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Title	Designing technology tools to support engagement in mindfulness-bas		
	interventions: an analysis of teacher and student experiences		
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Coláiste na hOllscoile Corcaigh

Theme	Specific issue	Illustrative quote from stu- dent/teacher	Potential technology- based Solution
Adapting the MBSR pro- gramme Subtheme: Responding to difficulties with home practice	Participants have questions about how to engage with their practices (Am I doing it correctly?)	T2: "If people report back for instance, "oh It doesn't work for me because my mind is wandering all the time," that is not an obstacle'	An FAQs section, answering common participant ques- tions or concerns
Adapting the MBSR pro- gramme Subtheme: Responding to difficulties with home practice	Continuing practice after the end of the 8-week course is challenging	T5: "I also see the possibility of having this access after the course; they can go through the programme again half a year later, so they still have the possibility to go through the pdf files, the teachings'	Continued access to course materials, introduction of new "advanced" post-course meditation guides
Adapting the MBSR programme	Participants undertake some forms of practice more than others	T2: 'So did you do your home practice today? No? Okay, what prevented you from doing your home practice?'	Provide feedback on the number of each types of practice participants com- plete to increase awareness of obstacles
Adapting the MBSR programme	Some participants struggle to complete practice as assigned	T3: 'If people are very uncomfortable sitting still, you can do the practice walking. Or if you have chronic pain, you can do the practice laying down with your feet up. So do some positions that changes can be helpful to be in the uncomfortable feeling so I think we can set it up in that way'	Provide teachers with the pos- sibility of giving shorter practice assignments or other adjustments
Adapting the MBSR programme	Teachers do not always know who is struggling	T2: 'We don't really know how they are doing. Because it is a lot of people in our classes, 30 people sometimes'	Integrate participants' midway evaluations into an app
Reflecting, but not evoluating	Promoting participants' reflections on their learning	T2: 'People actually learn about mindfulness and about their lives basically, not just from experience, but from reflecting upon experience'	Diary function, to record expe- riences for future review
Reflecting, but not evoluating	Participants do not cur- rently record home practice in a struc- tured fashion	T2: 1 think it would be a great idea for them actually. To record today I practiced for thirty minutes, just so that they get a sense of how much or how little they practice. I think that would be helpful feedback'	Automated recording of number of minutes of prac- tices, time of day
Reflecting, but not evolvating	Ensure participants are not evaluating the practi- ces experience	T1: 'It is good to know that they do practice. And not to measure every second minute whether it is working'	Design should not promote an evaluation of practice (i.e. a star for 'practices com- plete'), but should promote non-judgemental awareness of practice patterns
Supporting communication and understanding between teachers and students	Teachers use diverse meth- ods to communicate with students outside of class time	T3 'But we say that we are available (by) phone call or something sending an email, set up a phone call after'	Provide a convenient means for participants to communicate with the teacher from within an app, e.g. through email or a messaging feature
Supporting communication and understanding between teachers and students	Teachers use diverse meth- ods to provide audio guides	T3: 'I have a thing to add; also my soundtrack is on a place called SoundCloud'	Provide a consistent, conve- nient means for participants to access practice guides
Supporting communication and understanding between teachers and students	Students missed the group setting after the end of the course	S4: 'I miss the group now, I miss a group' S4: 'You could say, "Saturday morning I am doing meditation does anyone want to join?" I think that is nice'	Provide a means to keep in touch with other partici- pants from the class after the course has ended
Augmenting the programme with mobile technology	Reminders to practice	S1: 'Could it be individual? Maybe I would like to have it after 3 days? Maybe she would like to have after a week? Maybe you could decide yourself?'	Allow participants to person- alise their own remind- er settings
Augmenting the programme with mobile technology	Supporting participants' motivation to practice	T4: 'If people could choose if they wanted to put in sort of a saying for themselves or reminders that comes up 'Hey, you want to do this because? Do you remember?"	Include space for participants to note quotes, images, poetry to inspire practices
Augmenting the programme with mobile technology	Supporting discussions with participants who are struggling with practice	T1 'I think it could be useful, but as a student and as a teacher because then you can talk about it if you don't know that someone is not practising, then you can't talk about it'	If teachers can view partici- pants' practice time, they will be able to discuss issues with participants that may otherwise not come to light
Augmenting the programme with mobile technology	Personalisation is impor- tant to participants	T5: 'That is usually what we also do in the programme itself like the teacher. Your teacher who is guid- ing you through the files'	Delivering a teacher's own meditation guides in an app
Augmenting the programme with mobile technology	Personalisation (choices about accessing stu- dents' data) is important to teachers	T1: 'It would require more work and things to think about'	Teachers may not be able to take on additional work such as reviewing partici- pants' practice time. This should be optional
Augmenting the programme with mobile technology	A Key component of the course, the midway evaluation is time-consuming	T2: 'But that Midway assessment, I am just thinking that could be part of that application because that is actually talk quite time-consuming, it is taking away the time to interact with people, and in a way a bit disturbing'	The midway evaluation could be included in the app, so that participants could com- plete it outside of class time

Table 1. Suggestions for design of technology to support mindfulness course participants. Suggestions are derived from (a) discussions with students and teachers about design of a mobile tools and (b) more general discussions around home practices in mindfulnessbased stress reduction. We include quotes from students and teachers to illustrate each issue.