

A Review of the Contemporary International Literature on Student Retention in Higher Education

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Abstract

One of the major issues that concerns tertiary institutions around the world is the student retention rate. In general, higher rates of completion give more positive image about the academic, administrative and financial statuses of these institutions. However, improving the student completion and retention rates can be a challenging task. One way toward this goal is utilising strategies and techniques that are informed by the findings of theoretical models and empirical studies. Therefore, this paper reviews some of the contemporary studies in the student retention literature from different higher educational contexts around the world followed by a list of the variables that are commonly linked to the student retention phenomenon in higher education and a discussion of the factors that are most frequently associated with student attrition as reported by these studies. A summary of the factors associated with the student attrition phenomenon suggested that, the central factors were the quality of students' institutional experiences and their level of integration into the academic and social systems of their academic institutions. These factors relate to students' experiences with the administrative system of their academic institution, including the admission, registration and disciplinary rules and policies and the availability and quality of student services and facilities.

Keywords: Higher education, student retention, attrition, persistence

1. Introduction

One of the major issues that concerns tertiary institutions around the world is the rate of student retention. In general, higher rates of completion give more positive image about the academic, administrative and financial statuses of these institutions. However, improving the student completion and retention rates can be a challenging task. One way toward this goal is utilising strategies and techniques that are informed by the findings of theoretical models and empirical studies. This paper reviews some of the contemporary studies in the student retention literature from different higher educational contexts around the world. It also sheds light on the historical development of student retention studies and theoretical models including their conceptual roots and backgrounds, as well as their different types and categories. More importantly, the paper presents a list of the variables that are commonly linked to the student retention phenomenon in higher education. These are the most reported student attrition factors from the reviewed studies. The focus was on the studies, and their factors, that studied the voluntary student withdrawals rather than academic dismissal. To achieve this, the student attrition factors were identified and their frequencies were calculated to identify the student attrition factors across all the studies from different international contexts. Subsequently, these attrition factors were classified according to their similarities under bigger themes. The paper concludes with a discussion of these student retention patterns and themes.

2. Theoretical and conceptual background

Although the student attrition phenomenon has been a major concern for educational institutions and educators since the establishment of the formal education system (Habley, Bloom & Robbins, 2012; Seidman, 2005b; Tinto, 1993), theoretical models arising from the systematic study of the phenomenon were not developed until the early 1970s (Berger, Ramirez & Lyon, 2012). Before 1970, various attempts were made to study the student attrition phenomenon (Bayer, 1968; Campbell & Fiske, 1959; Feldman & Newcomb, 1969; Marks, 1967; L. Marsh, 1966; Panos & Astin, 1968; Summerskill, 1962). However, the focus of these studies was principally on the characteristics of individual students, rather than on their interactions with college environments. The student attrition phenomenon was often explained in terms of the students' characteristics, personal attributes and shortcomings (Berger et al., 2012; Habley et al., 2012; Spady, 1970, 1971; Tinto, 1993, 2006).

During the late 1960s and the 1970s, systematic studies and attempts to conceptualise retention frameworks that included the notion of the student-college relationship became more common (Bayer, 1968; Bean, 1980; Feldman &

Newcomb, 1969; L. Marsh, 1966; Panos & Astin, 1968; Spady, 1970, 1971; Terenzini & Pascarella, 1977; Tinto, 1975). According to Berger et al. (2012), by 1970, the era of building retention theories had begun, largely with William Spady's (1971) work, '*Dropouts from Higher Education: An Interdisciplinary Review and Synthesis*'. This was the first sociological student retention model. According to Spady, there are two systems in each college (academic and social) and at least two factors in each system that influence a student's decision to withdraw: grades and intellectual development in the academic system and normative congruence and friendship support in the social system. After Spady's work, later studies and models took into account the nature of students' institutional relationships. By the 1970s, the introduction of the term 'retention' to describe student persistence included the concept that institutions shared responsibility in influencing students' decisions regarding 'dropping out' (Habley et al., 2012).

Since then, many student retention studies have been conducted and theoretical models have been developed, such as Tinto's Institutional Departure Model (1975, 1993), Bean's Student Attrition Model (1980, 1982), the Student-Faculty Informal Contact Model (Pascarella, 1980), Astin's Student Involvement Model (1984), the Non-traditional Student Attrition Model (Bean & Metzner, 1985) and the Student Retention Integrated Model (Cabrera, Nora & Castaneda, 1993). While the theoretical and conceptual backgrounds of these models are varied, the authors of the most distinguished student retention models of the last four decades, Spady, Tinto and Bean, point to three famous theories or conceptual theoretical sources as having inspired their work. These are the suicide theory (Durkheim, 1951) from the field of sociology, the theoretical views of the rites of passage in tribal societies (Van Gennep, 1960) from the field of social anthropology and the concept of labour turnover from the field of human resources (Price, 1977).

Moreover, for a long time, student retention studies and explanations relied heavily on physiological views that emphasised the role of the personality, abilities and motivation of individual students (Tinto, 1993). The main focus of such studies was on the individual students' personal attributes and shortcomings (Berger et al., 2012; Habley et al., 2012; Spady, 1970, 1971; Tinto, 1993) and many were labelled as psychological studies (Tinto, 1993, 2006). However, since the emergence of new trends in the field beginning in the 1970s, student retention theoretical models and studies have been classified in the literature under various categories based on the perspective being taken; for example, psychological, sociological, organisational, environmental, interactional and economic (Braxton, 2000; Braxton & Hirschy, 2005; Habley et al., 2012; Tinto, 1993).

3. Contemporary international student retention studies

The current literature of student retention research is rich in theoretical and empirical models as well as studies that extensively explored the student attrition phenomenon and the experiences of students in higher education contexts (Berger et al., 2012; Hagedorn, 2005; Tinto, 2004, 2010). These studies took the form of books, scholarly papers and articles, institutional and government projects and reports and postgraduate theses and dissertations. Some of these studies tried to understand the reasons behind students' early withdrawal and to collect information about the most frequent factors that might influence tertiary students to take such decisions. Other studies focused on the factors that might improve student retention and support students to persist in their study programs towards completion.

The following sections discuss some of the more recent retention studies and reports, published in the last decade, from different international contexts. The larger body of student retention studies were designed and conducted in the American higher education context (Jones, 2008). However, the review in the current study included a wider variety of studies from the Australian, American, British, European and Arabic higher education contexts. Studies from other international educational contexts, such as Asian, were excluded due to the language barrier. The aim is to present and list the key contemporary studies and reports on student retention in different international educational contexts.

As discussed earlier, research on student retention in higher education has gone through different stages of development since the emergence of the student retention field in the early 1970s (Berger et al., 2012). While the early stages of the 1970s and 1980s formed the era of building the theoretical foundation of the student retention studies, the focus in the last decade has been on putting these theoretical and conceptual frameworks into practice. Tinto (2006) described this period as characterised by '*a heightened focus on what works*' (p. 4). Therefore, recent student retention studies are based heavily on the theoretical models and frameworks of the 1970s and 1980s and early 1990s. As a result, despite disagreements over the detailed theoretical explanations of the student attrition phenomenon, educational institutions now have a better understanding of the factors involved in student attrition and, more importantly, the process of promoting student retention in their study programs (Tinto, 2010).

3.1 Australian higher education context

In the Australian higher education context, student experience and retention has received serious attention and focus in the last two decades. Between 1994 and 2013, many university and government projects were conducted reporting on students' experience in Australian higher education institutions, with a focus on quality and the first-year experience (Adams, Banks, Davis & Dickson, 2010; Asmar, Brew, McCulloch, Peseta & Barrie, 2000; Burnett, 2006; Hodges et al., 2013; James Cook University, 2008, 2009; James, Krause & Jennings., 2010; Krause, Hartley, James & McInnis, 2005; Radloff, Coates, James & Krause, 2011; Willcoxson et al., 2011).

The reports also included information and statistics about the factors affecting and related to student persistence in higher education programs, such as the impact of students' abilities and commitments and the institutional

characteristics. These issues and factors and other information from these reports are included in the analysis of the factors associated with student attrition presented in the discussion part.

In addition to these institutional and government efforts, some individual studies have been conducted to explore and attempt to conceptualise the student attrition phenomenon in the Australian higher education context. Some of these studies explored the phenomenon and reported the most frequent factors leading students to withdraw from their study programs, while others focused on strategies and plans to increase retention rates (see, for example, the following selected publications from the last decade: Archambault, 2008; Crosling, Heagney & Thomas, 2009; Grebennikov & Shah, 2012; Krause, 2005, 2007; Krause et al., 2005; Lodge, 2011; Maher & Macallister, 2013; McInnis & James, 2004; Olsen, 2008; Polesel & Rice, 2012; Rienks & Taylor, 2009; Roberts, McGill & Hyland, 2012; Rowlands, 2004; Scott, Shah, Grebennikov & Singh, 2008; Shah, Grebennikov & Singh, 2007; Taylor & Bedford, 2004).

Generally, the findings and conclusions of the above-listed studies did not differ from the constructs of the famous student retention theoretical models or from the findings of other international studies. There is no single factor that can be claimed to motivate students to withdraw from their study programs. Rather, the findings of these studies point to the influence of a range of personal, institutional and financial factors on students' withdrawal and transfer decisions.

In regard to efforts made in Australia to measure and collect valid and reliable student data, many institutional and national questionnaires and surveys have been designed for this purpose. The latest instrument is the University Experience Survey (UES), which was developed and funded by the Australian government (Radloff, Coates, Taylor, James & Krause, 2012). The purpose of the UES is to act as a national instrument that can measure the quality of tertiary education at the national level. The survey focuses on the quality of tertiary students' experiences with three main conditions. These conditions limit the students' experiences to those aspects that can be measured, related to educational outcomes and are under the responsibility of the educational institutions. The data generated from the UES will provide the Australian government and Australian universities with 'reliable, valid and generalizable information'.

According to the UES team, the UES is the first and largest Australian independent data collection instrument that collects data on students' experiences in higher education. However, according to Radloff, Coates, James and Krause (2011), some other national instruments and surveys are currently used by Australian tertiary institutions to report on students' experiences. These include the Course Experience Questionnaire (CEQ), the Australian Survey of Student Engagement (AUSSE), the Research Experience Questionnaire (PREQ), the Postgraduate Survey of Student Engagement (POSSE), the International Student Barometer, the First Year Experience Questionnaire (FYE), the Graduate Destination Survey (GDS) and the Graduate Pathways Survey (GPS).

3.2 American higher education context

The American higher education context was the home of the early works and research on student retention. Moreover, all of the early pioneer theoretical and conceptual student retention models and frameworks, such as the theoretical models of Spady (1970, 1971), Tinto (1975, 1993) and Bean (1980, 1983), were designed and conducted in this particular educational context. Much of the current research in the student retention field has been influenced by these early theoretical views (Demetriou & Schmitz-Sciborski, 2011; Evans, Carlin & Pott, 2009; Troxel, 2010).

Following the development of the student retention field and the establishment of the student retention theoretical models, thousands of studies and scholarly works were conducted and published in the American higher education context (Demetriou & Schmitz-Sciborski, 2011; Seidman, 2005a; Troxel, 2010). These included some of the most distinguished books and edited compilations in this particular field (Braxton, 2000; Forest & Altbach, 2006; Habley et al., 2012; Hermanowicz, 2003; John & Asker, 2003; Pascarella & Terenzini, 1991, 2005; Seidman, 2005b, 2012; Tinto, 1993) as well as the first and only student retention academic journal devoted solely to student retention studies and research: the *Journal of College Student Retention: Research, Theory & Practice* (Seidman, 2014).

In addition, issues related to student retention in the American higher education context were monitored and reviewed through many institutional, state and federal government reports and studies that focused on student attrition rates, the associated costs and strategies to 'what works' to increase student retention (see, for example, the following institutional and national reports: ACT Inc, 2010, 2011, 2012, 2013a, 2013b, 2014; Adelman, 2006; AFT Higher Education, 2011; Aud et al., 2013; Balfanz & Legters, 2004; Horn & Weko, 2009; Humboldt State University, 2012; Lotkowski, Robbins & Noeth, 2004; Muraskin & Lee, 2004; Noel-Levitz, 2012; Oklahoma State Regents for Higher Education, 2002; Radford, Berkner, Wheelless & Shepherd, 2010; The College Board, 2012).

Finally, although the majority of the early American student retention studies focused on traditional students in ordinary four-year colleges and universities (Borglum & Kubala, 2000), many of the recent studies in the American higher education context focused on students' experiences and retention in community colleges and other two-year academic institutions (Bailey, Leinbach & Jenkins, 2006; Borglum & Kubala, 2000; Fike & Fike, 2008; Gao, 2003; McIntosh & Rouse, 2009; Roman, 2007; Summers, 2003; Szelenyi, 2001; Wells, 2008; Wild & Ebbers, 2002). Other studies also focused on studying access and diversity issues as well as the experiences, attrition factors and retention rates of non-traditional students and students from minority and other under-represented communities (Carter, 2006; Chang, 2002; Gardner, 2005; Heilig & Darling-Hammond, 2008; Ishitani, 2003; Kinzie, Gonyea, Shoup & Kuh, 2008; Seidman, 2005a; Sólorzano, Villalpando & Oseguera, 2005; Swail, 2003b; Thayer, 2000).

3.3 British higher education context

In the British higher education context, the last decade has seen the student retention issue broadly explored and investigated through reports and empirical studies (Brunsden, Davies, Shevlin & Bracken, 2000; Fleming & Finnegan, 2010; Nevill & Rhodes, 2004; Park, 2005; Reay, David & Ball, 2001; Thomas, 2002, 2011; Thomas & Jamieson-Ball, 2011). Jones (2008) presented a comprehensive review synthesising the research on student retention in this particular context. In this synthesis, in addition to studies from other international contexts, Jones (2008) reviewed 10 key institutional and government reports on students' experiences and retention in the British higher education context as well as some other individual studies conducted either in single institutions or at the national level (Action on Access, 2003; Dodgson & Bolam, 2002; House of Commons Committee of Public Accounts Committee, 2008; National Audit Office, 2007; Quality Assurance Agency, 2008; Quinn et al., 2005; Thomas, Quinn, Slack & Casey, 2002; Van Stolk, Tiessen, Clift & Levitt, 2007; Yorke & Longden, 2007; Yorke & Longden, 2008).

Jones (2008) classified the issues addressed by the British research into the following four categories: calculating student attrition rate, exploring and identifying student attrition factors, examining student retention enhancement procedures and exploring the attrition experiences and implications for all affected parties including students and their educational institutions. The conclusion of this research synthesis helped in identifying the types of students most likely to persist in their study programs and those most at risk of withdrawing within the context of the British higher education sector. Moreover, it listed the factors frequently associated with student attrition in the British studies. These factors included issues related to individual students' characteristics, such as their academic abilities, educational goals and preparation and readiness for higher education, and institutional issues, such as student-college fit, teaching quality, dissatisfaction with college and lack of institutional integration and other commitments, financial and employment issues. These factors were in line with those proposed by the reviewed international theoretical models. They are also included in the discussion of the most frequent student attrition factors, presented in the discussion part.

3.4 European higher education contexts

In addition to the above-presented studies published in English, there are some studies and reports from other international contexts, such as the European higher education context (not including the UK), that might add to the current review. However, due to the language barriers, the search was limited to English language resources. In this European higher education context, there are few available student retention studies and reports published in English. These were mainly reports prepared for the RAND corporation (RAND Europe, 2014) and the ATTRACT project (2014), which is funded by the European commission (Kairamo, 2012; Lucas, Gonçalves & Kairamo, 2012; Rintala, Andersson & Kairamo, 2011; Rintala & Kairamo, 2011, 2012; Severiens & Schmidt, 2009; Van Stolk, Tiessen, Clift & Levitt, 2007). These studies also provided access to the details of some other European student retention studies through their literature reviews.

These studies and reports focused on providing background information about the academic institutions in the different European countries, reporting and reviewing the statistics relating to student attrition in different types of study programs and assessing the different retention policies and strategies utilised by the academic institutions. Moreover, these reports comprehensively compared the above information from the European tertiary context with other international higher education contexts, such as the North American and Australian and New Zealand contexts.

The findings from these studies emphasised the importance of the first-year experience on student retention in higher education institutions. A review of the statistics from the data for both four-year and two-year institutions from different European countries (Finland, Ireland, Italy, Portugal and Sweden) revealed that most withdrawals occurred during the first year (Kairamo, 2012). In addition, a report from the ATTRACT project revealed that 'wrong choice of programme' was one of the most-reported student attrition factors (Rintala, Andersson & Kairamo, 2011).

One of the conclusions of the ATTRACT reports was that most of the reported student attrition factors were beyond the direct control of institutions (Lucas, Gonçalves & Kairamo, 2012). Moreover, participants in the studies reported only minimal impact of the other social, cultural and institutional factors. Another report recommended that academic institutions focus on building personal relationships with their students and take the necessary steps to identify 'at risk' students (Rintala et al., 2011). Other findings from the above-listed studies and reports are included in the discussion part of this paper.

3.5 Arabic higher education contexts

Many student retention studies have been conducted in higher education institutions in different countries in the Arab world. However, despite the large number of studies, especially doctoral and master's theses and dissertations, which were found in Arabic indexes, the majority of these were either not available or accessible online or were available only as abstracts. In addition, many of the Arabic studies that were labelled as student retention studies were either government and institutional reports that are limited to reporting student retention, attrition and graduation rates and statistics without any analysis or studies that focused on issues outside this field, such as on academic failure and the time spent by students on their study programs above the average study duration. This is problematic, as decisions regarding low student retention higher education institutions might be based on these statistics and rates rather than on in-depth investigations of the factors that cause the problem.

Two of these studies were conducted in universities in the Gulf Cooperation Council countries, other than Saudi Arabia. These two studies were the study of Jalal (2011) on student attrition at the University of Bahrain and AlKandari's study (2008) on the factors affecting student retention at Kuwait University. Both of these studies utilised quantitative instruments to collect information about the most frequent factors associated with the student attrition phenomenon. It was found that the factors affecting student retention at the University of Bahrain were mainly personal and institutional, with the most important factors being time management and the absence of tests able to predict students' educational problems, respectively. At Kuwait University, on the other hand, achieving educational and occupational goals, the quality of student–faculty relationships and the encouragement by the university of students to progress in academic programs were the most important factors contributing to students' decisions to stay or leave their study programs.

Another Arabic study, conducted in a four-year college in Yemen (Bafatoom, 2010), investigated the attrition factors among ESL students, which is an aim of the current study. Bafatoom's study focused on collecting information about the impact of the curriculum, faculty members, quality of assessment and the students themselves on the student attrition phenomenon. The study found that factors related to student assessment were highly influential on the student attrition problem, while faculty member–related factors showed the least impact. The study also identified weaknesses in all of the four studied variables that might lead students to withdraw from their study programs.

Two other studies were conducted in Iraq, where financial and economic factors played an important role in student attrition, due to the war and the economic situation of the country (Abyati & Ibraheem, 2007; Ali, Anhar & Dawood, 2010). Abyati and Ibraheem (2007) reported a yearly incremental increase in student attrition rates between the academic years of 2000 and 2004, with the highest rate reported in 2003 and 2004, during the first years of the American occupation. These authors also listed a number of economic, social and cultural factors that might be related to student attrition in Iraqi academic institutions. Similar findings were found by a study from a similar context, in the Gaza Strip, Palestine, which is under an economic blockade by Egypt and Israel. Alhawli and Shaldan (2013) found that financial and economic factors, related to the economic situation of the state, had the greatest role in causing postgraduate students at Gaza University to leave their study programs.

The other Iraqi study (Ali et al., 2010) focused on designing a data-mining system to predict which students might be at risk of attrition based on some of the frequently reported student attrition factors from the literature and previous studies. These factors were limited to statistical information in regard to the variables of gender, attendance, academic history, parents' level of education, work load and the influence of friends. However, the study did not present information about the feasibility of the system or its ability to predict at risk students.

In Saudi Arabia, 11 available studies of student retention were found (Abuelma'atti, 2006; Al-Abdulkareem, 2012; Al-Dossary, 2008; Al-Ghnaim, 2010; Alabdulgader, 1992; Aljohani, 2014; Fayed & Gasem, 2012; Hakeem, 2007; Khan & Osman, 2011; Malah, 1994; Mobarak, Alharthi & Kees, 2000). Another five studies were only available as online abstracts and were thus excluded (Abdullaal, 2010; Alabdullah, 1995; Almanea, 2003; Felemban, 1986; Ghaban, 1999). It can be inferred from the conclusions of these studies that student attrition factors might be slightly dependent on the type and level of the institution. This is more obvious for the two-year institutions, for which transferring to four-year institutions and getting a job were the most frequently reported factors. The qualification level of the institution, the lack of students' knowledge about the differences between the two-year and four-year education systems and the types of jobs each system prepares students for played a major role in leading students to withdraw or transfer from two-year institutions.

For the four-year students, on the other hand, non-institutional factors such as the students' academic abilities and their level of motivation and educational commitment were the most frequently reported reasons for withdrawal. Moreover, two of Saudi studies found that some students withdrew because of difficulties enrolling in or transferring to their desired study majors. However, this may be attributable to institutions' admission policy or students' pre-entry academic performance not meeting the requirements of entry to some study majors.

4. Discussion of the factors associated with student attrition

As presented earlier, student retention theoretical models have been classified in the literature under a number of common categories. Similarly, the factors or direct reasons associated in the literature with students' attrition from their study programs and academic institutions can be grouped under broad variables. Some of these broad variables associated with the withdrawal behaviour of undergraduate students include low academic abilities and financial difficulties. The specific role of the student attrition factors varies between students and between academic institutions, as they are dependent on the unique characteristics of these students and college environments (Astin, 1984; Berger et al., 2012; Tinto, 1993).

However, the focus of the student retention theoretical models was not on the specific reasons that students withdraw from their study programs, but rather on why some students react to these specific factors by withdrawing. This is because these factors, while constituting challenges, are not necessarily the actual causes of withdrawal. For example, a student having academic difficulties might persist if successfully integrated into the college environment and *vice versa* (Tinto, 1975, 1993). Another example is student transfer, which can be attributed to many different variables, such as students' levels of educational goals and academic abilities, lack of academic and/or social integration and financial

issues. The factors involved in student transfer are far from straightforward. A student might transfer from his or her current institution to a better one because of his or her higher levels of educational goals and academic abilities. Conversely, another student might transfer to what seems a less strict institution because of his or her lower educational goals and academic abilities. In both scenarios, the direct withdrawal reasons reported by the non-persister students are the same, transfer; however, the motivations are contrastive.

Thus, owing to the complexity of the issue, theoretical and conceptual studies of the student attrition phenomenon are interested in investigating the wider phenomenon. Classifying the factors of student withdrawal under some common categories of variables assists in achieving this. These categories include the institutions' policies and rules, the student-college fit, the students' integration into the college academic and social systems, the students' academic abilities and their educational and occupational goals and commitments.

It is worth mentioning that the common factors affecting student retention in higher education were investigated and discussed differentially in the student retention models. The classification in the theoretical models of the constructs or variables of student attrition depends on the type and theoretical background of the models. For example, the student attrition factors of the psychological models relate to the attributes of the students themselves, whereas sociological models consider the impact of social and institutional factors.

It would not be useful to list all of the specific reasons for student withdrawal as reported in the literature due to the number of these that are likely to be irrelevant and inapplicable to other situations. However, Table 1 lists some of the common constructs, factors and independent variables investigated by the major models in the literature of student retention that were reported as playing a primary role in influencing students' decisions to withdraw from their study programs. Although it is outside the scope of this chapter to present a comprehensive discussion of these factors, the variables relevant to the current study will be discussed further in the discussion chapter.

The factors associated with student attrition presented in Table 1 were collected from the constructs and independent variables of the major theoretical models and the findings of the empirical studies reviewed above as well as from other studies in the literature of student retention (AlKandari, 2008; James, 2000; Jensen, 2011; Jones, 2008; Severiens & Schmidt, 2009; Thomas, 2011; Thomas & Jamieson-Ball, 2011; Wetzel, O'Toole & Peterson, 1999). Alongside these, the factors reported by the Australian first-year experience reports that were conducted in many of Australia's universities over the last two decades were taken into account (Asmar, Brew, McCulloch, Peseta & Barrie, 2000; Burnett, 2006; Hodges et al., 2013; James Cook University, 2008, 2009; James et al., 2010; Krause et al., 2005; Radloff et al., 2012; Willcoxson et al., 2011). Some of these factors are interchangeable and others can be classified under 'other variables'.

Among all of the variables of student attrition, the quality of the student's institutional experience and the level of his or her integration into the academic and social system of the academic institution were the most influential variables as reported by the major student retention models (Castaneda, Nora & Hengstler, 1992; Cabrera et al., 1993; Spady, 1970, 1971; Tinto, 1975, 1993).

5. Summary and conclusion

This paper presented a review of some of the studies from the student retention literature. This included an overview of the historical development of student retention studies and theoretical models and their conceptual roots and backgrounds, as well as their different types and categories. More importantly, the paper presented a comprehensive review of some of the current student retention studies of the last decade from different higher educational contexts around the world followed by a discussion of the most frequently associated with student attrition as reported by these studies.

In conclusion, in spite of the extensive research, theoretical models and empirical studies in the field, low student retention remains an ambiguous phenomenon (Hagedorn, 2005; Tinto, 2006, 2010). Tinto (2006) stated that

despite our many years of work on this issue, there is still much we do not know and have yet to explore. More importantly, there is much that we have not yet done to translate our research and theory into effective practice. (p. 2)

However, the literature of student retention of the last four decades facilitates a better understanding of the phenomenon and provides a comprehensive set of factors shown often to affect student withdrawal decisions. These factors were classified under personal, academic, social and institutional categories. However, the institutional factors were the most common across all of the studies. A summary of the factors associated with the student attrition phenomenon suggested that, among the hundreds of factors and variables proposed and reported by the theoretical models and empirical studies as having either a direct or indirect influence on students' decisions to leave their study programs before completion, the central factors were the quality of students' institutional experiences and their level of integration into the academic and social systems of their academic institutions (Cabrera et al., 1992; Cabrera et al., 1993; Spady, 1970, 1971; Tinto, 1975, 1993). These factors relate to students' experiences with the administrative system of their academic institution, including the admission, registration and disciplinary rules and policies and the availability and quality of student services and facilities. Alongside this, another important factor was students' low academic abilities. However, this factor was primarily related to academic dismissal rather than to voluntary withdrawal, which is outside the scope of most retention theoretical models and studies, including this paper.

Table.1 Common student attrition factors

Categories	Factors
Family background	Family income
	Parents' level of education
	Family approval of institution choice
	Family socioeconomic status
	Family support and encouragement
	Level of goals, institutional and external commitments
Student-related factors	Academic abilities and background
	High school grades
	Academic performance
	Study skills
	Study habits
	Intent to leave
Social factors	Being a member of a minority group
	External job commitments
	Family and occupational responsibilities
	Residency status
	Feeling of belonging
	Friends' support and encouragement
Economic factors	Student and family income
	Financial aid
	Study cost
	Cost–benefits match
Students' goals	Institution is the first choice
	Major certainty
	Academic goals commitments
	Occupational goals commitments
	Availability of other opportunities
Institutional experience	Quality of institutional experience
	Satisfaction
	Level of academic and social integration
	Intellectual development
	Quality of student–student interactions and relationships
	Quality of student–faculty interactions and relationships
Institutional factors	Quality of college services and facilities
	Staff attitudes
	Major availability
	Institution level, type and size
	Academic and social advising
	Fairness in policy and rules enforcement
	Participating in decision making
	Institution preparation for future job

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