Full Length Research Paper

Persistence and retention towards degree completion of BS agriculture students in selected State Universities in Region IV-A, Philippines

Ruth A. Ortega-Dela Cruz

Institute for Governance and Rural Development, College of Public Affairs and Development University of the Philippines Los Baños, Domingo M. Lantican Avenue, College, Laguna, Philippines.

Received 5 November, 2014; Accepted 11 March, 2015

Using descriptive-correlational research design, total enumeration of 56 junior BS Agriculture students uncovered factors that support and challenge students in agriculture degree programs. The study selected the targeted State Universities based on the level of degree accreditation in agriculture. The researcher also incorporated qualitative data by conducting semi-structured interviews. Factors related to personal, academic and career disposition were found to be influential in student persistence. Overall results affirmed that classroom-related factors contribute most to persistence, whereas; the quality of teaching contributes most to the retention of BS Agriculture students. Correlation analysis revealed a relationship between persistence and retention. Analysis of differences across accreditation levels revealed slight to greater variations regarding factors that relate to persistence and retention. The results of this study suggested that the selected State Universities have not gone far enough on a practical level to ensure that BS Agriculture students are supported in an effective manner. Thus, the program should provide an educational environment with adequate, effective and accessible administrative and educational support services specific to the students’ academic success towards completing a degree in Agriculture.

Key words: Agriculture, completion, degree, persistence, retention.

INTRODUCTION

Agriculture plays a dominant role in the Philippine economy particularly as 70% of the country’s population is rural and two-thirds of these depend on farming for their livelihood (http://www.state.gov/r/pa/ei/bgn/2794.htm). It is the sector that determines economic development and poverty alleviation of the country. It is also a significant sector for employment and labor.

With global competition, a primary consideration is to enhance the overall global competitiveness of Philippine agriculture rather than to attain the traditional and relatively narrow-goal of upgrading the low levels of income as well as the production and productivity of small farmers in the rural areas (http://www.state.gov/). But the
reality dictates that no matter how the government envisions transforming agriculture into a modern, dynamic and competitive sector; still, the Philippine agriculture suffers from lack of human resources who have the knowledge and skills to be able to adapt to this ever changing world (http://www.philstar.com/Article 20 April 2010). Education is one of the most influential and powerful tools a society has for contributing to advancing knowledge and transforming lives. Thus, change resulting from new agricultural and rural development will continue to depend mainly on agricultural science and agricultural college education.

In a predominantly agricultural country like the Philippines, there is a need for constant supply of well-trained, skilled and knowledgeable agriculture graduates to provide the manpower base for the implementation of the country’s agricultural production and development programs. While agricultural education has been recognized as strategic factor in boosting productive and human resource development in the Philippine agricultural sector, it has failed to turn out sufficient number of competent graduates (Directo, 2002 in Aquino, 2005).

Commission on Higher Education (2010) records show that there are slightly over 49,000 students enrolled in agriculture and related courses, only 2% in the overall discipline group in the Philippine higher education (Figure 1). Student persistence and retention are important issues facing Philippine higher education today. Although the number of students attending college continues to grow, improving graduation and completion rates remains a challenge.

To clarify, retention is an organizational phenomenon—colleges and universities retain students. Institutional retention rates, the percentage of students in a specific cohort who are retained, are often presented as measures of institutional quality. Persistence, on the other hand, is an individual phenomenon—students persist to a goal. That is, to complete the four-year bachelor’s degree in agriculture.

Retaining a student is fundamental to the ability of an institution to carry out its mission. A high rate of attrition (the opposite of retention and persistence) is not only a fiscal problem for schools, but a symbolic failure of an institution to achieve its purpose. Thus, it becomes important to understand and act on what research tells about student persistence, retention into the next year level and to graduation.

Although preparation, ability, and motivation are important factors in student persistence and retention, they cannot explain all the reasons that students persist or drop out (Reason, 2009). Braxton (2009) indicates that the lack of student persistence may be labelled the departure puzzle. Given the availability of numerous guides on the selection of colleges and universities by the parents, career counsellors and students and the enormous amount of attention that college officials focus upon the college selection process, it is puzzling that almost one-half of students entering two-year colleges and more than one-fourth of students entering four-year collegiate institutions leave these institutions at the end of their first year (Spedding, 2009).

Objectives of the study

The purpose of the study reported in this paper was to bring to light factors that relate to persistence and retention of college students in pursuing a Bachelor of Science in Agriculture course toward degree completion. This study also serves as a step toward understanding the mechanisms through which university influences, and other factors that affect the persistence and retention of students.

The study specifically determined the relationship between persistence and retention; examined the difference in persistence and retention of third-year BS Agriculture students across accreditation levels; and recommended policies to improve persistence and retention among BS Agriculture students in selected State Universities.

Theoretical models of the study

Models of persistence

The reasons that students persist became a major area of inquiry for education scholars beginning in the 1960s (Braxton, 2009). To give further elaboration on the issue, the following section presents the theoretical models related to student persistence and retention.

Alexander Astin’s input-environment-outcomes model explains the impact of various environmental experiences by determining whether students grow or change differently under varying environmental conditions. The consideration of input characteristics when assessing student retention helps to understand the influence of students’ backgrounds and characteristics on their ability to persist. Environmental variables that might influence student success include: institutional characteristics, students’ peer group, faculty characteristics, curriculum, financial aid, major field of choice, place of residence, and student involvement; whereas, outcomes are the student’s characteristics after exposure to the environment.

Vincent Tinto’s theory of student departure states that, to persist, students need integration into formal (academic performance) and informal (faculty/staff interactions) academic systems and into formal (extracurricular activities) and informal (peer-group interactions) social systems. Tinto argues that the institution shares this responsibility for helping students achieve academic and social integration.
Models of retention

Astin’s student involvement theory deals with the factors that are important to the integration of students into the institution such as peer and faculty interactions and involvement in campus activities. In contrast to Tinto’s theory concerning integration, this theory of Astin posits that the student plays an integral role in determining his or her own degree of involvement in college classes, extracurricular activities and social activities.

Tinto’s student integration model applies the concept of integration to college students. Essentially, students drop out when they have not achieved a sufficient level of integration into the fabric of college life. In other words, the “fit” between person and institution is not conducive to persistence.

These theoretical models have identified factors that contribute to persistence and retention of students in higher education. These factors include individual, institutional, as well as social and academic and their integration into an institution including: interactions with peers and faculty members, and levels of involvement of the student in the institution.

Conceptual framework

To answer the call for a more comprehensive and
integrated model for studying student persistence and retention, the following conceptual framework was formulated by the researcher. This was based on the models of Astin (1985, 1993) and Tinto (1975, 1993).

The framework incorporates, in five sets of constructs, the wide array of persistence and retention factors (Figure 2). The persistence factors comprise three categories: student-related factors, institution-related factors, and classroom-related factors. These student-related factors including demographic characteristics, academic performance, as well as personal, academic and career disposition shape subsequent experiences upon entering the college through their interactions with the institution-related factors including the type (that is, the level of degree accreditation of the State University such as Level I, II, and III) and processes being implemented by the institution as well as academic and co-curricular procedures; and the classroom-related factors constituting the individual student experience towards faculty traits and the entire curriculum. The framework shows the relationship of these persistence factors to retention factors. Retention factors include the institutional programs and retention practices in addressing the institutional issues to support/enhance persistence and retention of agriculture students towards degree completion.

**METHODOLOGY**

This section presents the study’s research design, locale, respondents, sampling technique, data-gathering instruments and procedures, and the tools used for data analysis.

**Research design**

A descriptive-correlational research design was utilized to identify persistence and retention factors of agriculture students towards degree completion. This study employed a survey questionnaire to gather data regarding students’ demographic characteristics and their perceptions on the persistence and retention factors. In addition to describing what is with respect to the student-, classroom-, and institution-related factors, this study also utilized a correlational research method to identify the strength and direction of relationships among selected variables.

**Locale**

This study was conducted in three State Universities in Region IV-A. Their respective type in terms of their current level of degree accreditation and location, as shown in Figure 3, are the following:

1. **The Cavite State University** formerly known as Don Severino (delas Alas) Agricultural College (DSAC) is a state university in the province of Cavite, Philippines. In February 2012, it has a total of 7,817 students in its nine colleges. College of Agriculture, Forestry, Environment and Natural Resources has 361 students in all its
During the second semester of the Academic Year 2011-2012, there were 236 students taking Bachelor of Science in Agriculture (that is, 161 in first year, 44 in second year, 21 in third year, and 10 in fourth year). The student-to-faculty ratio is 20 to 1 (CvSU-Indang, Office of the University Registrar AY 2011-2012).

(2) The Laguna State Polytechnic University (LSPU) is a state university in the Province of Laguna. It has four regular campuses in Santa Cruz (the main campus), Siniloan, San Pablo City, and Los Baños, two satellite campuses — LSPU-Nagcarlan and LSPU-RECS Complex in Santa Cruz — and two International Language Studies Centres in Thai Nguyen University, Vietnam, and Changwon College, South Korea. The University has a total of 2,596 students in its ten colleges. College of Agricultural Science and Technology has a total of 340 students in its degree programs. There were 77 students taking Bachelor of Science in Agriculture (that is, 36 in first year, 16 in second year, seven in third year, and 18 in fourth year). The student-to-faculty ratio is 20 to 1 (LSPU-Siniloan, Office of the University Registrar AY 2011-2012).

(3) The Southern Luzon State University (SLSU), formerly known as Southern Luzon Polytechnic College (SLPC) is a state university with eight campuses in Lucban (the main campus), Tagkawayan, Alabat, Polillo, Sampaloc, Lucena, Tiaong, and Infanta. The main campus has a total of 9,696 students in its seven colleges. College of Agriculture has a total of 357 students in all its degree programs. There were 122 students taking Bachelor of Science in Agriculture (that is, 54 in first year, 31 in second year, 28 in third year, and nine in fourth year). The student-to-faculty ratio is 20 to 1 (SLSU-Lucban, Office of the University Registrar AY 2011-2012).

Respondents of the study

The sample consisted of the total enumeration of all third-year BS Agriculture students for the second semester of the academic year 2011-2012. These students were purposively selected as the ones who persisted through their second year of college and remained in the same institution to continue their third year. They were identified
as persisters as they manifested the desire to pursue bachelor's degree by having reached their current year level, an indication of being adjusted to the system of their chosen field from the beginning year through degree completion.

Sampling technique

The study selected targeted schools based on the level of degree accreditation in agriculture including the SLSU representing the Level I Status, LSPU representing the Level II Status and CvSU representing the Level III Status. Level I accredited status is granted for programs after a formal survey, effective for a period of three years; Level II accredited status is granted for accredited programs effective for a period of three or five years; while, Level III accredited status is granted for programs which have met a reasonably high standard of instruction, highly visible research tradition, strong faculty development tradition, and extensive and functional library and other learning resource facilities (http://www.ched.gov.ph/ched www/index.php/eng/Information/CHED Memorandum-Orders/2005 Retrieved: 2012 October 08). A total of 56 students enrolled in the BS Agriculture program of the selected State Universities. Specifically, 28 students from SLSU, 21 from CvSU, and 7 from LSPU completed the questionnaires at the end of their class period.

Data-gathering instrument and procedure

The study was conducted using researcher-made questionnaires which determine the student's demographic characteristics, their persistence and retention. Persistence and retention factors were measured using perception-survey statements. Persistence factors were identified using four-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (4). Retention factors were determined using four-point Likert scale ranging from "no contribution" to "major contribution to my retention".

In addition to the student's self-administered questionnaire, 86 faculty and administrators completed a separate questionnaire during their vacancy period.

The researcher also conducted Key Informant interviews with selected members of the academy and administration including the Course Adviser, College Dean, Office of the Student Affairs (OSA) Director, University Registrar, Campus Director, and the State University's President and Vice Presidents to ask for their personal viewpoints regarding the factors that support/enhance and hinder student persistence and retention towards degree completion. Confidentiality was addressed by assigning a code number to each student as they completed the survey and using only that code to indicate survey responses.

Tools for data analysis

The study made use of the Statistical Package for the Social Sciences (SPSS) software version 16 in analyzing the data. It employed descriptive analysis (that is, weighted means) to analyze items related to personal, academic and career disposition and perceptions regarding institutional processes, academic and co-curricular procedures, faculty traits and curricular experiences; also, faculty and administration evaluations of the retention factors. The study also used Pearson’s Product Moment Correlation Coefficient to determine the relationship between persistence and retention. In particular, the nature and degree of relationship were described. No test of significance was conducted.

RESULTS AND DISCUSSION

Here, presents the data gathered, and organized according to the objectives of the study. In order to facilitate analysis and interpretation, quantified data were tabulated and are presented based on the order of overall weighted mean from the highest to lowest values.

Factors that explain persistence

Persistence factors embrace all 15 statements on student-related, 17 on institution-related, and 18 on classroom-related factors. These persistence factors are represented by 50 perception statements in all are represented by \( S_1 - S_{15} \) in Table 1. BS Agriculture students from Southern Luzon State University (SLSU) representing Level I Accredited Status, Laguna State Polytechnic University (LSPU) Level II, and Cavite State University (CvSU) Level III identified persistence factors using a four-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (4).

Student-related factors

Academic disposition

Third-year BS agriculture students strongly believed that they were trying their best to complete their degree, and by taking the right courses in their chosen school. This students’ academic disposition was supported by the result of the KI interviews. When asked about the essential characteristics that make BS Agriculture students successful in pursuing their degree, interviewees often described students as very hardworking, highly trainable, motivated, responsible and adaptable, meaning that students would do everything without complaint, and were very persistent to the academic goal. Majority of these students are from low-income group; hence, their aspiration to improve their way of living is always present.

As explained by Lango (1995 in Quinn and Hemmings, 2000), persistence is influenced by a person’s sense of self, specific expectations, and a sense of responsibility for one’s successes and failures. Likewise, family has an impact on student commitment to complete college. Parents play a key role in instilling in their children a sense of self-efficacy or a relentless drive to persist despite adversity. According to Nora et al. (1999 in Crissman and Uperaft, 2000), fostering a ‘culture of possibility’ encourages student achievement and influences educational aspirations and expectations.

In line with students’ perceptions of being enrolled in the school of their choice, Tinto (1993 in Swail (2004) hypothesized that student commitment to educational goals and to the institution in which one enrols
Table 1. Factors that explain persistence.

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Persistence Factors</th>
<th>SLSU Level I</th>
<th>LSPU Level II</th>
<th>CvSU Level III</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>S11</td>
<td>I am trying my best to be able to complete this degree.</td>
<td>3.64</td>
<td>3.57</td>
<td>3.71</td>
<td>3.66</td>
</tr>
<tr>
<td>S14</td>
<td>I think I would be successful.</td>
<td>3.64</td>
<td>3.57</td>
<td>3.71</td>
<td>3.66</td>
</tr>
<tr>
<td>I16</td>
<td>This campus has a commitment to academic excellence.</td>
<td>3.64</td>
<td>3.00</td>
<td>3.86</td>
<td>3.64</td>
</tr>
<tr>
<td>C41</td>
<td>Course advisers are knowledgeable about the program…</td>
<td>3.46</td>
<td>3.43</td>
<td>3.76</td>
<td>3.57</td>
</tr>
<tr>
<td>C42</td>
<td>The contents of the course are valuable…</td>
<td>3.57</td>
<td>3.29</td>
<td>3.67</td>
<td>3.57</td>
</tr>
<tr>
<td>S7</td>
<td>I am taking the right courses.</td>
<td>3.39</td>
<td>3.71</td>
<td>3.71</td>
<td>3.55</td>
</tr>
<tr>
<td>C50</td>
<td>I am able to experience intellectual growth here.</td>
<td>3.54</td>
<td>3.29</td>
<td>3.67</td>
<td>3.55</td>
</tr>
<tr>
<td>C44</td>
<td>The contents of the course are applicable to the work.</td>
<td>3.36</td>
<td>3.14</td>
<td>3.81</td>
<td>3.50</td>
</tr>
<tr>
<td>C48</td>
<td>The course demonstrates the ability to adapt to changes…</td>
<td>3.36</td>
<td>3.43</td>
<td>3.71</td>
<td>3.50</td>
</tr>
<tr>
<td>C49</td>
<td>The course helps me to perform the skills…</td>
<td>3.36</td>
<td>3.43</td>
<td>3.71</td>
<td>3.50</td>
</tr>
<tr>
<td>S3</td>
<td>I have a family who are supportive of my goals.</td>
<td>3.39</td>
<td>3.57</td>
<td>3.52</td>
<td>3.46</td>
</tr>
<tr>
<td>C45</td>
<td>The objectives of the course comply with the purpose…</td>
<td>3.36</td>
<td>3.43</td>
<td>3.62</td>
<td>3.46</td>
</tr>
<tr>
<td>C33</td>
<td>Faculty have mastery of the course content.</td>
<td>3.32</td>
<td>3.29</td>
<td>3.67</td>
<td>3.45</td>
</tr>
<tr>
<td>C47</td>
<td>The courses help me understand my everyday life.</td>
<td>3.32</td>
<td>3.43</td>
<td>3.62</td>
<td>3.45</td>
</tr>
<tr>
<td>S12</td>
<td>I am aware that applicable jobs are in my community.</td>
<td>3.29</td>
<td>3.57</td>
<td>3.57</td>
<td>3.43</td>
</tr>
</tbody>
</table>

Range: 3.26-4.00 - Strongly Agree; 2.51-3.25- Agree; 1.76-2.50- Disagree; 1.00-1.75- Strongly Disagree.

significantly influences student performance and persistence. Evidence from the work of Swail, Pascarella and Terenzini supports this notion that the institution which a college student chooses becomes an important factor in his or her persistence, because some institutions are more conducive to persistence than others. According to Swail (2004), institutional variables include selectivity, course length (two or four year), size, control (public or private), gender composition, and racial composition. However, (Oseguera and Rhee, 2009) suggest that in general, these institution-related variables are less influential than students' experiences once they enrol.

**Career disposition**

Agriculture students are quite optimistic in believing that they would be successful. The students involved in this study are in their junior years of their degree program, and they have crossed the threshold where they were at risk of switching majors or dropping out. Aside from the findings already cited about academic disposition, more intangible characteristics of these students are instrumental in keeping them on their academic paths. Characteristics such as being hardworking, trainable, motivated, responsible and adaptable are of a more intrinsic nature, yet seem to be held by the majority of successful students.

**Personal disposition**

Agriculture students credit their parents with instilling in them the importance of a college education. While members of the family can provide emotional support, it can also place demands and responsibilities that extend beyond life as a college student. For students who have to work for a part-time job in order to support the family needs, balancing their roles as a worker with the demands of their degree program can become a source of stress while attending school. Family demands were cited by several faculty members as reasons why some agriculture students have difficulty in keeping up with course work. This verifies the reason why student respondents slightly agreed with a specific statement related to personal disposition as having enough money for education. KI interviews confirmed the importance of scholarships as a source of student support. In a review of research on the relationship between financial aid and persistence (Pino, 2005) concluded that finance-related factors (student aid, tuition, and other costs, including living) explained about half of the variance in the persistence process.

**Institution-related factors**

**Institutional processes**

Here, it is shown that institution’s commitment to academic excellence constitutes most to the experiences of agriculture students. This is followed by the personal safety and security that they experience on their campus; likewise, for making every student feel welcome at all times. This is supported by a study of the Azusa Pacific University, by Noel-Levitz, a higher education consulting
firm (2009) (www.nasfaa.org), who found that students who feel welcome, know what is happening on campus, and feel that they belong are more likely to return the following year. Schreiner (2009 in NASFAA, 2010) found that increased student satisfaction, particularly with the campus experience, can increase student persistence and retention. According to the report of the Azusa Pacific University, satisfaction indicators almost doubled the ability to predict retention beyond demographic characteristics and institutional features (NASFAA, 2010).

On the other hand, student respondents slightly agreed with the statements related to campus procedures for student registration, and for regularly communicating student satisfaction and important data. It became very clear in the KI interviews that BS Agriculture students not only faced transition to college life, but also to becoming part of the sub-culture of agricultural education. Successful students come to understand and navigate the “campus college system.” Those who do not, they weed themselves out. Several faculty members speculated that inability to figure out such “campus college system” was most likely a large factor in losses of agriculture students at the end of the freshmen year. One interviewee spoke of the need for students to learn to organize, plan, and target the work for their classes, and that it takes time and peer mentoring to do so. As he put it: “by the time they hit the junior year the ones who have figured it out are in agriculture classes. The ones who haven’t are gone.” Aside from learning content, learning the process of surviving in the content classes and degree program is an expectation for a student to continue with the course. (Leach and Zepke, 2009) found that, to enhance retention, institutions must change their processes so that financial services, procedures for adding and changing courses and academic advice are easily available and offered in non-bureaucratic ways. Academic advising is one of the arenas through which a student has a chance to have quality interaction with a concerned person on campus, a primary factor affecting college retention (Lotkowski et al., 2004).

Academic and co-curricular procedures

Based on the perception of third-year BS Agriculture students, they were able to avail academic programs from quality teaching and manageable workloads. These two institution-related factors highlight academic and co-curricular procedures and explain why agriculture students remain enrolled and persist to complete their degree program. Academic programs such as academic coaching, in which faculty members move beyond voicing support of students in the classroom to putting into practice teaching practices and interactions that foster student success. Academic coaches help students to enhance their learning, and learning outcomes, recognizing that not all students are equipped with academic, study, and social skills at the college. They can also motivate students with changes in rules, regulations, and course requirements to better meet student expectations and needs.

Classroom-related factors

Faculty traits

The majority of classroom-related factors particularly instructional skills of the teachers were experienced by agriculture students. Primarily, they acknowledged their course adviser, as being knowledgeable about the program requirements, having mastery of the course content, and treating them with respect. However, not all of the student respondents agreed with classroom-related factors. This was indicated in their response to the statement related to the kind of treatment they received from their teachers. Basically, it shows that not all of them experienced fair and unbiased treatment from their teachers.

Faculty treatment manifests the kind of campus experience, one that mediates students’ academic and social experiences in college (Vallerand and Menard, 2000). By establishing good relationships with the students, the institution shares this responsibility for helping students achieve academic and social integration (Tinto, 2002).

On the other hand, faculty and administrators view this relationship similar with that of Astin in his Student Involvement Theory. For them, it is the student’s role to build good relationships with faculty members. They believed this is something that distinguished successful students from those who were less successful: (What makes them successful is) the degree to which they work collaboratively and consort with their peer students and take advantage of the relationships they can build with faculty. Those that tend to try to do it alone – that’s a real trial for them. They learn to become more responsible. So, the degree to which they integrate with their peer students and take advantage of building faculty relationships outside of the structured class environment is a factor (in persistence). This idea is attested by the findings of Pascarella and Terenzini (Quinn and Hemmings, 2000) that both the frequency and quality of students’ interactions with faculty and peers were positively associated with persistence.

Curricular experiences

Students also noted their favourable experiences towards the curriculum. Agriculture students perceived that their curriculum is valuable and sufficient, applicable to their
future work, helpful in understanding everyday life, adaptable to changes in society and technology, and helpful to students in performing the skills needed. Also they experienced intellectual growth in their campuses. For agriculture students, these are the influential factors inside the classroom setting. Three interviewees who talked about the need for social relevance of the Agriculture curriculum as a factor related to persistence for students; connections to the “real-world” and to relevance to society may be factors in helping to retain BS Agriculture students towards degree completion.

Social relevance of the curriculum corresponds with the views of FAO (Maredia, 2007) that for the higher educational system to be effective in fulfilling its role in supplying well-trained and productive work force for the agricultural economy, the curriculum must adapt to changes in society and technology to prepare students for taking up or creating new employment opportunities. It must be flexible in creating unique interdisciplinary majors to allow students to meet individualized curriculum program needs. A curriculum should focus on imparting skills and abilities that are transferable to a wide range of occupations; and puts emphasis on processes and abilities of students to critically think and solve problems which are relevant to societal needs.

Social relevance of the curriculum as advocated by the faculty and administration, guides them in dealing with curricular issues. Basically, the results point to the positive actions of the State Universities to better serve the community and/or society by way of promoting the intellectual, personal, social-, and physical development of the students.

Table 2 presents the factors that explain retention of third-year BS Agriculture students. These 20 items on retention factors deal with the student perceptions of the institutional issues, characteristics, services, also their evaluation of their institution’s ability to maintain the enrolment by implementing some student retention “best” practices. Student respondents identified the retention factors using four-point degree scale ranging from “no contribution” (1) to “major contribution to my retention” (4). Retention factors are represented by R1 – R20 in Tables 2 and 3.

Factors that relate to retention

Students’ perceptions

(i) Quality of teaching: Consistent with the results gathered on the institution-related factors, it is the quality of teaching that had the highest perception rating from the student respondents. This indicates that the selected State Universities were supportive of quality teaching as reflected in the students’ high perception rating of classroom-related factors in their curricular experiences. Accordingly, students most appreciated classes where “real-world” connections were made. One of the teachers interviewed in the study talked about being very explicit in making those connections. That was, his way of connecting the learning within the course to other classes they were taking. Four faculty members discussed the need for more visual presentation of material as a pedagogical technique benefiting students. When prompted
for what they meant about “visual” material, faculty referred to material that allows the students to manipulate things, or draw what they are learning. Two faculty members expressed awareness of the need for instruction that incorporated multiple modes of learning. An instruction that accords with versatility (that is, meeting needs of diverse groups), which is a desired characteristic of the curriculum (FAO, 2000 in Maredia, 2007).

(ii) Student engagement: Student engagement in classroom or their exposure to active learning was found to be the second in the list of the retention factors among the third-year BS Agriculture students. This agrees with the finding of Tinto (1993 in Tinto, 2002) that academic engagement activities have a positive influence on retention.

(iii) Institutional fit. Institutional fit means that institution’s curricular and co-curricular programs fit with the student’s personal, academic and career interests. Institutional fit was another factor to BS Agriculture students. Many interviewees found that taking on leadership roles in organizations, being active in various campus activities, mentoring younger students and working closely with their teachers contributed to student retention towards degree completion.

This finding agrees with those of several researchers including McClanahan (2004) and Habley (2010), who affirmed that institutional fit and campus integration are important to retaining college students towards degree completion (Vallerand and Menard, 2000). Similarly, Lotkowski, 2004 noted that most definitions of fit exhibit characteristics of students’ interactions with the academic and the social, or non-academic, systems of the college. They further noted that these academic and social interactions affect both student retention and educational attainment. Several authors indicated that the roots of student attrition lay both with students and with the institution; in other words, the success of an institution and its students are inseparable (Levitz et al., 1999; Tinto, 1999 in Tinto, 2006).

Table 3 presents the factors that explain retention of third-year BS Agriculture students. These 20 items on retention factors deal with the faculty and administrators perceptions of the institutional programs, curricular offerings, services and their evaluation of their institution’s ability to maintain the enrolment by implementing some student retention “best” practices. faculty and administrators identified the retention factors using a nominal scale (no/yes), and a four-point degree scale ranging from “no contribution” (1) to “major contribution to retention” (4).

### Table 3. Faculty and administration perceptions on factors that explain retention.

<table>
<thead>
<tr>
<th>No.</th>
<th>Programs, curricular offerings, services, practices</th>
<th>SLSU Level I</th>
<th>LSPU Level II</th>
<th>CvSU Level III</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>R6</td>
<td>Curriculum review and revision practices</td>
<td>3.64</td>
<td>3.45</td>
<td>3.76</td>
<td>3.62</td>
</tr>
<tr>
<td>R9</td>
<td>Faculty development program</td>
<td>3.68</td>
<td>3.45</td>
<td>3.52</td>
<td>3.58</td>
</tr>
<tr>
<td>R1</td>
<td>Academic support services (learning centres, similar resources)</td>
<td>3.86</td>
<td>3.29</td>
<td>3.64</td>
<td>3.57</td>
</tr>
<tr>
<td>R2</td>
<td>Admissions practices/requirements</td>
<td>3.68</td>
<td>3.26</td>
<td>3.58</td>
<td>3.49</td>
</tr>
<tr>
<td>R13</td>
<td>Honour students programs</td>
<td>3.27</td>
<td>3.35</td>
<td>3.42</td>
<td>3.40</td>
</tr>
<tr>
<td>R3</td>
<td>Assessment programs</td>
<td>3.32</td>
<td>3.29</td>
<td>3.48</td>
<td>3.37</td>
</tr>
<tr>
<td>R14</td>
<td>Interactive, relevant, hands on, exploratory instructional practices</td>
<td>3.14</td>
<td>3.23</td>
<td>3.52</td>
<td>3.35</td>
</tr>
<tr>
<td>R10</td>
<td>Financial aid services</td>
<td>3.36</td>
<td>3.23</td>
<td>3.45</td>
<td>3.35</td>
</tr>
<tr>
<td>R4</td>
<td>Career planning and placement programs</td>
<td>3.23</td>
<td>3.58</td>
<td>3.12</td>
<td>3.31</td>
</tr>
<tr>
<td>R8</td>
<td>Extracurricular programs</td>
<td>3.27</td>
<td>3.29</td>
<td>3.33</td>
<td>3.30</td>
</tr>
<tr>
<td>R18</td>
<td>Student services (housing, personal counselling, academic advising)</td>
<td>2.82</td>
<td>3.03</td>
<td>3.55</td>
<td>3.21</td>
</tr>
<tr>
<td>R15</td>
<td>Rules and regulations governing student behaviour</td>
<td>3.00</td>
<td>3.06</td>
<td>3.36</td>
<td>3.20</td>
</tr>
<tr>
<td>R11</td>
<td>First-year programs</td>
<td>2.55</td>
<td>3.03</td>
<td>3.67</td>
<td>3.19</td>
</tr>
<tr>
<td>R16</td>
<td>Social activities programs</td>
<td>2.95</td>
<td>3.13</td>
<td>3.36</td>
<td>3.17</td>
</tr>
<tr>
<td>R17</td>
<td>Social skills course/program</td>
<td>3.00</td>
<td>3.13</td>
<td>3.18</td>
<td>3.12</td>
</tr>
</tbody>
</table>

Range: 3.26-4.00 - Major Contribution; 2.51-3.25- Moderate Contribution; 1.76-2.50- Little Contribution; 1.00-1.75- No Contribution.

Facult and administration perceptions

With reference to the perceptions of faculty and administration, the high-rated retention factors have to do with curriculum review and revision practices, faculty development programs, and the availability of academic support services as contributions to the retention of BS Agriculture students towards degree completion. It should be noted here that there is conformity between the way that students and members of the faculty and administration view these factors as contributing to
institutional retention. The lowest perception ratings for students were the availability of student services in a form of personal/academic counselling/advising, and financial aid services have something to do with the way that faculty and administration perceived the availability of early-alert and intervention programs and the tutoring/mentoring program as the lowest among the retention factors provided in the questionnaire.

Issues related to course availability, content, and instruction affect a student’s ability to persist; hence, institutional programs and services should have support mechanisms such as tutoring, mentoring, and career counselling to have positive effect on the student retention (Swail, 2004). The significance of taking into account institutional factors equally with student-related factors and social/external factors is to underscore the importance of campus participation and knowledge in students’ social and academic development. It is in fact the college that forms the foundation for college success. It is the institution that can identify and match the needs of individual students, a student cohort group, or the student body as a whole (Swail, 2004).

Faculty and administration made reference to students needing to “learn the system” with respect to being successful college students. Learning the system occurs on several levels. A successful student learns how to navigate university and campus life including locating and utilizing campus support programs. A successful student must learn productive study and work habits. Likewise, a successful student must come to comprehend the way learning takes place within agriculture. This includes adapting to or being naturally inclined toward traditional pedagogical methods, and being comfortable with the expectation that a large part of their learning occurs outside the classroom where they experience actual wading through mud and exposure to sunlight.

Faculty members, and especially academic advisers were clear that students “must undergo an orientation” during the registration process. Faculty members in the study approved the idea of Pino, 2005 and Leach and Zepke, 2009 seeing it as the responsibility of the student to figure things out on their own or with the help of their peers. If students have figured out the system of the degree program, have formed productive peer relationships in the form of study groups and/or mentors, and have strong intrinsic motivation and goal-commitment, the challenges of the curriculum can be overcome and they are successfully retained. The good students figure it out, but some change majors or leave the university. Furthermore, where the students’ cultural practices are deemed inappropriate, incongruent with that of the institution (Pino, 2005), deficient, or invalided (Leach and Zepke, 2009), students are more likely to experience acculturative stress (Leach and Zepke, 2009) and to leave. Acculturative stress happens when students experience psychological stress resulting from imposing other culture (that is, institutional practices) to them.

Hence, as the integration model suggests, in order to succeed, college students should abandon their cultural background (i.e., student personal and academic interest) and adapt to the institutional culture (Tinto, 1975, 1993; Vallerand and Menard, 2000).

**Relationship between persistence and retention**

The analysis indicates a linear relationship among the weighted means of the given variables. The degree of correlation of retention with overall and individual persistence factors including student, institution, and classroom-related ones, ranges from substantial to very high, as reflected by r values indicated in Table 4.

Overall, there is a very high positive relationship between institution-related factors and retention of BS Agriculture students ($r = 0.786$), a substantial relationship between classroom-related factors and retention ($r = 0.684$), and a moderate relationship between student-related factors and retention of BS Agriculture students ($r = 0.480$).

This indicates that students’ persistence in completing their degree changes (either increases or decreases) with the level of institution’s retention practices. BS Agriculture students who find their personal attributes, institution and classroom experiences relevant and meaningful to their chosen degree, and realize that these persistence factors are being supported by the institution’s way of implementing the student retention practices in providing better education, much more likely to develop definite aspirations towards completing the four-year bachelor’s degree in the same institution.

This adds to the substantial evidence of Kulik and Schwab (1983 in Lau, 2003) that, when students participate in the services and programs designed to enhance their success, they are more likely to persist and remain in the same institution. Similarly, the stronger the goal and institutional commitment, the more likely that the student will graduate (Tinto, 1993 in Tinto, 2002).

However, it has to be noted that the relationship is low between retention and academic performance. This affirms how students’ retention is related to or influenced by factors other than the hope of getting a better grade from the institution. This further supports the perception of BS Agriculture students regarding issues on faculty traits concerning fair and unbiased treatment to students inside and outside the classroom.

The results of analysis of the differences in persistence and retention across accreditation levels revealed slight variations in the perception rating of students in some statements related to physical fitness, academic performance, and knowledge about career opportunities. Nonetheless, there seem similarities in most of the statements concerning personal and academic disposition. Financial support plays an important role in bringing students to college and in retaining them; and
faculty and administration perceived the effectiveness of their institution’s scholarship program in helping students to find financial assistance to offset the costs of their education. But still, BS Agriculture students—particularly low-income students—find it increasingly difficult to afford their college education and they see it as one of the major barriers towards degree completion.

Additional similarities have been depicted in most of the perception rating towards classroom-related factors, although the effect of institution-related factors appear different across the accreditation levels of the selected State Universities in Region IV-A, Philippines. This signifies how accreditation level plays a crucial role in the student’s perception of the institution-related factors that contribute to their persistence towards degree completion. Degree accreditation level indicates how institutional processes, academic and co-curricular procedures are structured and implemented enough so as to achieve educational objectives. This was attested by the results on the factors that support retention of BS Agriculture students across accreditation levels based on the perceptions of students along with the faculty and administration. The higher the level of degree accreditation of an institution (that is, CvSU), the higher is its evaluation rating in terms of the way students perceive and experience upon staying in their institution. While the opposite is true for LSPU and SLSU, in that the lower the level of degree accreditation status, the more it needs to focus on addressing institutional issues, programs, curricular offering, services and practices to be able to support/enhance persistence and retention of BS Agriculture students towards degree completion.

However, the conclusions should not suggest that reenrolment or retention alone should be the goal of an institution for its students. For if retention alone becomes the goal, institutions will find themselves engaged in trying to hold students at all costs. Pressuring students to stay when it is not in their best interests to do so is not only wrong morally but also counterproductive; it often results in an accelerated attrition rate (Noel in Braxton, 2009).

Instead, as Noel argued, "The more students learn, the more they sense they are finding and developing a talent, the more likely they are to persist; and when we get student success, satisfaction, and learning together, persistence is the outcome' (P. 1).

RECOMMENDATIONS

Students who persist beyond their sophomore years are often highly motivated individuals with the ability to adapt to the challenging system of the degree program. For agriculture students, all possible effort should be made to support those who have found the right choice in an agriculture field. State Universities have the opportunity to make positive changes in persistence and retention of these special populations of agriculture students. Several areas point toward the potential to make an impact. The following section presents some of the suggested policies for improving the institutional programs, curricular offerings, services and practices of the selected State Universities in Region IV-A, Philippines:

Combining academic and non-academic factors

Integrating academic and non-academic information enables colleges to design and implement courses and programs that address both types of needs. Such programs may include first-year orientation programs, academic advising and tutorials, workshops in study skills, time management skills, critical thinking, planning, assertiveness training, library use, and cultural awareness. These programs should aim to increase levels of academic self-confidence, achievement motivation, goal and institutional commitment, and social

Table 4. Correlation coefficients between retention and persistence factors.

<table>
<thead>
<tr>
<th>Variables</th>
<th>SLSU</th>
<th>LSPU</th>
<th>CvSU</th>
<th>OVERALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student-Related Factors</td>
<td>0.633</td>
<td>0.577</td>
<td>0.168</td>
<td>0.480</td>
</tr>
<tr>
<td>Institution-Related Factors</td>
<td>0.742</td>
<td>0.666</td>
<td>0.883</td>
<td>0.786</td>
</tr>
<tr>
<td>Classroom-Related Factors</td>
<td>0.675</td>
<td>0.448</td>
<td>0.676</td>
<td>0.684</td>
</tr>
<tr>
<td>Overall Persistence</td>
<td>0.749</td>
<td>0.607</td>
<td>0.829</td>
<td>0.765</td>
</tr>
<tr>
<td>Academic Performance</td>
<td>-0.228</td>
<td>0.268</td>
<td>0.155</td>
<td>-0.094</td>
</tr>
</tbody>
</table>

r value: 1.0- Perfect; 0.70 to 0.99- Very High; 0.50 to 0.69- Substantial; 0.30 to 0.49- Moderate; 0.10 to 0.29 Low; 0.01 to 0.09- Negligible.

Conclusions

The results of this study suggest that, as indicated by the responses of the students as well as the faculty and administrators interviewed, the selected State Universities in the Philippines have not gone far enough to ensure that BS Agriculture students are supported in an effective manner. The junior and senior university officials need to more directly support this curricular program so that Agriculture serves as these agricultural state universities’ major thrust.
involvement and support. These programs should strengthen ties between faculty and students and between students and their peers, through the creation of a socially inclusive and supportive academic environment; a campus environment characterized by fairness toward students.

Intentional institutional interventions

State Universities can use various types of academic and non-academic information to develop and design their retention programs. Non-academic information may be derived from formal college surveys such as Your First College Year Survey questionnaire, first-year college experience orientation programs, and college student inventories and profiles. Academic and non-academic information enables State Universities to develop and maintain a comprehensive student profile that can serve as both a performance indicator and a way to identify potential dropouts. This information alerts institutions to students who may have potential difficulties and enables them to direct these students into retention programs before their risk of dropping out increases.

Evaluation of early-alert and intervention programs

The economic impact of college retention programs should be determined through a cost-benefit analysis of student dropout, persistence, assessment procedures, and intervention strategies to enable informed decision-making with respect to types of interventions required academic and non-academic, including remediation and financial support. To make informed decisions, State Universities need to assess the costs of student dropout and time to degree completion with the benefits of improved student retention and graduation rates to determine the cost effectiveness of retention strategies, assessment procedures, and interventions-including remediation and financial support. Additionally, resource availability and allocation must be assessed with respect to the costs of program provision and the benefits accrued from improved college graduation rates.

Evaluation of student programs and services

As a means of empowering agriculture students, develop a way of gathering student feedback on programs on a yearly basis. This could be accomplished through exit interviews with seniors and open-ended anonymous surveys that offer a way to gather in-depth information from students for program improvement. Until faculty and administration listen to and recognize student concerns, change will not occur.

However, to bring about change, requires leadership from industry, from educational providers and from government, and the need to improve agricultural productivity and competitiveness must be the driver for this change. There is a need to see the efforts of the following stakeholders:

Agricultural industry leaders

The industry marketing itself positively, promoting not only its future importance to the country’s food supply and environmental stewardship, but also its requirement for highly motivated people with high levels of skill at all levels.

Education sector leaders

State Universities and Colleges working in close coordination with the industry to develop and promote courses that will be relevant in this new and challenging era of the global marketplace and emphasizing the importance of land-use to food and energy supplies. This should be aimed not only at young people, but also at providing training opportunities for those in work.

Policy makers

Government providing the necessary impetus and incentives for educational institutions to follow this path. Most importantly, the government’s programs for providing more jobs/items that are related to the studies of those students who successfully graduated the degree in agriculture. Such jobs are not necessarily being a farm worker to promote agricultural sector as a competitive career destination of young people. It is by this way that the government will be responsive enough to the importance of attracting and training the next generation of farmers and employees in the agricultural industry. Workers who are progressive, entrepreneurial and have outstanding business management skills crucial to the economic growth of the country. Student in the program and workforce in agriculture is an issue which has global implications in a world that is becoming smaller due to advances in technology and communications. Insights into reasons for the continued lack of representation are paramount to changing the landscape of the agriculture workforce.

This study has helped to illuminate ways in which students are supported and challenged in their academic pursuits in BS Agriculture program. Many of the issues that surfaced in the study support much of what has been written in the literature related to students in the selected State Universities’ BS Agriculture programs. Where the study offers its most significant contributions is in contextualizing the findings to the institutions under study.
and offering data on which to base programmatic improvements. This study has implications for not only educational processes during the course or in particular to the university but also the marketing of agriculture all over the country, and the targeting of that marketing effort.

The opportunity to enrol in a college level and the ability to complete educational objectives (e.g., occupational training, certificate or degree attainment) should define college access and success. Only a concerted effort by policy-makers, educational providers and other interested stakeholders can lead to equity and excellence in college education. By improving students’ awareness and academic preparation, changing college finance structures and enhancing institutional responsibility, the nation can extend this vital opportunity to a larger, more diverse population of agricultural practitioners.

Conflict of Interest

The authors have not declared any conflict of interest.

REFERENCES


