

Stop with the FLO: using text messaging to improve retention rates in University Students

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Abstract

Student attrition rates in undergraduate programmes are unacceptably high. The study undertaken evaluated the use of 'FLO', a mobile phone automated text messaging service, designed to provide information, support and reassurance in order to help alleviate the stress and anxieties that some new undergraduate students experience during the early phase of their studies. The objectives of the study were to evaluate how use of automated mobile phone texts using a system known as FLO could usefully supplement the pastoral support currently offered to new undergraduate students. A qualitative and quantitative evaluation was conducted using an open-ended questionnaire designed specifically for the study. The sample were 39 first year, undergraduate, Level 4 students from Social Welfare Law (n=16) and Sport and Exercise (n=23) who signed up to receive texts from FLO. The questionnaire was administered in a classroom situation one week after use of FLO had ceased. Data were analysed through use of a descriptive statistics and thematic analysis. Thirty nine students signed up to receive texts from FLO and 25 (64%) completed the Qualtrics questionnaire. Largely positive findings predominated including that text messages increased a sense of belonging to the University and helped students to stay on the course. It is concluded that FLO or use of similar mobile phone protocols may be a useful addition to approaches to improve undergraduate student retention rates.

Introduction

Mobile phones are among the most rapidly growing technologies in the world (Rebello, 2010). Indeed, there are more mobile phones in the UK than people (Chambers, 2014). We are moving towards a culture where many people use mobile phones to organise every aspect of their lives (Chambers, 2014). Technology enabled education has now become part of our everyday academic life (Castells et al., 2007) and this has spawned an array of research into the widespread educational use of mobile phones in teaching and learning (Lauricella and Kay 2013; Akuamoah-Boateng and Boadu 2013 and Van Neste-Kenny et al., 2009). There is however a gap in terms of the use of mobile phone technology used to improve student retention.

FLO is a Short Messaging Service (SMS) originally designed as a National Health Service (NHS) Telehealth service to send patients automated texts which give guidance and information about their medical condition (Cottrell et al 2012). Within the NHS, FLO has been used to help patients manage their own health conditions such as hypertension and diabetes (Cottrell et al., 2012a, Cottrell et al., 2014; 2015a; Cottrell 2015b) and been shown to be acceptable to patients (Cottrell et al., 2012b).

Attrition refers to students who leave early without successfully completing their educational programme (Higher Education Academy (2015). The Higher Education Statistical Agency (2015) report attrition rates amongst first year undergraduate students studying at English Universities at 5.7%. Attrition is costly not only for funding bodies and universities, but also for the student, in that unsuccessful completion also comes with a personal cost. That is the trauma, embarrassment and dent in self-esteem that individuals experience when they fail to complete their programme, which should not be overlooked (Jinks, 2014).

There is no one single reason why some undergraduate students leave their programmes early. For example, Thomas (2002) gives financial reasons such as hardship and accumulating debt for Higher Education students generally. Thomas et al (2012) undertook a systematic review and identified five cross-cutting themes of which stress and coping was related to all the synthesised themes. Failure to attain the academic standards was also highlighted (Whitehead (2002). Pastoral support has an important role to play in student retention Banks et al. (2012); and Levett-Jones and Lathlean (2008) suggest that fostering a sense of belonging is a prerequisite for successful learning.

The aim of this study was to evaluate how use of automated mobile phone texts using a system called 'FLO' could supplement the pastoral support currently offered to new students, foster a sense of belonging and contribute to improving attrition rates.

Context

The small pilot study was undertaken in 2014 in a post-1992 university located in central England and explored the use of FLO in an educational setting aimed at enhancing retention in two cohorts of first year undergraduate students. A SMS protocol was therefore developed covering the first 12 weeks of the students' programme. That is a mix of interactive, as in a response was required from the student, and providing information only and no response required, automated text messages were developed. The messages were designed to be sent from week two to week 12 of the students' programme, on different days of the week, including weekends, and at various times during the day and early evening, 10.30 – 19.00hrs. One or two text messages were sent each week covering such things as guidance to where students could access support, reminders to the participants to see their personal tutors and information about university activities. Examples of the text messages sent are given in table one. The system was programmed to provide an alert when a student responded with a concern such as anxiety about an aspect of their programme.

Recruitment

The prospective participants were informed about the project during an interactive question and answer session with a member of the FLO Team who was not involved in their programme. The information given was supplemented through use of a written study information sheet. It was made clear that the FLO project was not part of their core curriculum, that they could choose whether to participate in the project, or not, and if they decided not to take part they would suffer no penalties. They were also told that FLO would be free and they would not be charged for the messages that were sent. Those willing to participate completed a written consent form, and were asked to provide their personal details along with their mobile phone number.

Ethical Approval

A FLO licence was purchased and company permission obtained for the development of the service to support students during the early phases of their studies. Ethical Approval was also obtained from the University Research Ethics Committee prior to commencement of the study. All the usual ethical procedures were adhered to including use of study information sheets and written consent forms. Students were also told they could withdraw from the study at any time by texting 'STOP' to FLO. Assurances of confidentiality and anonymity in data analysis and data reporting stages of the study were given and adhered to. Finally care was also taken with the security of data access and storage, as it will be with the eventual disposal of study data.

Methods

Mobile phone automated texts were sent to participating students that were designed to provide information, support and reassurance, to help alleviate the stress and anxieties that students often experience in the early stages of their studies and foster a sense of belonging.

At the end of the 12 weeks, the students were asked to complete a questionnaire using a system called Qualtrics that contained a series of closed and open questions. Participants were also told they could expand on their answers in any way they wished to. Examples of the questions posed were such things as '*Did the FLO text messages motivate you to continue with your course?*', '*Did FLO encourage you to keep attending the University?*' and '*Did FLO make you feel more linked in with the University?*'

Data analysis

Quantitative data were analysed using Excel and qualitative data were analysed using thematic framework analysis (Miles and Huberman, 1994) to identify emergent patterns and themes. All responses were read independently by two members of the FLO research team (EB, RM), who devised an index of key concepts and themes based on issues raised by the participants.

Results

Sixteen (70%) of the total cohort of 23 undergraduate social welfare law students signed up for FLO and of the 16, 11(69%) completed the evaluation form. 23 (51%) of the total cohort of 45 Level 4 Sport and Exercise students signed up to FLO and of the 23, 14 (61%) completed the evaluation. The results for the two cohorts were overall very similar and were therefore combined across both cohorts.

Two key themes emerged from the data. Theme 1 that FLO text messages were helpful and supported time management skills and a second theme emerged suggesting that FLO increased a sense of belonging to the University and encouraged retention.

Indeed of the total of 25 students who completed the Qualtrics questionnaire, 23 (92%) reported receiving text messages from FLO had supported them and all 25 stated that FLO texts had been helpful particularly with time management and comments such as the following were common:

Reminding me of coursework. (Student 4)
Good reminders to time manage. (Student 3)
Kept me on top of things. (Student 1)

One of the most positive aspects was how FLO appeared to increase students' sense of belonging or being 'cared for' and 'cared about'. Twenty one (84%) stated that FLO made them feel linked to the University during the first semester and 17 (68%) said that FLO text messages helped them to continue with their course and comments were made such as:

Feel part of something. Felt supported at all times. (Student 6)
Telling me how I can get further help (Student 20)
Motivated me to continue (Student 12)

Texting STOP to FLO

Three students reported receiving repeated messages and made comments such as '*Annoying that I kept getting the same text message*' (Student 9). However, nineteen (76%) students felt that that frequency of text messages was perfect or about right and only one (4%) felt it was too frequent and another one student felt they were not frequent enough. Only one student (4%) actually stopped FLO and the reason was that she felt she received too many texts already. The remaining 24 (96%) students continued with FLO.

Future uses of FLO

Students also suggested that FLO could be used in future to provide reminders of lectures and reading:

Reminders of key readings from lectures (Student 23)
Provide more info on sessions going on (Student 23)

Discussion

This study focuses on a novel way of using mobile phone technology and suggests potential use in improving undergraduate student attrition rates. Although no direct correlation can be made to FLO, the Annual Monitoring Reports showed increased retention rates for both cohorts. The evaluation conducted largely supports mobile phone use to improve student retention. The findings are predominated by positive evaluations. One of the most positive aspects was how FLO seemed to increase students' sense of belonging and being 'cared about'. This is not surprising as many students irrespective of their programme of study are reported to suffer from home-sickness and adjustment problems in the early phases of their university studies. For example, Cooke (2006) identifies that historically many first year university students face a wide range of stressors and challenges whilst embracing a new direction of their lives that entering university represents. A number of studies also suggest that higher rates of psychological morbidity are recorded amongst first year undergraduate students (Price et al 2006). As described earlier for students this may be compounded by a feeling of not being wanted or a feeling of rejection that some students report when first

entering clinical placements (Thomas et al 2012). For some this may result in premature withdrawal from their programme. For example, and as also related earlier, Hamshire et al (2012) describes how dissatisfaction and difficulties around clinical placements may act as a tipping point that can result in some students deciding to leave their programme prematurely.

Conclusion

There are a number of limitations to the study conducted. It is a very small sample size and no data was collected on the socio-demographic makeup of participants. However, the evaluation indicates that future use of FLO may be helpful in retaining undergraduate students. Early indications are that FLO can help foster a sense of belonging when students first enter the sometimes disconcerting culture of university life. Given the lamentable attrition rates of undergraduate students, FLO, or similar text messaging systems, may be a useful addition to approaches to improve student retention rates that merits further investigation.

Conflict of Interest: Phil O'Connell and Lisa Taylor both work for NHSsimple and Phil O'Connell is the Chairman of NHSsimple and creator of FLO. The remaining academic authors have no conflict of interest.

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References

Akuamoah-Boateng, C., Boadu, K. 2013. Reducing distance learners attrition rates at the University of Cape Coast. *International Journal of Learning and Development* 3 (3), 214boadu

Banks, P., Kane, H., Rae, C., Atkinson, J., 2012. Support for nursing and midwifery students: A special case? *Nurse Education Today* 32 (3), 309–314.
doi:10.1016/j.nedt.2011.02.010

Castells, M., Fernandez-Ardevol, M., Qiu, J., Sey, A. 2007. "Mobile Communication and society: A global perspective." Cambridge, MA: MIT press.

Chambers, R. 2014. "Tackling Telehealth: How CCGs can commission successful telehealth services". Stoke CCG.

Cooke, R., Beewick, B.M., Barkham, M., Bradley, M., Audin, K. 2006. Measuring, monitoring and managing the psychological wellbeing of first year university students. *British Journal of Guidance & Counselling*, 34 (4), 505-517.

Cottrell, E., Chambers, R., O'Connell, P. 2012a. "Using simple telehealth in primary care to reduce blood pressure: a service evaluation", *BMJ Open*, vol. 2, no. 6.

Cottrell, E., Chambers, R., O'Connell, P.. 2014. Stoke-on-Trent: telehealth helps patients manage their own conditions. *Public Health England*, 2014.
<https://www.gov.uk/government/publications/high-blood-pressure-action-plan>
(Accessed 15th April 2016)

Cottrell, E., McMillan, K., Chambers, R. 2012b. A cross-sectional survey and service evaluation of simple telehealth in primary care: what do patients think? *BMJ Open*, November 2012 <http://bmjopen.bmj.com/cgi/content/full/bmjopen-2012-001392>
(Accessed 15th April 2016)

Cottrell, E., Cox, T., Chambers, R., O'Connell, P. 2015a. Patient and professional user experiences of simple telehealth for hypertension, medication reminders and smoking cessation: a service evaluation. *BMJ Open*. March 2015
<http://bmjopen.bmj.com/content/5/3/e007270.full?keytype=ref&ijkey=iSJSZ2IP6qlorO> (Accessed 15th April 2016)

Cottrell, E., Cox, T., O'Connell, P., Chambers, R.. 2015b. Implementation of simple telehealth to manage hypertension in general practice: a service evaluation. *BMC Family Practice* 2015; 16: 83. DOI 10.1186/s12875-015-0301-2
<http://www.biomedcentral.com/1471-2296/16/83> (Accessed 15th April 2016)

Hamshire, C., Willgoss, T., Wibberley, C. 2012. Should I stay or should I go? A study exploring why healthcare students consider leaving their programme. *Nurse Education Today*, 33(8). 889-895.

Higher Education Academy (2015) Retention and success Accessed at
<https://www.heacademy.ac.uk/workstreams-research/themes/retention-and-success>
<https://www.heacademy.ac.uk/workstreams-research/themes/retention-and-success> (Accessed 15th April 2016)

Higher Education Statistical Agency.2012/13. Free Online Statistics – students and qualifiers accessed September 2015 at <https://www.hesa.ac.uk/stats>.

Jinks, A. M., Richardson, K. Jones, C. (Published on line August 2014) Issues concerning recruitment, retention and attrition of student nurses in the 1950s/60s: A comparative study. *Nurse Education in Practice*
<http://dx.doi.org/10.1016/j.nepr.2014.07.002>. (Accessed 15th April 2016)

Lauricella, S., Kay, R. 2013. Exploring the use of text and instant messaging in higher education classrooms. *Research in Learning Technology* 2013, 21: 19061 -
<http://dx.doi.org/10.3402/rlt.v21i0.19061>

Levett-Jones, T., Lathlean, J. 2008.. Belongingness: A prerequisite for nursing students' clinical learning. *Nurse Education in Practice* 8 (2), 103-111. doi: 10.1016/j.nepr.2007.04.003.

Miles, M. B., Huberman, A. M. 1994. *Qualitative data analysis: An expanded sourcebook (2nd ed.)*. Sage. Thousand Oaks, CA.

Price, E., McLeod, P.J., Gleich, S.S., Hand, D.2006. One year prevalence rates of major depressive disorder in first year university students. *Canadian Journal of Counselling*, 40(2), 68-81.

Rebello, J. (2010). Global Wireless Subscription Reach 5 Billion. Retrieved from <http://www.isuppli.com/Mobileand-Wireless-Communication/News/Pages/Global-Wireless-Subscription-Research-5-Billion.aspx> (Accessed 15th April 2016)

Thomas, J., Jack, B. A., Jinks, A. M. 2012. Resilience to care: A systematic review and meta-synthesis of the qualitative literature concerning the experiences of student nurses in adult hospital settings in the UK. *Nurse Education Today*, 32 (6). 657-664.

Thomas, I. 2002 Student retention in higher education: the role of institutional habitus *Journal of Educational Policy* 17, (4) 423–442.

Van Neste-Kenny, JMC., Park, C.L., Burton, P.A., Meiers A. 2009. Mobile Learning in nurse practice education *Journal of Distance Education* 23, 3, 75-96.

Whitehead, D.2002. The academic writing experiences of a group of student nurses; A phenomenological study. *Journal of Advanced Nursing* 38 (5) 498-506.

Table One: Examples of messages included in the FLO protocol

Focus	Example of text messages
Providing reassurance	<p>The first welcoming text message sent at Day Two 13.00 hours read: “Hi, it’s FLO. Welcome. We are delighted that you have chosen to study with us.”</p> <p>An informative, no response required, text message sent at 18.00hrs read: “Hi, don’t worry if you can’t remember all of the information from Welcome Week, it’s all on the University website & Blackboard”</p> <p>Day 14 at 19.00 hours. “Hello, you have been at the uni for a few weeks, how have you settled in? Let us know by texting #1 for Good, #2 for Okay, #3 Not good. FLO”</p> <p>Day 15 at 10.30 If no reply – “Hi, you don’t appear to have replied to my last text regarding how you have settled into University? Reply #1 for Good, #2 for Okay, #3 Not good. Thanks FLO” (156)</p> <p style="padding-left: 40px;">If they text - Good</p> <p>FLO replies</p> <ul style="list-style-type: none"> • “Fantastic – that’s a really good start. Take care FLO.” <p style="padding-left: 40px;">If they text - Okay</p> <p>FLO replies</p> <ul style="list-style-type: none"> • “Uni life does take some getting used to; once it becomes more familiar it should get even better. Remember to socialise as this can help you to settle in. FLO” (158) <p style="padding-left: 40px;">If they text - Not good</p> <p>FLO replies</p> <ul style="list-style-type: none"> • “I’m sorry to hear this, try talking to members of your group along with your PT as they can offer you great support during your transition into Uni life. FLO ”
Improving awareness of support available	<p>Day 11 at 12.35pm An interactive, response required, text message read: “Hi, your personal tutor will play an important role during your time at the university. Have you met your personal tutor yet? Reply #1 if YES or #2 if NO”</p> <p>This was followed with the following messages dependent upon the students’ response</p> <p>If no reply by 19.00hrs – “Hi it’s FLO, I’ve noticed you haven’t replied regarding whether you have met your personal tutor? Reply #1 if YES or #2 if NO”</p> <p>If the student replies via text - “Yes”</p> <p>FLO replies immediately - “Fantastic, remember your personal tutor is a great source of information and support throughout your time at the university”</p> <p>If the student replies via text - “No”</p> <p>FLO replies immediately “Sorry to hear this, try to arrange to meet your personal tutor as soon as you can as they can be a great source of info and support during your time at the university”</p>

