Towards the Development of a Prognostic Approach to Student Retention in Foreign Language Classes

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Abstract: Language student attrition rightly continues to raise concern, associated as it is with heavy emotional and financial consequences. Existing models of student retention and attrition approach the issue of student dropout once the students had withdrawn from their studies. Even though these models have been successful in determining some of the factors that contributed to student withdrawal, there are three distinct gaps in the literature. First, the lack of studies dealing with in-course retention, second, the lack of retention and attrition models that tackled the issue from a prognostic approach rather than diagnostic, and third, the lack of research into second and foreign language learning student attrition. This article explains a new approach to language student in-course retention, developed and evaluated in a first-year tertiary Spanish class, as well as the instruments that support its implementation.

Keywords: Student Retention and Attrition, Language Learning, Spanish as a Foreign Language, Australia

Introduction

The issue of student failure to complete their studies is a serious one (Kuh, 2008; Lobo, 2009, McLaughlin, Alvarez, Goins, & Woodward, 2008). In some universities, only half of first year students end up graduating (Gilling, 2010). This has an emotional cost for those leaving their studies but also comes with a financial cost for individuals, educational institutions and governments.

Between the 1970s and 1990s, a number of student retention and attrition models were developed to explain why students were leaving their studies. Even though all the models were different, they were unified by a focus on the issue of student retention and attrition from the point of view of the departed student. In a sense, all these models aimed to discover, post hoc, the factors why students were withdrawing from their studies and in some cases offer ways in which to counter these withdrawal factors. The best known is the Student Integration Model developed by Tinto in 1975. Since then, other models have fallen mainly into two distinct categories: trying to improve Tinto’s original model, or trying to refute it (Braxton, Millem & Sullivan 2000, Brunsden, Davies, Shavlin, & Braeken 2000, Draper 2002, Getzklaf, Sedlacek, Kearney & Blackwell 1984, McCubbin, I. 2003, Mutter, P. 1992).

The analysis of the existing retention and attrition models show the lack of literature referring to in-course attrition—the retention within a single course (as opposed to degree, diploma or certificate). Of the limited literature that deals with the withdrawal of students from language classes, the majority refer to the issue of foreign language student anxiety and how it could contribute to student withdrawal (Aida 1994, Ashcraft & Kirk 2001, Bailey,
Daley & Onwuegbuzie 2003, Casado & Dereshiwsky 2001, Horwitz, Horwitz & Cope 1986, Liu 2007, MacIntyre, Noels & Clément 1997, Onwuegbuzie, 1999, Zheng, Y. 2008). Again, there is a paucity of retention and attrition models that tackle the issue of student withdrawal from the beginning of the course, that is, before students withdraw. Although these models were more or less successful in determining the factors that contributed to student withdrawal, these models were not developed to empower students over their learning experience nor teachers to understand when students in their classes could be at risk. Therefore, these models are not necessarily actively contributing to retaining any students in their courses. Additionally, it is likely that withdrawal from a course will act as a predictor of withdrawal from a full program of study, such as a degree or diploma.

This study, thus takes a different, pro-active approach to the issue of retention. By taking into account existing student retention and attrition models, especially the Student Integration Model developed by Tinto (1975), and data collected from first year language students, a new approach to language student retention was developed. A prognostic stance that uses the First Year Student Survey (FYSS) as one of its main instruments to identify if students are at risk before they withdraw from a language course, is at the heart of this new approach. This paper discusses how the prognostic approach was developed and piloted, as well as its advantages and limitations.

The prognostic approach was based on a systematic review of the attrition and retention literature, matched with a four years' research program involving a number of smaller longitudinal studies of first year language learners from an Australian University (Lobo, 2009). The fieldwork conducted in the study included the collection of student data from questionnaires and interviews, as well as from the analysis of student performance and course content in their first year Spanish course. A total of 85 students participated in the study. The data collected was analysed following quantitative and qualitative analysis and interpretation protocols (Johnson, & Christensen 2004, Kelle 2006, Miles & Huberman, 1994, Neuman 2006, Peshkin & Glesne 1992).

Towards the Development of a Prognostic Approach to In-course Student Retention

The literature review, as well the fieldwork conducted in the study, clearly identified the need to develop a new prognostic approach to student in-course retention, an approach that could help to identify those who were at risk of leaving the course at the beginning of the course.

The review of the literature and the fieldwork conducted with language students shows a number of factors that have the potential to significantly influence a student’s decision to withdraw. These could be grouped into three categories: (a) individual student factors and student learning factors, (b) pedagogical factors, relating to teaching and learning, and (c) institutional factors, relating to the university itself. Harvey (2006) argues that it is often a combination of factors that makes that students withdraw from a course. Thus, all three categories were taken into consideration when developing the content of the First Year Student Survey (FYSS), an instrument that allowed the teacher to gather student information at the beginning of the course to find out if any student in the class could be at risk of withdrawing from the course.
In this study, the authors use the terms 'energy', 'action' and 'learning' in concert. To do so is not entirely new. In 2004, Ainley put forward the view that energy in action is the connection between a person and an activity. Ainley repeatedly uses this concept to describe the engagement of students in their studies. This notion inspired the creation of a metaphor to describe the type the prognostic approach that was being developed. The metaphor of learning energy that can be re-energised and refuelled was created to help to explain the relationship between the different elements included into the in-course retention model developed (see Figure 1).

There are main points of difference between this new model and previous existing models in the literature. First, this model takes a pro-active view of student retention, prognostic as opposed to diagnostic. As part of this process, it uses a student survey to identify those at risk at the beginning of the course. Secondly, it engages the classroom teacher in helping to identify those at risk, as well as in providing them with information on personal and learning support available in the institution.

In this model, the “learning energy” of the student is seen as depending on the amount of learning fuel that the student has to complete the learning journey (see Figure 1). In line with the student energy learning metaphor, the in-course retention model included three main elements: a) learning energy sources (or retention factors); b) learning energy levels (or levels of student integration and/or engagement); and c) overall learning energy output (or outcomes of integration and/or engagement levels and their relationship to the likelihood of student withdrawal).
The first stage of the model views “learning energy” as arising from different sources that can contribute to the retention of students in a course. Learning energy can be described as help, knowledge or encouragement coming from different sources, such as the family of the student (encouraging him/her to continue at university) or the study habits of a student (studying in groups). Basically, the more family support or the better the study habits of the student (among a multitude of other encouraging activities), the more likely it is that the student will continue to study in the course. Figure 1 also illustrates that knowledge and understanding of learning energy sources is beneficial to the student. That is, a student with inadequate knowledge of the learning energy sources (such as student loans being available when a student is in financial trouble or knowing that they can speak to a university counsellor for free) has a higher chance of withdrawing from a course. The sources referred to in the model are made up of four categories with a number of factors in each section.
The second section of the model acknowledges the importance of measuring the "learning energy levels" of the students. The First Year Student Survey helps to calculate if the learning energy levels of a student are poor, fair, or optimal. An optimal level of energy is the ultimate result for the student, meaning that they have a high level of awareness about sources of learning energy and may be less likely to withdraw from the language course. Students identified as having a poor or fair level of energy will be considered to be potentially in the at-risk category. Thus, they were at higher risk of withdrawing from the course. The model aims to determine which particular learning energy source the student may be lacking to enable remedial action to be taken.

The third section of the model is described as the "Overall Learning Energy Output" and aims to make a final assessment to identify if the student is at low or high risk of withdrawing from the course.

The prognostic in-course retention model described used two instruments in its implementation. The first one was the aforementioned First Year Student Survey. This was developed to collect data to be able to identify the learning energy of students and to establish if language students were at risk of withdrawing from the language course. The second instrument was the First Year Student Guide. This was developed to provide support to students identified as being at risk.

**Design and Content of the First Year Student Survey and Guide**

The three categories of factors that could lead to student attrition identified in the literature and the research conducted informed the three main categories included in the survey. The first section related to student factors. It gathered information on the personal demographic characteristics of each student that could lead to student attrition from tertiary courses, such as family responsibilities, health issues, student age and gender.

The second section of the survey discussed the teaching and learning factors that could influence the students' withdrawal. This section asked questions relating to the Elementary Spanish course that the students were undertaking. All the categories used in this section were developed taking into account elements mentioned in other student retention and attrition models (Astin, 1970; Spady, 1972; Tinto, 1975; Bean, 1980; Voorhees, 1997), and the elements identified in the student questionnaires and interviews used in the fieldwork conducted.

Finally, the third section of the survey was related to university factors. Students were asked about their knowledge of university services that could be useful to them. It gathered information concerning the expectations students held about the university, and how they gained their knowledge about the university and its student support services. The aim of this section was not only to determine if the students were aware of the services available at the university, but also if they were making use of any of the services available. This section was included in the survey because student expectations are believed to be very relevant to the issue of student retention. The literature on expectations seems to indicate that the combination of unrealistic expectations and the reality of university study often leads to student withdrawal (Coghlan, Scott, & Odelusi 2005; Darlaston-Jones, Pike, Cohen, Young, Hainold, & Drew 2003; Ellerington, & Bayliss 2003; Helland, Stallings, & Braxton 2001; James 2001; Willis & Kennedy 2004). This finding was also corroborated by the fieldwork, which found that many withdrawing students had unrealistic expectations of the course and the teacher.
As an instrument with application beyond merely a research study, the survey was designed to be clear, concise and easy to complete by the students, as well as easy to analyse by the teachers. Each category included a number of “yes” or “no” questions with which the students had to agree or disagree. Each response on the questionnaire was given a score. Once the survey was completed, students’ responses for each category were calculated and then added up for an overall score. The questions were phrased in such a manner as to ensure that higher scores would imply lower chances of withdrawing from the course.

In order to help teachers identify which students were most at risk, preliminary, pilot score cut-offs were determined. As each section had a different number of questions, the total for each category was different. Category one—personal student factors and student learning factors—had a total of 92 points, 40 for personal student factors and 52 for student learning factors; category two—course factors—had a total score of 25 points; category three—university factors—had a total of 36 points. Thus the maximum score that a student could gain in the survey was 154 points and the minimum was 77 points.

Students scoring between 80% and 100% were considered at very low risk of withdrawing (so were regarded as optimal); students scoring between 60% and 79% were considered at a low risk of withdrawing (hence, fair). The students with the lowest scores (50%-60%) were considered to be highly at risk of withdrawing (so, poor). This amounted to students’ scores being lower than 55 points in category one, 15 points in category two, or 21 points in category three. These students were considered to be in the at risk zone and therefore would be encouraged to seek support. Students who scored over 60% and up to 79% were classified fair and students who score over 80% were generally considered safe from withdrawing.

Evaluation of the Effectiveness of the First Year Student Survey

The effectiveness of the FYSS was evaluated in a two-stage process. The first stage took place in 2007. The survey was administered to a group of students during the first week of the semester by their teacher. The students were asked to complete the survey and add up their scores, according to their responses to each question. About half an hour of class time was dedicated to this activity during the first week of study and it was followed by a second session in the sixth teaching week of the semester.

A total of 12 female and 6 male students completed the instrument during the first wave of testing. Seventeen of the students were aged between 17 and 24, and one between 25 and 34. Only two of them were international students.

The results from the FYSS showed that the highest score obtained by any student in the first pilot was 142 (of a possible 154), while the lowest was 82. In terms of cut-off points, this showed that there were some potential withdrawers in the class. When breaking down the scores for all students, the results showed that a total of three female students were found to be at no risk of withdrawing: all three scored highly in the survey (between 138 and 142); student monitoring during the semester revealed that none of these students showed any inclination of withdrawing from the course. These students were considered to be in an optimal position to continue their language studies. Later in the semester, it was found that these students also received high results for the assessment in the course, showing a positive correlation between student results and retention. This correlation, more often referred to as academic integration, has been discussed at large in the literature (Tinto, 1975, 1993, Beil, Reisen, Zea, & Caplan, 1999, Bean 1980). In addition, the results of the FYSS showed that
11 students in the class fell into the low risk category, with scores falling between 98 and 122. These students were classified as being in fair risk, according to the rankings used in the in-course retention model developed that will be explained more in detail later on. Of these 11 students, four were male and seven were females. At the end, the academic results of these students varied, but none failed the course, and only a female student in the low risk category decided to withdraw from the Elementary Spanish course for family reasons.

Moreover, the FYSS helped to identify that four students, two males and two females, fell into the `some’ risk category, or poor. These students all had scores between 87 and 91. As the model predicted, three of these four students withdrew from the course before the end of the semester. In their surveys, these students showed that they were not very aware of the student support services available to them at the university, and their preparation for and expectations of the course were quite low. This indicated a correlation between student results and withdrawal, as well as the importance of student expectations on their consequent withdrawal.

Encouragingly, these results indicated that the FYSS and an in-course prognostic retention approach could help to determine with some level of success students at risk of withdrawing from the course. However, it was also found that some modifications needed to be made to ensure that its goals were met, and as a result, the First Year Student Guide was developed as a one page resource (back to back) to help show students how to acquire the support they needed. The one page support guide was designed for those students who consider themselves at risk; rather, as well as for all the other students in the course. This aimed to equip all of them with useful, practical and supportive information to help to complete their course successfully during the semester. This sheet contained study information and ideas that the students could use, it also contained a section for academic contact information where they could write the contacts of their course tutors, lecturers and convenors, as well as those of their classmates. The aim of this was to facilitate the social inclusion and academic connection of the student with this type of “learning support contacts book”.

The second stage of the evaluation was taken with a group of 31 first year language students. This time the support sheet was in place, and it was given to all students, regardless of whether they were considered at risk or not. It was hoped that this support sheet would offer more help to students and potentially increase student retention. Those completing the survey included eight males and 23 females, thirty of them were aged between 17 and 26 and one was aged between 25 and 34 years.

By looking at the cut-offs this semester, it was found that again there was a wide spread of scores. The highest score was 144, while the lowest was 77. When breaking down the scores for this semester, the surveys found that 12 students (9 females and 3 males) had scores between 123 and 144, suggesting an optimal learning situation to complete their course successfully, with low risk of withdrawing. The surveys also showed that in each discrete category (i.e. individual, course and university variables) none of these students was at risk.

Fourteen of the students—12 females and 2 males—who participated in the second wave of the study were found to be fair, or in the low risk zone. These students all scored between 94 and 120 points. Of these 14 students, it was found that the most common category where they had a very low or poor score was university factors. In fact, 9 of the 14 students scored poor in this category, showing that their awareness of the support offered by the university
was a concern. The other 5 students did not have poor scores in any individual categories, but they did have lower scores overall in all categories in general.

Finally, there were 6 students with poor scores in the survey overall. These students, 3 males and 3 females, all scored between 77 and 90 points. While these students had lower scores overall, the categories where they scored the lowest were university factors and student learning factors. In terms of university factors, the results showed that the majority of these students did not have ample awareness of the support made available to them at the university. The results also showed that most of them did not feel prepared to start the language course in question. These students expressed the view that high school or other studies had not sufficiently prepared them for university, and that they did not have enough awareness of what the course in question would be like.

During this year, no students withdrew from the implementation group and there was evidence that the simple, single page student support guides had been successful. In week 6, the teacher of the course carried out the second stage of the FYSS process. During this follow-up stage the students were reminded of the FYSS and asked about their progress and recommendations. Overall, discussion of the survey and support sheet indicated they were considered successful by at least one third of the students, who said to have used the support sheets for the contact details of staff and peers for the class. One student had found the support sheet very useful as a way in which to reconcile financial problems, as s/he was able to access financial advice in the university. The information sheet helped the students to become aware of the existence of student loans offered by the university to enable them to keep studying.

It is important to reiterate that the approach and instruments associated with it form part of an exploratory study. The FYSS requires validation as an instrument to ensure it functions in a statistically reliable and consistent way, with the size of this pilot study preventing such validation. Testing the FYSS on an appropriately large sample size of participants using a longitudinal design would allow its statistical validity and reliability to be tested, and the content to be refined. Categories such as “gender” and “Anglo-Saxon” are unlikely to survive in such a validated instrument, at least not for all categories of students, as extant evidence suggests such variables are not consistently relevant to attrition as they may once have been. A large, longitudinal replication would allow a refinement of the cut-offs somewhat arbitrarily proposed in this paper, with real-world outcomes enabling these ranges to be refined or justified. It is also likely that some items are culturally bound, and will require modification for different socio-cultural settings as well as for different disciplinary boundaries.

Limitations of the Study

This paper reports a small-scale, exploratory study, and despite its potentially positive findings, it would be highly beneficial to use it with more participants to further test its statistical effectiveness and reliability in identifying potential at-risk students. Thus, more testing is required to ensure the survey’s overall statistical stability and validity. Other emerging issues, such as the impact of low scores on student’s perceptions and confidence will also have to be analysed, to ensure that the tool always works in a beneficial way for students and teachers.

Even though the initial findings of the two years trialling with different groups of students were positive, and indicate a simple intervention with a possible prophylactic role, the numbers involved in the study are insufficient to support a statistical case that scores from
each student can reliably prove that a higher student score can determine that a student will be retained in the course. With a larger N, a regression analysis confirming or refuting the power of both the FYSS and the FYSG would be possible. The score cut-offs provided may need to be revised after such a study is conducted. However, this model provides a strong starting basis for the development of a prognostic approach to identifying students at risk.

Conclusion

The main aim of the prognostic approach proposed here is to determine at the beginning of a language course those students who are at risk, and then help them to develop a better awareness of the learning and other student support available to them. The ultimate goal of this approach is to help all of the students in a course to progress successfully to completion.

The prognostic in-course retention approach (supported by the use of the first year student survey and first year student guide) showed some preliminary success in identifying students at risk of withdrawing from their language courses. In the first wave of the study, the FYSS successfully predicted all three in-course attrition cases. The second wave introduced a prophylactic tool, the FYSG, and no students subsequently withdrew from the course. The study provided the opportunity for the teacher to support the at-risk student with information that will lead the student to the adequate support and encouragement within the educational institution with the aim of helping him/her to improve the area where help is needed.

This new approach gives a pivotal role to the classroom teacher in student retention. However, it is important to reiterate this approach to retention is still in its early years, and that further research with larger groups of students is needed to make it more statistically reliable and valid. There is a statistical certainty, at this stage, that the First Year Student Survey can determine all the students who were to remain in the course, however, the preliminary cut-offs were developed to allow the teacher to select groups considered at high, medium and low risk of withdrawing, and thus guide the delivery of support services. In the context of this study, the selection of these preliminary cut-offs were supported, but whether the findings can be generalised to other courses and other universities is an empirical question for further research.

This longitudinal evaluation of the prognostic approach with different groups of Spanish learners shows that the FYSS helps to identify first year students at risk of withdrawing. However, despite this positive finding, caution must be exercised when attempting to generalise from these results, as this prognostic new in-course retention approach is still in the early stages of its development.

Acknowledgments

We would like to express our gratitude to all the participants that made possible this study, as well as the two reviewers for their comments in an earlier draft of this paper. Finally, we would like to thank Dr Olav Muurlink for his editorial assistance.
References


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