling reasons for the change and the implications of not changing.
11. Present the proposed change as an experiment, ensuring that appropriate modifications would be made as and when required, even the whole idea may be dropped if proved useless or harmful (2).
12. "Those expressing dissenting views must feel fully heard, be acknowledged for contributing to the on-going discussion, and receive feedback. The objections raised during discussions can be very useful in identifying stumbling blocks in a plan and providing creative alternatives" (1 p. 584).
13. Using a variety of methods is much more effective than single-medium approaches (20).
14. The communication should be frequent. Repeated re-minders of goals and plans are important because people receive, integrate, and recall information selectively (1).
15. "Break large changes into small units for clarity" (10 p. 88).
16. "Appeal to both intellectual and emotional concerns" (10 p. 88)

For individual concerns use face-to-face communication as much as possible (10). One-on-one interaction reduces the possibility of misunderstanding by allowing the opportunity for immediate feedback and clarification and also by having the added dimension of nonverbal clues (20).

Before replacing the existing curriculum with an integrated hybrid PBL curriculum at the Faculty of Medicine, Universiti Teknologi MARA, Malaysia, a number of curriculum development sessions were held over a period of two years. These sessions were attended by Heads of all the Disciplines, Phase and Examination Coordinators and chaired by the Dean of the Faculty. The Medical Education Research and Development Unit

worked as the secretariat for this extensive exercise. The staff members and students were given regular updates during the process of implementation of this curriculum (18).

The Curriculum Committee of a new Faculty of Medicine at Quest International University Perak, Malaysia held a number of sessions over a period of more than one year to develop an integrated, outcome-based, hybrid PBL curriculum. All the Heads of the Departments, senior professors and Phase and Examination Coordinators were involved in this exercise. The whole plan of implementation of this curriculum was approved during the Faculty meetings which were attended by all the academic staff members (22,23).

Tip 9: Staff & Students' development

For change efforts to be successful, staff and students' development plays a pivotal role. The approach to training has to be generic as well as specific to the particular needs of the individuals and groups. The development process has to be in line with the culture of the institution and the nature of the change. The training methods must align with the expected outcomes of the staff and students' development.

The staff development session must address the following questions:

1. What is the change and why it needs to be introduced?
2. How this change is going to affect their present working (role as a teacher, assessor, administrator, researcher, mentor), timetable and workload?
3. How this change is going to help the staff in learning new skills?
4. How this change is going to affect / benefit the students (learning; assessment; better graduates)?
5. Are enough resources available for the change?
6. How staff members can contribute in the successful implementation of this change?

Based on these points, a number of staff development workshops, involving both basic medical science teachers and clinicians, were conducted before implementing the PBL curriculum in the Peshawar Medical College, Pakistan. We were very careful not to insist on minor issues to avoid unnecessary discussions and diversion from the main aim.

One most useful method of training Faculty, especially in medical schools is demonstration of the procedure or the process (15) e.g., live or recorded demonstration of the conduct of a TBL session. Offering variety of activities is important because each person learns differently and uniquely (3). Apart from the workshops, discussion forums, journal clubs, formal and informal conversations during the tea and lunch breaks, the academic retreats are useful activities. The "away days" have been used to secure uninterrupted opportunities to train and inform the academic and administrative staff members about the change and implementation plans (24).

The staff and students' development is an ongoing process and caters for the needs of the newly joining staff members and new intake of students. This process also tackles any issues in the follow-up practices. The importance of motivated, self-directed learners to solve the problems on need-to-know basis is emphasised in adult learning theories (25).

Tip 10: Be patient, persistent and pragmatic

Bringing a change especially in an established system with no apparent problems is a daunting task. The change leader and team must have never-ending patience, unwavering perseverance and be faithfully realistic.

Tekian at al., in their article about managing the tensions during the process of application of the innovations advise that "The process of change needs to start small, include key stakeholders and necessitates to be strategized. To change entire organization's culture needs time and effort and many times repeating the same activities e.g., staff development" (3 p. 5).

Identifying the groups of people who would support the change and those who would resist it – a process called "force field analysis" – at the initial stage of the change process can be useful in assessing the strength and quality of the possible resistance.

The team must draw a strategy to deal with "difficult" members especially when they occupy the influential positions. One such strategy is to share the sense of 'ownership' with all the stake holders especially with those who mount the most resistance. The sense of ownership can play a central role in converting the strongest resistant ones to the strongest supporters (26).
Sharing the responsibility and power to make decisions imparts the sense of ownership. In one of the medical schools in Malaysia, during the implementation of a PBL curriculum a staunch resistant academician was persuaded to be the chair of a committee tasked to document the roles of lecturers and students in a PBL session. This exposure converted her to be a promotor of the new curriculum.

Another reason we found out for resistance among academicians was their previous frustrating experiences with "change". The detailed discussion revealed the reason for the annoying experience was related to the weakness in the implementation of the change rather than the change itself. After participation in a "real" PBL session, the "difficult" staff member converted and became a strong proponent of PBL curriculum as he experienced a very different approach as compared to his previous institution where emphasis was more on problem solving rather than learning from the problem.
Even after the most exhaustive consultation there

may still be some individuals who resist the change. Such individuals should always be kept engaged and discussion and ideas should be continuously refined to minimise the resistance and prevent any possible setback.

Tip 11: Feedback and readjustments
Timely feedback is tremendously valuable during all the four phases of curricular change i.e., planning; initiation; implementation and institutionalisation (1). A positive and prompt response to feedback develops confidence in the stakeholders and wins their commitment to the implementation of the change.

In addition to the faculty and administrators, students' feedback can be a significant source of support during curricular change (27,28). We recommend a proactive approach to get students' feedback e.g., holding an open session of discussion may reveal many important issues and useful suggestions.

Install a "feedback loop" for the management of the change. A mechanism of receiving and response to feedback should be put in place and the record should be maintained preferably in the Medical Education Department. A staff member may be nominated and his/her contact number and address should be made known to all the stakeholders.

Feedback should be preferably in the written form; however verbal feedback should also be acceptable. Insisting on only written feedback may deter some members and consequently some valuable information may be missed. All modes of communication e.g., email, short messaging services etc. should be used to receive the feedback.

Anonymous feedback should be discouraged as this may be used to interrupt the change programme. However, confidentiality of feedback, especially if requested, should be maintained.

Tip 12: Keep monitoring and be ready for new challenges
Enthusiasm and high level of energy exuberating during implementation of the change will wane with time. The change team needs to be recharged continuously especially as the institutionalisation stage approaches in few years' time.

Miles and Louis (14) state that a success story of implementation of a change will favourably impact the institutionalization of the change. However, a close monitoring would be needed to promptly deal with any problems arising. The resistance may still persist and some elements may even attempt to roll back the change. Some of us can recall incidents where senior academic staff members asked the students to just follow their instructions and forget about the change and perceptively or innocently, the PBL sessions were converted in to minilectures especially by the staff members who did not believe in the self-learning capabilities of students.

To sustain a change which is still vulnerable to regression, the change team needs to maintain high level of interest and encourage the staff and students to keep on applying the new methods. The encouragement may include rewarding the staff in different ways such as issuing appreciating certificates and giving additional points for promotion. In one of the Malaysian institutions, to encourage the academic staff members to actively participate in the development of PBL Facilitators' Guides, the names of the authors were used to be announced in the monthly school meetings and it was made one of the criteria for annual raise in the salary.

Bland et. al. (1) suggested a number of ways to help institutionalise the change: (a) Provide opportunities to the Faculty to share their experiences during practising the change and if they have any new ideas consequently; (b) Arrange forums for students to share their experiences they have gone through and views they have developed about the new curriculum (c) Regular training sessions for the new staff members joining the organization so that they can embrace the innovation.

DISCUSSION

Change in medical education is an unceasing process. It is usually initiated by the accreditation bodies in response to changing expectations of the society, advances in the knowledge, newer approaches in teaching/learning strategies, innovations in the content delivery methods & instruments or novel approaches in students' assessment. Changes are also carried out to solve specific problems, improve efficiency or achieve better outcomes.

However, to incorporate any changes and/or to implement an innovative curriculum is an uphill task and is often a robust challenge even for highly motivated, energetic and dedicated change leaders. In addition to the financial, administrative and infrastructural issues, resistance from stake holders is a single most important challenge for change leaders.

Two interesting phenomena have been observed in relation to change in medical education. First the resistance to change is mainly selective i.e., the maximum resistance is mounted to the pedagogical aspects (e.g., PBL & TBL) whereas the additions in contents of the curriculum (e.g., newer treatment options) and the methods and tools of teaching/learning (e.g., digital methods) are accepted readily. Most probable reason for this anomaly is the immediate and obvious benefits of addition of new contents and adopting new teaching

methods whereas the educational effects of new pedagogical approaches may take years to be visible.
The second phenomenon was seen during the COVID-19 pandemic when there was almost an instant change from face-to-face teaching/learning and assessment methods to online teaching and assessment methods without much resistance. Perhaps the urgency of the situation and the lack of any alternative methods played a significant role in this swift acceptance of change. A detailed study of this phenomenon may help to manage resistance to change in medical education in future.

Factors contributing to academic staff members' resistance include misinformation about the new approach, lack of perceived need for the change, fear of losing authority, overworked staff with lack of time to study or implement the change, questionable credibility of the change leader/s, conspiracy theories and half-hearted attempts by the change-team.

The successful implementation of change hinges on the engagement of stakeholders. The most effective approach is communication and consultation with all stakeholders emphasising on the need or benefits for the change and the details of implementation plan. This is a time-consuming process which requires multiple rounds of talking to people and steadily and gradually influencing them. Therefore, one needs to put the bulk of the effort in to the preparation phase using dialogues and debates to refine the change and its implementation plan. If aspects such as establishing the need for the change, ensuring sufficient support and resources for its implementation and readiness to modify and follow a different track if need arises, are managed properly, there will be far fewer difficulties in the implementation of the change.

CONCLUSION

Resistance to change is a natural protective mechanism and it should be perceived as "conditional acceptance". The change agents may need to take a number of steps to convert the conditional acceptance to a welcome change. Based on our personal experiences and literature review, these tips apart from educational aspects also apply to organisational and operational issues. These guidelines can help all those involved in an ongoing change process or are contemplating a change. These tips will help the change agents to be aware of the consequences of particular approaches and to choose the best route to follow for their own circumstances.

This article has made practical suggestion to manage the resistance to change by establishing the need for the change, designing the change with the help of experts and relevant people, establishing the credibility of the change team, publicising the proposed change, anticipating and overcoming the possible hurdles, getting support and agreement of all the stakeholders and be ready for modifying the change, if needed for proper implementation. These tips provide a framework for managing a change and are not prescribed for a specific or a particular change. The change team may need to make relevant adjustments according to their context, environment and requirements.

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