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HIGH PERFORMANCE FOR EDUCATION

HOW TO IMPROVE STUDENT RETENTION IN HIGHER EDUCATION IN THE USA

NEW STRATEGIES, APPROACHES, AND TECHNOLOGIES TO ENGAGE STUDENTS

Higher Education institutions in the US face new challenges to meet a growing set of demands as well as political, financial, and social pressures to deliver quality education to students.

Student retention is at the top of the list.

Every institution has specific conditions influencing its student attrition rate. However, preventing students from dropping out requires an overall understanding of what makes them stay enrolled and focused on their studies.

In this search, a wide scope of solutions and initiatives are being implemented today across the US Higher Education landscape to drive up persistence and student success.

Digital technologies, like student retention management software and student relationship management systems, as well as new approaches like relationship marketing strategies and best practices, are being jointly applied to improve the student experience from the first day of school to graduation day.

This guide aims at providing academics, experts, and consultants with new insights, approaches, and tools to engage and retain students in the Digital Age.

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I Engagement: the key concept of student retention in Higher Education

Student retention strategies in Higher Education institutions must deal with a key concept: student engagement.

Engagement develops relationships with others and promotes connectivity, which helps answer the critical question of how to improve student retention rates.

Times Higher Education magazine considers this concept a "better indicator of educational quality than 'satisfaction.'"

What is student engagement? The most common definition is a student's long-term, positive bond towards its academic discipline and university.

The National Study of Student Engagement (NSSE), in a very detailed annual analysis of this subject, driven by US Higher Education institutions, offers a more profound understanding.

"Student engagement represents two critical features of collegiate quality. The first is the amount of time and effort students put into their studies and other educationally purposeful activities. The second is how the institution deploys its resources and organizes the curriculum and other learning opportunities to get students to participate in activities that decades of research studies show are linked to student learning," the institution says.

According to expert George Kuh quoted in Educause, engagement is an inclusive process.

"The more students study a subject, the more they know about it. The more students practice and get feedback from faculty and staff members on their writing and collaborative problem-solving, the deeper they come to understand what they are learning, and the more adept they become at managing complexity, tolerating ambiguity, and working with people from different backgrounds or with different views," Kuh states.

The time and effort students put into their studies, as well as resource deployment and curricula design, are two critical pillars of student engagement in Higher Education.

The NSSE adds that challenge and support fuel the student engagement process.

"When students are both challenged and provided with the appropriate amount of support, they are motivated to reach their potential. In 2015, we found that not all students were challenged sufficiently by their courses. For example, only 54% of first-year and 61% of senior students were highly a challenged to do their best work," NSSE says.

Given the importance of engagement, why is it so important to develop college student retention strategies?

Because student engagement improves the quality of the academic experience, helps increase student retention, and strengthen the university-student relationship. These are essential factors for Higher Education institutions.

Educause's columnist Linda Deneen asks: "Who among us does not believe that engagement with the institution attracts students, ties them to us, makes them part of our community, and motivates them to succeed in their academic careers?"

"Entangling students in our institutions in multiple, positive ways helps them to remain with us, learn more effectively, enjoy their student experience, and prepare for life outside Higher Education," she adds.

However, before engaging, Higher Education institutions need to understand first the crucial challenges and factors that lead a student to decide to leave its studies.

II

5 Higher Education challenges affecting student retention

As universities increase their participation in social issues, they face new challenges to answer new demands put on Higher Education institutions.

Political, economic, technological and social trends shape these challenges. Therefore, universities must be aware of what is happening at the local and global level.

Any strategic plan for the future requires clarity. Therefore, academics, experts, and consultants must analyze new trends in Higher Education to understand the challenges universities face.

1 | CAMPUS SECURITY

According to Inside Higher Ed online daily, there are several security issues that universities worldwide tackle that must be managed to minimize campus security breaches, such as:

- Sexual assaults
- Gender-based violence
- Guns on campus

On the management level, The Huffington Post underlines cybersecurity as the primary challenge.

2 | QUALITY ASSURANCE

The Huffington Post adds that federal regulations in the United States are getting tighter and "quality" of education as a concept is being subject of much debate.

The ethics behind the current US accreditation system has been called into question, particularly the self-reporting and peer review nature of the process. The voluntary aspect of the system is also under questioning, given the fact that only institutions accredited under federal law can qualify for financial aid programs.

Finally, the lack of transparency in the process and conflicts of interest have contributed to a waning public confidence in the validity of the system and Higher Education in the US itself.

3 | MEETING STUDENT EXPECTATIONS

Times Higher Education underlines this issue as a key challenge for universities. This concern is shared by many other countries where students demand more services from their institutions.

In the UK, for example, "increasing the tuition fee cap has led to a focus on students and their expectations in a way not seen in the UK Higher Education before," Times Higher Educations reports, quoting a Deloitte survey.

Students are now paying more for their studies and expect a more lucrative return on investment, whether in academic quality, employability or the facilities offered to them.

As a way to answer this issue, THE proposes that "university strategies must become more flexible in order to best attract students in a highly competitive market, assessing their position and mapping the customer segments most important to them. Institutions will need to take difficult decisions on how to target those markets and have processes in place to best optimize those routes, as well as to ensure they have the expertise and innovation required while working to overcome embedded cultural conservatism."

4 | FINANCING, FUNDING AND RESEARCHING

"With rising expectations and intense competition as students take on a larger financial burden for their studies, institutions need to invest in infrastructure, teaching, and career support to attract students. Staff, teaching and learning costs are increasing rapidly," Times Higher Education stands.

"The sector must build on its success and transform further to offset the risk of financial failure fully. Each institution has its mix of subjects, its cost structure, and each will need to reshape its operating model to best direct spending, attract revenue and reduce costs," THE says.

According to a Deloitte report, research funds must be a priority. "Funding for research has become more difficult to access since 2011. Availability has moved away from block grants and is now spread more thinly and open to intense competition".

"As their income streams shift away from government, universities should look to earn income from outside of simple one-way government funding, working with new partners and organizations to diversify the money they use to underpin research," the report adds.

5 | THE ONLINE MODEL

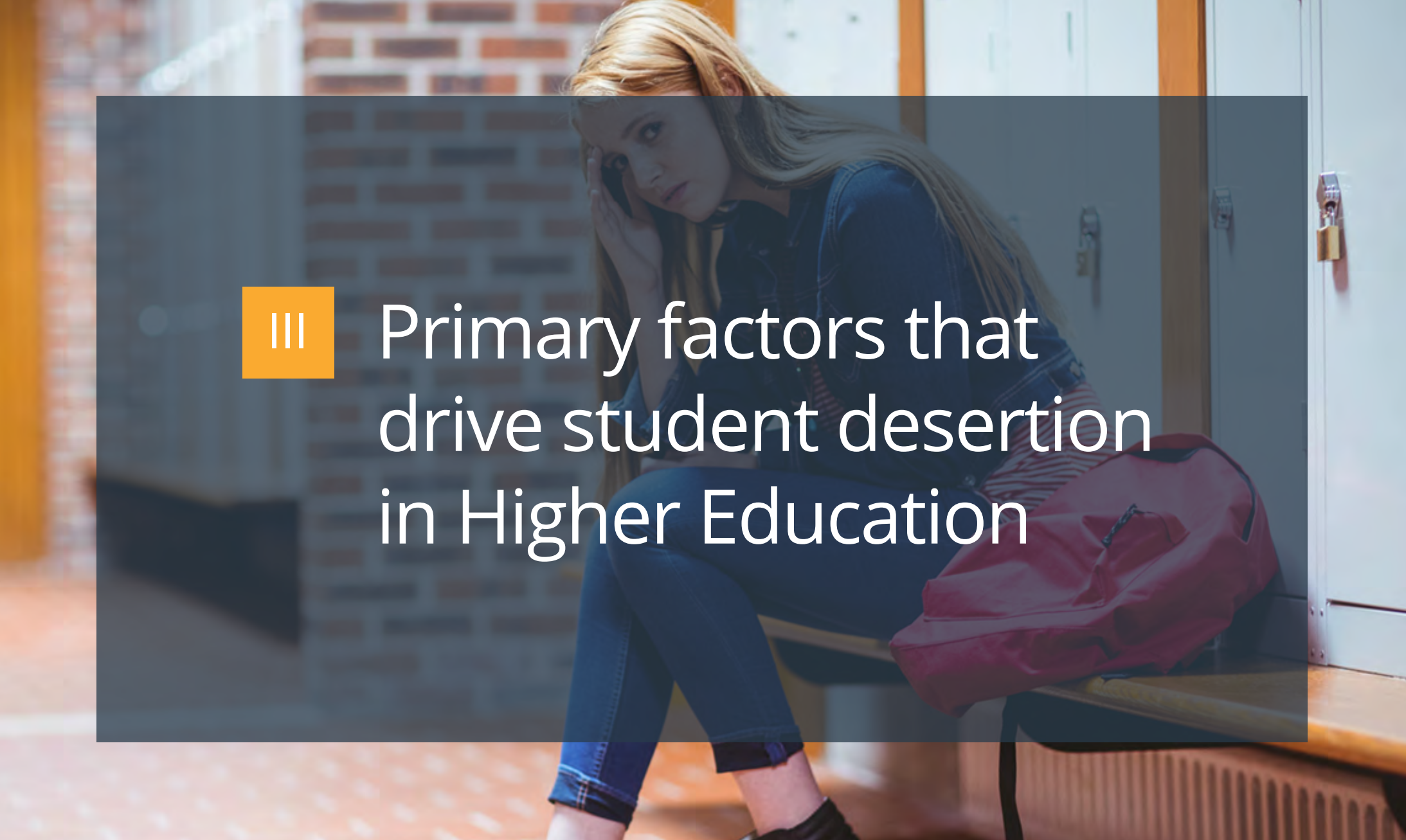
The stigma of online education has receded. Today, this teaching model is an accessible alternative for college students to access education, especially for adult learners looking to earn more credentials, or professionals for whom traditional education is either inconvenient or too expensive.

According to Online Learning Consortium figures, distance or online education enrollments increased in 2016 for the fourteenth straight year, growing faster than they have for the past several years. The number of students who are taking at least one distance course grew 5.6% from Fall 2015 to Fall 2016 to 6,359,121, representing 31.6% of all students in the US.

Online or distance learning approaches such like direct assessment, competency-based education (CBE), credit for prior learning assessment, among others, have gained acceptance and respectability, mainly thanks to the quality of the courses and their flexibility.

However, retention is also an issue for online education. The media and traditional education supporters continue questioning the effectiveness of distance or online studies.

Nonetheless, recent studies show that institutions that provide significant online programs with successful completion rates have clearly identified strategies to monitor and improve quality that include an institution-wide focus on improving access, learning effectiveness, scale and faculty, and student satisfaction.



III Primary factors that drive student desertion in Higher Education

As universities develop strategies to overcome challenges for student retention in Higher Education, multiple factors ranging from age, socio-economic status, location, time and familiarity with university life come into play.

According to research funded by the Australian federal government in 2017, most times the decision is personal, and includes complex issues such as mental health, social pressures, and other reasons "beyond institutional control."

The evidence also shows that students with the highest attrition rates are of mature age, part-time workers, or studying online, who most likely have to juggle courses with jobs or care for their families.

These factors affect students' lives and institutional objectives directly. Before considering strategies to improve student retention, reviewing them first is paramount.

In an academic approach, universities will find quitting factors are mostly related to student background and motivations. The Griffith University study identified the following drivers:

- Personal difficulties – the most common pertaining health, finances, family, work and problems to fit in or making friends.
- Academic difficulties – lack of academic preparedness, weak academic knowledge, or specific study skills required to tackle the demands of the program.
- Full time vs. part-time; part-time students are significantly less likely to continue into the second year compared to full-time students.
- Attrition is linked to making an uncertain or the wrong subject/program/university choice. In some cases, this may reflect insufficient information provided before enrolment or inadequate consideration of educational and career goals.
- Not getting into the university of their first choice.
- Losing interest in the program or subject area.

- Inability to manage time and workload demands and, consequently, falling behind.

- Dissatisfaction with the university experience, quality of curriculum or teaching.

Other studies have analyzed this problem focusing on the maturity level of students.

For Inside Higher Ed journal, the president of the Federation of Associations in the Behavioral and Brain Sciences, Robert J. Sternberg, identifies 12 reasons why students quit Higher Education.

1) Uneven formal academic knowledge and skills

At many institutions, large numbers of students enter with spotty academic backgrounds, especially in science and mathematics (STEM) disciplines and in writing.

2) Lack of informal knowledge about being a college student

A student may believe that the meager amount of studying it did in High School will be adequate in college, when in fact it is not.

3) Inadequate development of self-regulation skills

In college, students often find themselves mostly "on their own" for the first time in their lives. Some can channel their newly discovered freedom efficiently, while others cannot.

4) Impaired self-efficacy and resilience

Some students come to college uncertain as to whether they can succeed in their college work. Other students come expecting success, but when they receive one or more low marks on college assignments or tests they are led to question whether they can compete, after all. As their self-efficacy fails, their drive to succeed in college goes with it. Studies by Albert Bandura and his colleagues of Stanford University have found that self-efficacy is one of the best positive predictors of success in any working environment.

5) A mindset believing in fixed rather than flexible abilities

Carol Dweck of Stanford University found that students (and others) typically have one of two mindsets – or folk conceptions – regarding their abilities. What she calls "entity theorists" believe that abilities are fixed; when a student makes a mistake, it shows a lack of skills that can cause embarrassment.

6) Inability to delay gratification

Walter Mischel of Columbia University found that individuals who were able to delay gratification performed better academically.

7) Impaired ethical judgment

I have found that many of today's students do not even view behaviors like cheating on tests or plagiarizing papers as ethical issues.

8) Disengagement form the university environment

For many students a precursor to desertion is progressive disengagement from or failure to become engaged in the university environment.

9) Lack of interest in courses

Richard Light of Harvard University found that one of the best predictors of academic adjustment is taking at least one course solely because it is interesting during freshman year, regardless of whether it is required. There's a higher risk for students who load up too much on required courses of quitting merely because they are bored and find no relief.

10) Issues in academic trajectory

Students are likely to perform at a higher level when they feel they have some academic "destination" in mind – or at least when they think that what they are doing will lead to such a trajectory.

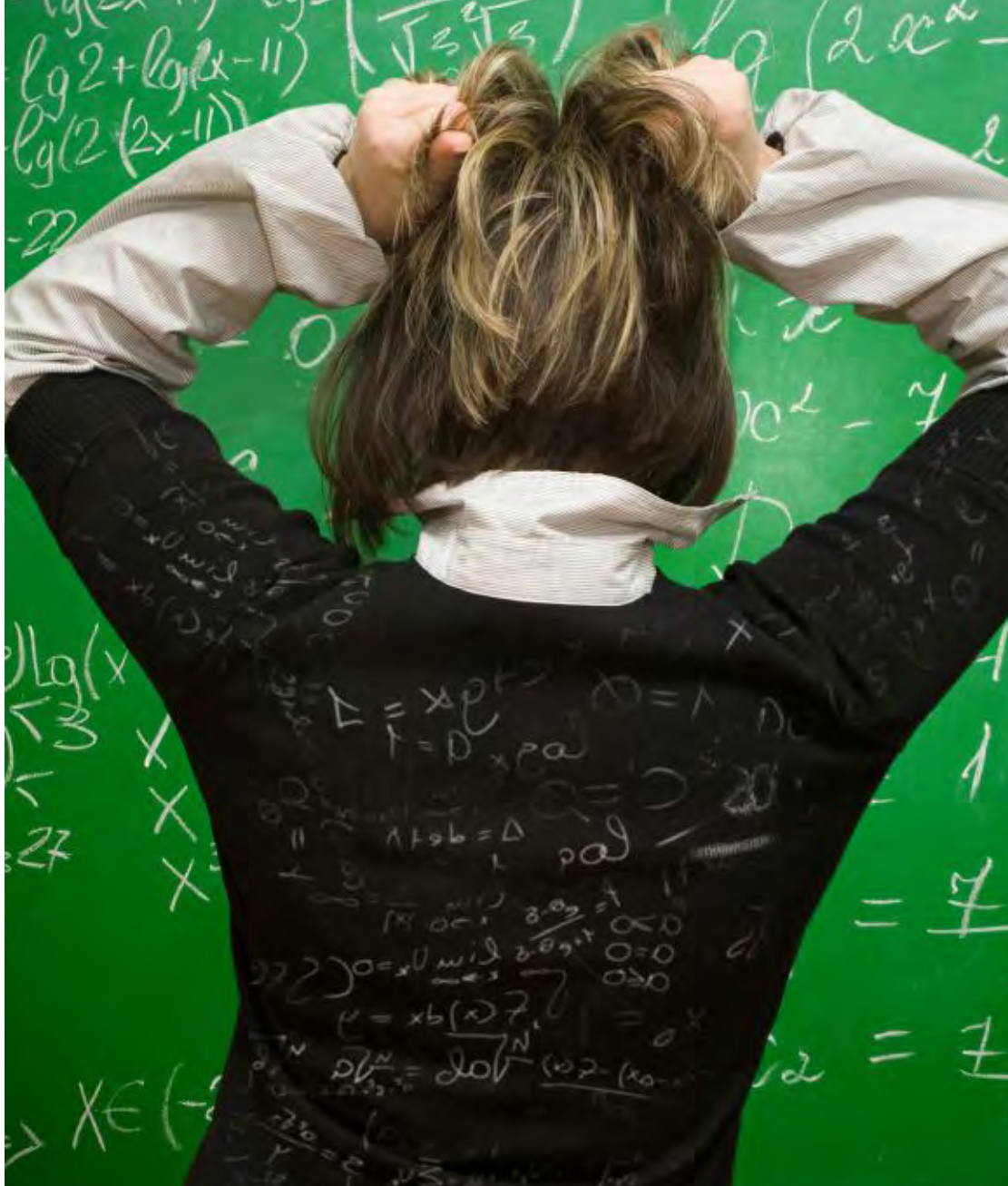
11) Psychological issues

Substance-abuse problems, interpersonal problems with significant others, and untreated or unaccommodated psychological issues, such as learning disabilities, attentional/hyperactivity disorders, autism-spectrum disorders and so forth.

12) Financial concerns

Some students leave college or university because they cannot make college work for themselves financially. The financial needs of students make it imperative that colleges and universities calculate aid needs correctly.

Regardless of nationality or location, Higher Education institutions deal with these drivers daily. To overcome them, investment and research are paramount. Digital solutions like strategic planning and student engagement management softwares can make a decisive contribution in this regard.



IV Increase student retention with the help of technology

Nearly 30% of college and university students in the United States desert after their first year, and more than 60% of those who attend a college will never graduate, according to College Atlas.

Meanwhile, in Latin America the average rate of student dropouts also nears 30%, The Huffington Post reports.

These figures raise the following questions:

- Is it affordable for a Higher Education institution to make a considerable investment to attract new students every year, only to lose one-third of them?

- Does it make sense to invest in student retention management software or develop effective strategies for completing a degree program?

Technology plays an essential role in helping answer these questions, by integrating every institutional factor influencing student desertion and retention.

Understanding both issues aims at the same goal: **keeping students on campus until they graduate.** In fact, they make both sides of the same coin.

Preventing a student from leaving means, for starters, establishing the underlying conditions to make it feel safe, comfortable, and capable of accomplishing its goals. At the same time, student engagement strategies will aim to maintain that person on campus by providing a positive and meaningful learning experience.

What these two strategies have in common is the use of technology.

BIG DATA MANAGEMENT FOR EARLY WARNINGS

Big Data solutions are not only useful for payrolls and attendance control. They can also help in analyzing student data to determine, for example, how they feel about the institution and if they are willing or not to remain on course and complete their programs.

Back in 2014, London South Bank University (LSBU) needed such insight. With a student population mostly black and minority ethnic (BME), adults, and part-time, the institution was aware that the moment things became tough for its students, mainly due to financial difficulties, the downward spiral was far quicker, according to a report by daily The Guardian.

The university needed to catch them earlier in the cycle. To identify those students who required support to complete their studies, LSBU built a predictive system based on data gathered from a wide variety of sources, to identify signs of trouble to respond faster. At the time, the university expected this solution to reduce the desertion rate by 25%.

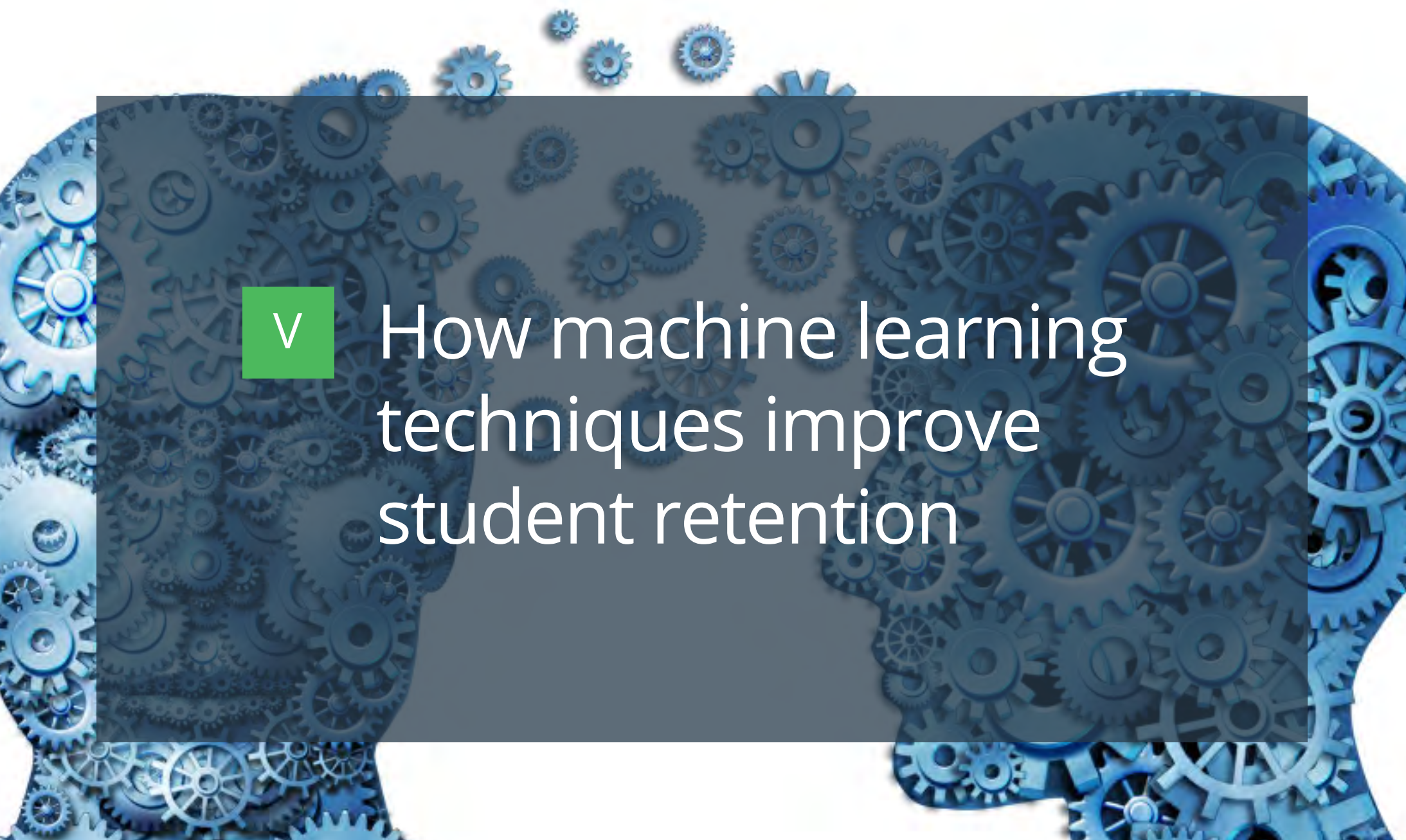
Part of the solution is for institutions to invest in technologies that help keep track of students, establish early warning systems, communicate with students, connect students to resources, and engage students at a personal level, according to Campus Technology magazine.

Colorado State University is going that direction. The institution "has integrated data to surface opportunities for proactive student support to improve communication with students, and to involve students more fully in academic planning," the magazine adds.

As a result, CSU improved its retention rates from 82% to 86% and graduation rates from 62% to 66%.

However, lack of integration of these solutions with internal processes and practices can render technology useless.

Many institutions invest in degree planning/auditing tools for advisers but struggle to integrate these tools with other technologies that align with the advisers' day-to-day processes. This may be about to change," Campus Technology says.



V

How machine learning techniques improve student retention

You probably don't know it, but you are reading this section right now thanks to Machine Learning.

You probably reached this ebook by doing a Google search or after clicking on a Social Media post. The search result that led you to this content is the consequence of a Machine Learning application online that learns from preferences, performance, and the interactions with your networks of friends and acquaintances. Through an algorithm, it will continue delivering customized information as it goes.

Yes, Machine Learning or Artificial Intelligence might sound abstract. Many believe it is just a far-fetched experiment from scientists at Silicon Valley.

However, Machine Learning can be a useful tool to improve retention strategies in Higher Education institutions, as it can detect patterns and react responsively.

WHAT IS MACHINE LEARNING?

According to Stanford University, Machine Learning is a field that concentrates developing digital algorithms that can be used to "learn."

What does this mean? You feed information on a daily basis (whether you are aware of it or not) and the software learns from the data.

Machine Learning can be applied to, among others:

- Fraud detection.
- Web search results.
- Real-time ads on web pages and mobile devices.
- Text-based sentiment analysis.
- Credit scoring and next-best offers.
- Predicting equipment failures.
- New pricing models.
- Network intrusion detection.
- Pattern and image recognition.
- Email spam filtering.

WHAT'S THE DIFFERENCE BETWEEN DATA MINING AND MACHINE LEARNING?

According to SAS, "although Machine Learning uses many of the same algorithms and techniques as Data Mining, the difference lies in the trends these two disciplines predict."

- **Data Mining** discovers previously unknown patterns and knowledge.
- **Machine learning** reproduces known patterns and knowledge, automatically applies that to other data, and then automatically applies those results to decision-making and actions.

MACHINE LEARNING AND HIGHER EDUCATION RETENTION STRATEGIES

Students who abandon college or universities and fail to graduate are an economical and emotional loss for families and institutions. Higher Education institutions are using methods and customized support from data, studies, forms and specialized literature, to reduce this trend.

What if you were able to alert student defection by Machine Learning, and project your demand for courses and groups, planning and controlling assistance?

Here's when technological solutions for student retention come in.

According to Dursun Delen from Oklahoma State University, "student retention management software is an essential part of many enrollment management systems. It affects university rankings, school reputation, and financial wellbeing."

For educational software experts like Delen, "improving student retention starts with a thorough understanding of the reasons behind attrition rates. Such an understanding is the basis for accurately predicting at-risk students and appropriately intervening to retain them."

Delen studied five years of institutional data and developed analytical models to predict and explain the reasons behind Freshmen student attrition. In his sample, he found that educational and financial variables were **the most significant predictors of attrition**.

With the right algorithm and the proper input, Machine Learning can help:

- Detect on an early stage student with high levels of attrition.
- Identify most recurrent risk factors.
- Report the leading causes and risk factors.

HOW CAN A MACHINE LEARN FROM MY STUDENTS?

From the moment a student expresses interest in joining an undergraduate course, it provides insightful information about its interests, pain points, and priorities.

At the time it enrolls at a given institution, the students and tutors or guardians input several other data, such as house income, address, class schedule, and grades.

During their time in school, students, teachers, and administrators contribute an extraordinary amount of information either directly, through forms or emails, and indirectly, through the use of external databases.

A PRACTICAL CASE

Let's see Pedro's case.

1) He got accepted into Mechanical Engineering at one of the best universities in the world located in central Mexico, in a campus with a population of over 40,000 students.

2) On his application, he stated that Mechanics was his second choice after he was rejected from Computer Engineering at the same institution.

3) He began getting excellent grades and won a half-tuition scholarship. Furthermore, his library records show he spent a substantial amount of time at the library browsing through selected books.

However, from the second year in school, things began going downward:

1) His time and attendance records fell; he started skipping lectures on the eve of weekends.

2) His records showed that he began living at a student residence, as his hometown was over 700 km away from campus.

3) His financial form provided evidence that his parents had used a loan to pay for education, but in previous months these payments were delayed.

Pedro may be at risk of deserting due to financial and geographical reasons.

Before the beginning of the third year, Student Affairs got an alert on Pedro's situation among over 5,000 records of students at different levels of risk. At the time, he had not yet decided on his credits and had skipped the pre-sessional courses.

A student advisor called him to the office.

The counselor did not know about Pedro's track record. It was confidential. He only got specific information after the system alerted he was at serious risk of leaving his studied halfway.

Pedro confirmed the data. His family was going through a rough financial patch, and he was forced to work on weekends, including Fridays, to pay for his student residence.

He was, in fact, considering dropping out of college.

As a result of this early alert system, the university was able to present Pedro with an opportunity. He would not be able to continue attending Mechanical Engineering at the main campus. However, the institution had opened a smaller school only an hour away from his hometown. One of the majors there was Computer Engineering.

Even though the university had rejected him in the first round, with his sound academic track record, he was advised to internally switch majors, as he had proven worthy of an early-bird registration on the local campus program.

The advisor had no clue about Pedro's track record. It was confidential. He only got selective information after the system alerted he was at serious risk of dropping out.

How did the alert system know about this? Because it was configured to detect patterns; students with such dramatic change in their academic records are usually pondering about leaving school.

Solutions like these tend to emerge in many universities. However, most Higher Education institutions lack the input to react responsively to situations that may prevent losing their talent.

What if student retention software or a CRM for Higher Education can do something about it?

VI Student retention improved by Big Data Analytics

When improving student engagement and retention, the input of information during the orientation period at the beginning of the school year is crucial to nurture educational Data Mining.

Colleges and universities are currently engaging or preparing orientation programs for undergraduate and graduate students.

They not only entail critical levels of preparation in logistics but also adequate assessment of what students will need.

The way faculties and administrators address this first phase in the first semester will be crucial to keep students motivated the rest of the year.

The data used in this period provides considerable insight for academic planning, enrollments, course scheduling, campus management and, primarily, entry-level data for retention strategies to detect and address students who are at risk of dropping out early.

THE IMPORTANCE OF EARLY ORIENTATION

Student orientation helps in the transition of new students and prepares them for their responsibilities. It is an initiation, according to the Association for Orientation, Transition and Retention in Higher Education (NODA).

Both admissions and student affairs professionals are crucial in this endeavor.

People in charge of student affairs are crucial to shaping student information. They can use data to assess trends and improve their work, and their input into the system helps other areas of the university improve student engagement, resource scheduling, and campus management.

"Therefore, these professionals deliberately create programs, services, and experiences that will advance the students' growth in one or more dimensions of their lives."

As Dallas Long from Illinois State University states, they must "accept that college is a critical period of life during which students discover a meaningful identity and develop core values for how they will perceive and experience their adult lives."

He adds that student affairs professionals are sources of qualitative and quantitative data about student populations and services. For instance, librarians would be interested in whether students have access to computers elsewhere for resource planning for their computer labs and workstations.

Student affairs professionals are essential in understanding student trends from the beginning of the year.

BIG DATA AND PREDICTIVE ANALYTICS ARRIVE

George S. McClellan and Jeremy Stringer explain in The Handbook of Student Affairs Administration that the use of Big Data in Higher Education (or educational Data Mining) can help student affairs plan programs, outreach services, and activities with student attributes in mind.

For instance:

- **Preassessment data:** To help inform faculty and staff about students' expectations and assist in their transition to college.

- **Utilization data:** To understand how student services use rates, assisting with scheduling and outcomes, and helping student advisors better.

However, many forget that large institutions like universities are capable of accumulating vast amounts of (unconnected) information both from inside and outside sources.

This is what Big Data is all about. Its extraction can provide interesting insights, as most information is not processed.

Even though universities are increasingly analyzing and cross-referencing student, academic, administrative and industry information, analytics require going a little bit further.

Experts in IT consulted by Trustee Magazine, from the Association of Governing Boards of Universities and Colleges, say that Higher Education institutions "need to move from merely collecting data that report past accomplishments to more sophisticated analysis that connects the dots in ways that suggest future action."

"EduCause explains predictive analytics uses various technologies to uncover relationships and patterns on these significant data sources. In addition to database reporting and statistical analysis, it includes machine learning to detect patterns, and actionable insights in the information."

In fact, according to The Research & Planning Group for California Community Colleges, the most common use of predictive analytics in universities is the implementation of early warning systems.

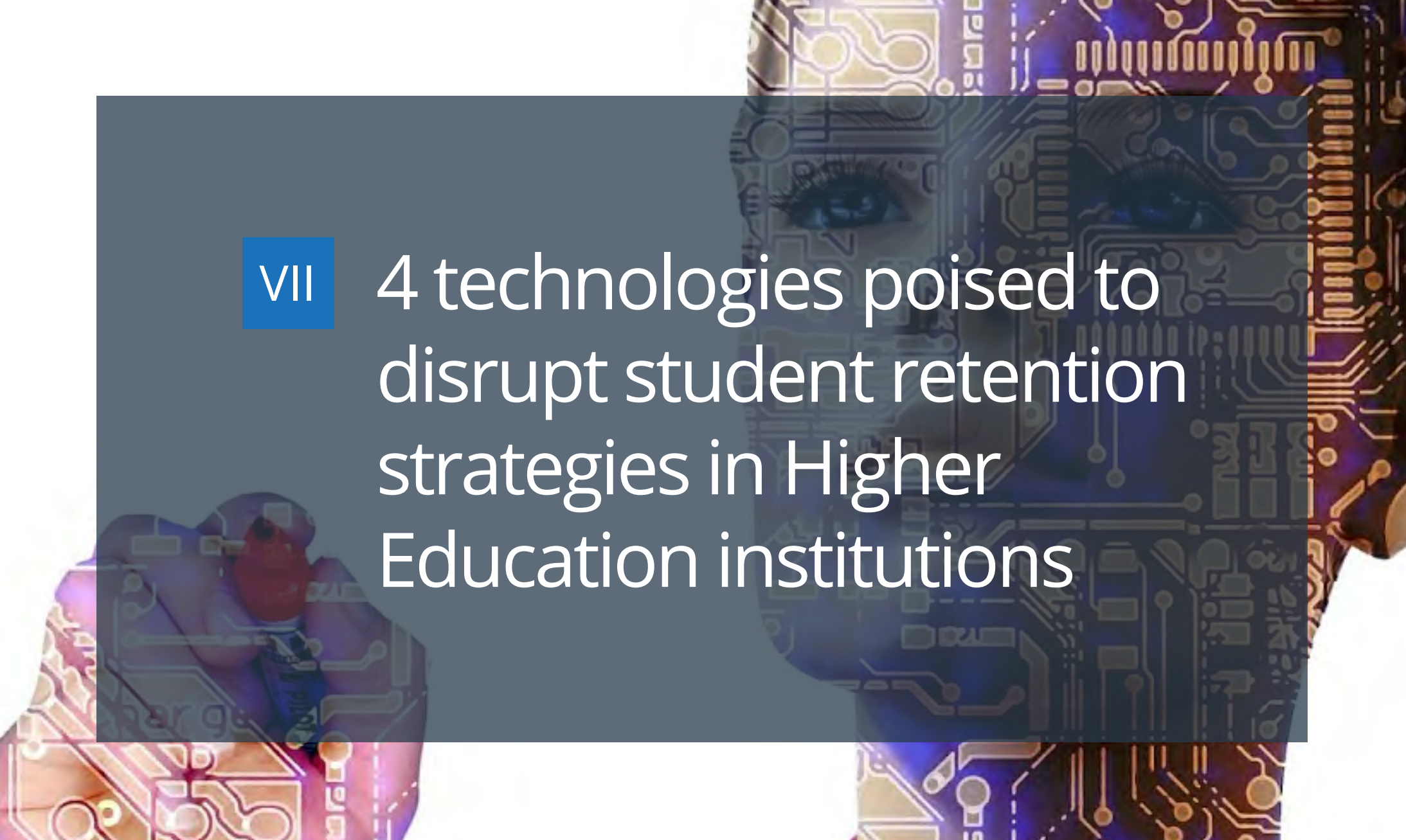
These rely on data about student behavior and help identify students at risk of deserting, to target interventions that assist them in completing their course and program of study.

Moreover, student affairs professionals are decisive in generating these alarms.

UNESCO says their services provide "a most critical and valuable early warning system to university management on issues affecting students and their social and learning environments."

Predictive analytics from the onset of the semester (and before) is critical to improving student retention in Higher Education.

For Professor Long at Illinois State University, assessment by student affairs implies collecting data "that provides answers on larger questions, such as why a particular group of students has lower rates of persistence or graduation than other, or why students choose to move out of residence halls after their first year of college."



VII 4 technologies poised to disrupt student retention strategies in Higher Education institutions

Digital technology has irrupted in our daily lives, and now it is changing Higher Education.

The most promising innovations are not mainstream yet. However, they will revolutionize the very fabric of learning.

They will not only change education contents and the student experience. They will also influence student attraction and student retention. Here are four technological advancements that promise to improve how students learn:

1 | VIRTUAL REALITY (VR)

So far VR is about gaming and entertainment. Nevertheless, it combines the best of in-person and online education in an immersive experience.

It is a very realistic and inexpensive alternative to visit unlikely scenarios; the inside of a star, the mechanisms of a complex machine or the streets of a lost city.

For example, Microsoft's Hololens is already being used in Medicine schools. It allows students to visualize the functioning human body in 3D.

Meanwhile, apps like VRChat are being used to teach virtual classes.

For now, penetration of these tools in Higher Education is still low. Even in the US, the birth ground of these technologies, few classrooms have VR tools.

However, this will soon change. Some forward-thinking universities are already experimenting with VR, like Georgia State University.

Click here to read an interview with Georgia State University academics on the potential of VR for Higher Education.

Pictures: A GSU teacher guides students on a virtual tour of Rome.

2 | COLLABORATION PLATFORMS

Videos, presentations, and forums integrate education materials from different sources in different formats. It makes learning more accessible and social.

As a result, these platforms are fueling collaboration among Higher Education centers.

Education and innovation consortium NMC's 2017 Higher Education report points to this key trend driving technology adoption in Higher Education for the next two years.

"While this trend is rooted in pedagogy, technology plays an important role in the implementation; cloud-based services, apps, and other digital tools promote persistent connectivity, enabling students and educators to access and contribute to shared workspaces, anytime," the NMC report states.

At the same time, a growing number of institutions across the world are collaborating in technology, research, and shared values.

How do they do it? Forming local and international strategic alliances and conglomerates. However, these partnerships have to be relevant and beneficial for all participants.

The report mentions Open Cloud Consortium (OCC) as a successful example. This entity enables professors and researchers to share vast amounts of data.

An NMC report shows a growing number of universities forming collaborative strategic alliances.

Departments at the university are in constant consultation; the head of the faculty monitors changes in workload and evaluates its impact, while staff discusses concerning workloads and reports any difficulties and variations.

It makes deans and academic directors face significant challenges. On the one hand, collaboration is vital for benefiting students through innovation. At the same time, they need to collaborate to nurture local academic ecosystems.

The Internet is the great facilitator of collaboration in Higher Education. The reason? It eliminates geographic boundaries hindering local and international collaboration between students and educators.

As a result, the workload of teachers is continuously revised and recorded to ensure that they are neither over nor underworked. It is essential for universities to run curriculum and syllabi consultation processes with permanent and non-permanent faculty members, to assess both the student and the teacher's workload.

They are not mainstream yet, but several platforms are making student collaboration easier. According to a study by the Higher Education Funding Council for England on improving managing academic workloads, consensually agreed initiatives improve the process both for the academic staff and the heads of school in several ways:

- Google Docs enables remote document creation, commenting and review.
- ePals creates a global classroom for learning.
- Emaze is a collaborative platform for creating presentations.
- Wikispaces, Genius, ChalkUp and Google Hangouts are other examples.

3 | AUGMENTED REALITY (AR)

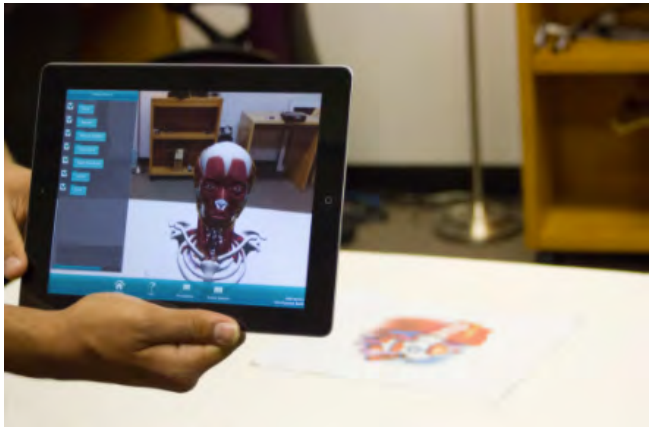
AR also has enormous potential to inject value into the educational process. It uses mobile devices to add a layer of information to physical reality.

Google Glass is a perfect example of how AR works.

Let's suppose you walk into a store. These glasses would show you product info "layered on" the item you are looking at; like "floating" above it.

This gadget did not have commercial success due to privacy and development issues. However, Pokémon Go made the potential of AR crystal clear.

In the classroom, AR would let you scan an equation and find possible solutions or tutorials in real time. Museums and historical exhibitions use it to enhance their exhibition experience, for example.



The great part is you don't need to spend big on equipment. All you need is a mobile device like a smartphone or tablet. This is why many researchers are betting on AR to drive learning.

4 | ARTIFICIAL INTELLIGENCE (AI)

Do you know Jill Watson? She is an assistant professor at Georgia Tech, who answers students' questions and emails reminders.

Few of them know Jill is an Artificial Intelligence. Some say IBM is behind it, but no one knows for sure.

NMC says AI will revolutionize Higher Education. In fact, it is already making headway in the learning industry.

Some softwares are already doing personalized tutoring. They can also moderate discussions and alter context to stimulate learning.

AI uses algorithms to personalize the student experience. In fact, it learns your manner of learning. At the same time, it generates data to analyze the needs of individual students and the classroom.

As AI gets smarter and more intuitive, it will start complementing human educators. One day it will be able to teach and interact with students directly.

It opens fascinating possibilities about how people will learn and teach in the future.

A 2016 study by British education company Pearson states that plausible AI transformations will include:

1) Personal tutors for every learner
2) Intelligent support for collaborative learning
3) Intelligent virtual reality

Pearson predicts AI will give students instant feedback on their learning process. However, there's more. It will also assess their level of knowledge and even their mood. It will end the need to interrupt learning to take standardized tests, for example.

Very soon, including AI in academic curricula will be essential to attract and keep students.

However, its most exciting prediction yet is the rise of "lifelong learning companions."

This virtual tutor will make questions, offer suggestions and curate educational resources. It will also counsel and encourage students when they run into difficulties.

In time, this companion will "learn" what you know, what interests you, and how you learn. All your data –your data – will be in the cloud and follow your process from kinder to postgraduate, and beyond.

For now, nothing can replace human interaction in the learning experience. However, soon including AI in academic curricula will influence student attraction and college student retention strategies.

Market research and data services firm Research and Markets says AI will grow 48% in the next four years. Meanwhile, the World Economic Forum predicts automation will kill five million jobs worldwide by 2020.

This means universities already need to update their curricula around AI.

VIII Why universities are using marketing to improve student retention

"Some college, no degree" – that is how researchers call those who get into Higher Education and, for several reasons, are not able to complete academic programs, spend just a couple of years in the university, and then quit.

According to the US-based National Student Clearinghouse Research Center, "over the past 20 years, more than 31 million students have enrolled in college and left without receiving a degree or certificate. Almost one-third of this population had only minimal interaction with the Higher Education system, having enrolled for just a single term at a single institution."

Students dropping out also involve economic and corporate difficulties.

As a result, a wide variety of retention strategies have been developed in the last years to reverse this increasing global trend.

Moreover, marketing is one of the disciplines in which an important amount of initiatives has been implemented to transform students' lack of interest and apathy into loyalty and engagement.

Why have Higher Education authorities decided to apply marketing strategies?

For Michael Fontaine, PhD, College of Management and Business at National Louis University in Illinois, who wrote "Student Relationship Management (SRM) in Higher Education: Addressing the Expectations of an Ever-Evolving Demographic and Its Impact on Retention", economic self-sufficiency and commoditization of Higher Education "have depicted students as fee-paying customers, and universities and colleges are switching from teacher-centered to student-centered approaches for attracting and retaining students."

Despite some academic resistance to calling students "customers," the global student dropout phenomenon and the increasing number of new Higher Education institutions have motivated many colleges and universities to adopt this customer-oriented philosophy.

This is a different management orientation that delivers a fascinating perspective and answers that help to understand the complex behavior of students, which might not be very different from how customers conduct themselves.

Professor Fontaine explains: "Students who complain and are responded to immediately, even if the answer is not favorable, can become more loyal than students who appear to be satisfied without complaints (Kotler and Fox, 1995). Traditionally, businesses have concentrated their marketing efforts on attracting new customers to maximize profits."

"Over the last few decades, however, service-oriented businesses have shifted away from this traditional marketing strategy towards a relationship marketing approach that focuses on developing long-term relationships with existing customers. This approach assumes that retaining satisfied customers will ultimately prove more cost-effective than continually spending marketing dollars on securing new customers (Barnes, Sines & Duckworth, 1994)," Professor Fontaine adds.

RELATIONSHIP MARKETING

This marketing approach aims to create and nurture a loyalty bond between student and university, and it is showing good results in student retention strategies.

In her white paper "Engaging the student as a customer: a relationship marketing approach", Professor Jana Lay-Hwa Bowden, PhD, Macquarie University, states that "relationship marketing initiatives have increasingly been viewed as means of achieving a sustainable competitive advantage (...), and the benefits of developing strong relationships with customers are now well established. Customer retention is also a more cost-effective approach than continual customer acquisition."

Students also have been adopting a new attitude on how they connect with universities, and they are more willing to express their opinions or criticize what they dislike about the academic experience.

Professor Bowden underlines that "Yang, Alessandri, and Kinsey (2008), for example, found that students did, in fact, perceive that they were in a relationship with the institution and that this relationship was communal in nature, in that students perceived that the university intended to maintain a long-lasting bond with them."

"Those authors – Bowden adds – further found that the quality of the student-university relationship was a key driver of students' positive perceptions of the institutional brand. The students who held the highest-quality opinions of the institution were also likely to have the most robust perceived relationship with the university brand itself (...). The student-university relationship has the potential to lead to the development of a positive reputation in the educational marketplace (Yang, Alessandri and Kinsey 2008)."

If Higher Education authorities want to build a long-term relationship with their students, as brands build relationships with their customers, they should first know who their students are and what is important to them.

Professors Robert Ackerman and John Schibrowsky from the University of Nevada, in Las Vegas, explain in "A business strategy applied to student retention: a Higher Education initiative", that the relationship marketing paradigm is built on the premise of learning everything relevant about the customer and then using that information in their benefit.

Their research also stresses that a relationship marketing strategy contributes to improve student retention rates, boost institutional reputation, and strengthen the learning experience.

This approach also helps reduce costs of student administration; it is less expensive to retain students than to acquire new ones.

However, this strategy must be understood as a long-term process that transcends graduation day. "In fact, it is properly seen as an opportunity to strengthen and refocus relationships with students so that they remain engaged with alma mater as alums," Ackerman and Schibrowsky emphasize.

Higher Education institutions usually use marketing strategies to attract new students. However, the right marketing can keep them engaged and transform into Brand Ambassadors even.

IX How relationship marketing can improve student retention

Marketing and sales professionals have worked for years developing relationships with prospects and potential clients by personalizing how they find them and address their particular needs, concerns and goals.

Universities face a similar conundrum.

They must deal with unique challenges developing an insightful relationship that promotes student engagement to deal with the increasing amount of students quitting their Higher Education courses.

Academics Nubia Murcia & Pedro Ramírez Angulo, from Politécnico Gran Colombiano, explain that "day by day, students want a personalized contact from education institutions, so they can bond in bidirectional communication, and get customized answers to questions, doubts, and problems. Regarding education and relationship marketing, this is a fundamental tool to achieve students retention."

Their colleagues Ackerman and Schibrowsky from the University of Nevada have also studied the impact of relationship marketing in Higher Education.

They claim that this approach can be an important component for institutions to nurture a personalized relation with students, to focus on their pain-points that might lead to leaving their studies.

This is a "different way of viewing student retention, by providing a different perspective on retention strategies."

Universities face unique challenges developing an insightful relationship that promotes student engagement to deal with the increasing amount of students dropping their Higher Education courses.

Marketing executives nurture customers whose profile deserves more attention in building a relationship. Students require the same level of care. "If a firm wants to add value for their customers and build lasting relationships with them,

they need to know who the customers are, what they want, and what is important to them.

Meanwhile, Aníbal Bur from the University of Palermo, in Argentina, states that colleges and universities "could benefit from the efficient use of principles and procedures of marketing."

As J.M. Manes states on "The research process of social needs to develop and undertake educational projects that satisfy them," Bur emphasizes the importance to "produce an integral development in educational services based on quality and continuous improvement of an educational institution."

However, for an efficient marketing-based student management system, schools must collect:

- **Internal data:** enrollment, dropout rates, and complaints.
- **Marketing intelligence:** day-to-day information on the environment.
- **Market research:** through reliable sources, learn about a situation in the market.

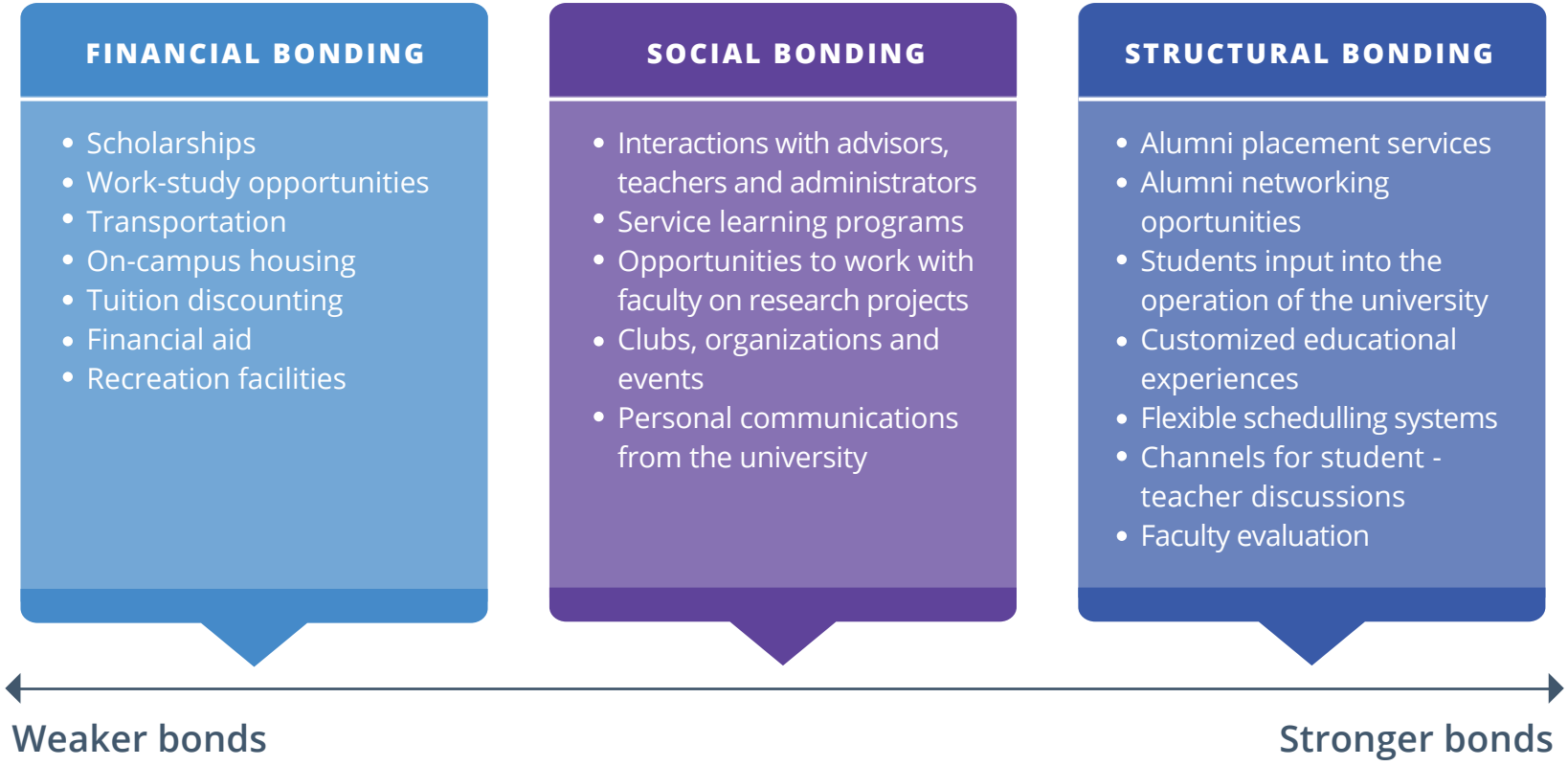
When engaging potential students, it is not only important to enroll them and retain them but to boost loyalty. Higher Education institutions must develop "stable long lasting relationships with them, identifying their changing needs and satisfying effectively to accomplish their loyalty."

For Ackerman and Schibrowsky, "it seems odd that customers who have online accounts with Amazon, are greeted by name each time they access the site, but students who use the campus' library, food services, financial aid office, the Dean's Office or attend a lecture class are seldom greeted."

This lack of connection communicates the wrong message: the administration, faculty, and staff just don't know or don't about them.

Hardly a foundation on which relationships and loyalty should be built.

STUDENT RETENTION



Source: designed by U-Planner with data from Ackerman & Schibrowsky, 2007

Instead of customer relationship management (CRM), used to describe programs to deal with customer retention, Ackerman and Schibrowsky coined the term "student relationship management system," or SRM.

Mainly, SRM concerns those programs designed to build relationships with students to increase retention and loyalty to the school.

"In theory, the job of collecting this information in academic settings is easier," they claim. "There should be a database with contact information even for students who do not persist."

However, very few campuses attempt to document reasons for students abandoning their studies and even fewer analyze this data to inform student retention initiatives.

Retention strategies should be a responsibility of the entire institution and not just a specific department: "While front-line employees at colleges and universities such as administrative assistants, office receptionists, advisors and classroom instructors are often the key to the successful implementation of SRM programs, everybody's efforts are needed", Ackerman and Schibrowsky say.

A student relationship management system helps build relationships to increase retention and loyalty to the school.

John Kuh notes in his paper Organizational Culture and Student Persistence: Prospects and Puzzles that "only a web of interlocking initiatives can over time shape an institutional culture that promotes student success."

In Higher Education, this means developing a relationship between all parties, based on trust.

Ackerman and Schibrowsky state that "students who perceive a mutual and strong commitment between themselves and the college are more likely to remain enrolled and are more likely to recommend the school to friends. In Higher Education, **trust is viewed as an integral factor in increasing students' likelihood to persist**."

Given the long-term nature of this relationship, universities should engage in a way similar to how Inbound Marketing, a specific type of relationship marketing, tackles tackle the so-called Buyer's journey.

Buyers, in this case, students, begin a relationship with Higher education institutions that starts before recruitment, continues all the way to graduation and, if engaged correctly, extends to when they become alumni.

THE STUDENT'S JOURNEY

Source: Ackerman & Schibrowsky, 2007

7 best practices to boost student retention in Higher Education

Students can be the best promoters of their universities in society. However, it can only be achieved by building a bond of trust between both parties.

Student retention strategies and best practices aim precisely at building this kind of relationship, in which students feel safe and supported.

Student-centered active learning, all-institution involvement, and the "Belonging – Engagement – Retention" model are some of the most important strategies that Higher Education institutions around the world are implementing to improve their retention rates.

However, this is a very complicated process, which deals with several variables that must be followed and measured from Freshman year to Graduation Day, and further.

Student retention strategie**s** and plans for Higher Education are long-term processes, so their results can be viewed only after several years of implementation.

How do we know if this process is going in the right direction?

Best practices provide the right answer. They consist of easy-to-implement actions that deliver concrete and measurable results that can help to visualize how a strategy is doing.

The following best practices stand out in the Higher Education environment because they are straightforward and fully student-oriented.

1 | EARLY CLOSE ADVISORY

"Evidence has consistently indicated the importance of new students connecting with their advisor(s) very early in their first semester of college," a Mansfield University (Pennsylvania, US) paper states.

This institution recommends that all advisors should meet individually or in small groups with first-year students within two weeks since the start of the semester.

2 | MANDATORY CLASS ATTENDANCE FOR ALL FIRST-YEAR STUDENTS

Mansfield also says that Freshmen need structure from the beginning. “Once new students get even a week behind, they become at risk for giving up and dropping out.”

They recommend “to implement a mandatory class attendance policy for all first year and other lower level courses. Moreover, report students who miss more than two classes in succession, so that a retention team member can contact them for follow-up.”

3 | FIRST-YEAR EXPERIENCE

One of the most common reasons for student quitting is the lack of integration. For several reasons, they cannot get used to an academic environment or feel they do not fit in.

That is why first-year experience programs are commonly implemented by universities who care about student retention.

According to the University of Texas, these programs “create a small community within the larger campus for first-year students, helping them build relationships with other students as well as faculty and staff (...). Students who participate demonstrate more positive relationships with faculty, greater knowledge and use of campus resources, more involvement in campus activities, and better time-management skills than their non-participating peers.”

4 | LEARNING COMMUNITY

This practice and first-year experience programs are closely linked. “Learning communities build a sense of academic and social community and increase engagement among students and faculty, all of which lead to a variety of positive outcomes. These may include improved academic achievement, credits earned and self-reported learning,” University of Texas states.

“Literature suggests that participating students also demonstrate greater progress in academic subjects, indicate increased satisfaction with the institutions, and report greater use of student support services,” UofT adds.

5 | ACADEMIC AND SOCIAL SUPPORT

Hanover Research consultants underline the importance of taking care of students, especially when they come from low-income social environments. “Universities need to pay attention to the practical and emotional barriers to college attendance that low-income students face,” the firm claims.

That is the case of Georgia State University’s program, which does not merely dispense money to at-risk students and sends them on their way. Its 'Keep HOPE Alive' grants are accompanied by mandatory workshops in time management, financial literacy, and academic skills to help students regain their footing.

6 | EXAMINATION TIMING

Many first-year students got scared when facing an entirely new examination schedule, which is so different from High School. In this regard, Mansfield University’s maxim is “test early, test often,” particularly for first-year courses.

This approach fosters early and periodic assessments to avoid a smaller number of relevant examinations as the primary method of evaluation. In consequence, low-risk or practice exams are used to help students adapt to the expectations of college-level learning.

7 | FIRST-YEAR EXCELLENCE

Looking for excellence from the first day is an essential best practice in Higher Education to improve student retention rates.

In the paper entitled "Retention: A select critical inventory of best practices," Dr. Jeff Clark from Sacramento State University underscores the following findings and recommendations:

- Institutions that achieve first-year excellence place a high priority in the first year.
- Excellence flourishes in a culture that encourages idea generation, pilot projects, and experimentation.
- Campuses that achieve excellence in the first year share a clear institutional identity and mission, as well as a concomitant respect for students.
- Excellence in the first year relies on the direct involvement of an institution's faculty.
- First-year excellence necessitates both creative acquisition and judicious use of financial resources.

These findings and recommendations were part of the conclusion of a study of 13 colleges and universities in the United States that have achieved excellence in the way they structure and implement the first year," Dr. Clark says.

Conclusion

Improving student retention rates in US colleges and universities requires much more than designing better programs or implementing high-end software.

Engaging students in the Digital Age also requires a relationship-based approach, to understand the pain points and issues that prompt them to abandon their Higher Education course or leave their university for the competition.

Knowing students on a deeper level is the first step towards designing effective retention strategies and choosing adequate technology to manage the student's journey.

We sincerely hope this guide delivers value for academics, experts, and consultants who aim at putting students first in Higher Education.

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