### **Jesuit Higher Education: A Journal**

Volume 2 | Number 2

Article 5

1-1-2013

### How it Came to Be...Integrating Ignatian Philosophy and Pedagogical Paradigm into Marquette University's Pre-Licensure Nursing Curriculum

Kerry Kosmoski-Goepfert

Associate Dean, College of Nursing, Marquette University, kerry.goepfert@mu.edu

Margaret Callahan

Interim Provost and Dean of the College of Nursing, Marquette University, margaret.callahan@mu.edu

Stephanie Russell

Vice President for Mission and Ministry, Marquette University, stephanie.russell@mu.ed

Follow this and additional works at: https://epublications.regis.edu/jhe

#### **Recommended Citation**

Kosmoski-Goepfert, Kerry; Callahan, Margaret; and Russell, Stephanie (2013) "How it Came to Be...Integrating Ignatian Philosophy and Pedagogical Paradigm into Marquette University's Pre-Licensure Nursing Curriculum," *Jesuit Higher Education: A Journal*: Vol. 2: No. 2, Article 5. Available at: https://epublications.regis.edu/jhe/vol2/iss2/5

This Praxis is brought to you for free and open access by the Scholarly and Peer-Reviewed Journals at ePublications at Regis University. It has been accepted for inclusion in Jesuit Higher Education: A Journal by an authorized administrator of ePublications at Regis University. For more information, please contact epublications@regis.edu.

## How It Came to Be: Integrating Ignatian Philosophy and Pedagogical Paradigm into Marquette University's Pre-Licensure Nursing Curriculum

Kerry Kosmoski-Goepfert
Associate Dean, College of Nursing
Marquette University
(kerry.goepfert@mu.edu)

Margaret Callahan
Interim Provost and Dean of the College of Nursing
Marquette University
(margaret.callahan@mu.edu)

Stephanie Russell
Vice President for Mission and Ministry
Marquette University
(stephanie.russell@mu.edu)

#### **Abstract**

This article describes the process that Marquette University's College of Nursing used to revise its prelicensure nursing curriculum. More specifically, it explains how faculty discussions, with the Vice President of Mission & Ministry and a faculty member from the Department of Theology, which is centered on the philosophy of St. Ignatius of Loyola, and faculty participation in the Marquette Colleagues Program helped ameliorate the curricular change. The article also addresses how faculty selected the Ignatian Pedagogical Model as the framework for the revised curriculum; and the development of faculty and students for an enhanced understanding and application of Ignatian philosophy, spirituality and the IPP in the classroom and their daily life.

## The Impetus to Change Marquette's Prelicensure Nursing Curriculum

In fall 2012 Marquette University College of Nursing began the implementation of a revised pre-licensure nursing curriculum. The revised curriculum will be "rolled out" on an annual basis with the entire four year curriculum running in total by spring 2016. The current freshmen will be the first class to experience the revised curriculum in its entirety. Over the past five years driving forces for this curricular revision included: feedback the college received from nurse executives and other administrative leaders in the health care community; the American Association of Colleges of Nursing Baccalaureate Essentials<sup>1</sup>, Quality and Safety Education for Nurses

(QSEN)<sup>2</sup>, the Institute of Medicine (IOM) Report<sup>3</sup>, and the Carnegie National Nursing Education Study and subsequent publication Educating Nurses: A Call for Radical Transformation.<sup>4</sup>

At the local level, another factor that drove the change was the Marquette University College of Nursing student body. The college's students are highly intelligent, compassionate, service-oriented individuals who are "men and women for others"<sup>5</sup>. Despite this, they could not clearly or consistently articulate how their Marquette education made them different from students who attended other nursing schools. Faculty believe that there is a measureable difference between a student educated in the Jesuit tradition, specifically at Marquette, and students educated elsewhere.

Because of this belief they wanted to better understand why students could not articulate the difference. This concern weighed heavily on the faculty as the pre-licensure curricular revision discussions ensued.

## Faculty Development: Using Jesuit Philosophy to Ameliorate Change

Resistance is a component of any major change initiative. To facilitate change, a mechanism needs to be found that will help those involved in the change to reduce their resistance to that change. Marquette's College of Nursing faculty held very disparate views on the need for and pathway to change in the pre-licensure curriculum. The conversations among faculty were difficult and at times fueled with raw personal emotions based on lived experiences. To help faculty deal with these tough conversations and to gain insight into their own and their colleagues' responses to the change initiative, the college's Dean, made two important decisions. First, she invited Marquette's Vice President for Mission and Ministry, and a faculty member from the Department of Theology who is a Roman Catholic priest, to hold discussions with the nursing faculty at-large which centered on the philosophy of St. Ignatius of Loyola, the sixteenth century mystic who founded, among other things, what is now an international network of "Jesuit" colleges and universities. During these conversations, faculty also discussed what it meant for the college to identify itself as Catholic and Jesuit, and helped faculty sort out the differences between "Catholic" in the ecclesial or doctrinal sense and "catholic" in terms of a universal world view.

Secondly, the dean asked several key college change agents, members of the Undergraduate Program and Curriculum Committee (UPCC), and the undergraduate course coordinators who represented the curriculum's specialty areas (i.e., health care systems leadership; and medical-surgical, maternal-child, mental health, pediatric, community and gerontologic nursing) to participate in conversations about St. Ignatius via

the Marquette's Colleagues Program (MCP). The MCP is a semester-long formation program, directed by the Office of Mission and Ministry which is modeled after the nationally sponsored Ignatian Colleagues Program, an eighteen month formation program offered to invited Jesuit university administrators and staff.

Based on a pedagogy that reflects the building blocks of Ignatian spirituality and education, the MCP provides information about the life of St. Ignatius Loyola and a deep understanding of what he challenges those of us in Jesuit universities to do.6 Faculty learned the skills necessary to embed Ignatian spirituality<sup>7</sup> and pedagogy<sup>8</sup> into the work of the college, and devoted an extended discussion to the integration of reflective practices into nursing education. Additionally, each year at a retreat hosted by the Office of Mission and Ministry, members of the MCP are invited to continue the conversation on the life and Spiritual Exercises of St. Ignatius, and their implications for the classroom. This learning truly has helped faculty ask the important questions as they continue to move forward with the pre-licensure curricular changes.

## College Mission and Vision Statements Revised

Although the faculty began in earnest to re-design the pre-licensure curriculum in 2007 with workshops that engaged faculty in identifying the "sacred cows" in the pre-licensure curriculum and visioning what a revised curriculum could look like, it wasn't until 2008, with the arrival of a new Dean to the Marquette College of Nursing, that faculty were given the tools and structure with which to move the change forward. Instrumental to the change was administrative support that allowed faculty time to participate in college-based discussions and the Marquette Colleague's Program as described above. Concurrent with these development activities the faculty created new college Mission and Vision statements that were reflective of an Ignatian philosophy and a Catholic Jesuit education.

#### Marquette University College of Nursing Mission Statement

Through a transformational Catholic, Jesuit education, Marquette University College of Nursing prepares nurse leaders to promote health, healing and social justice for all people through clinical practice and development of nursing knowledge.

#### Marquette University College of Nursing Vision Statement

The Marquette College of Nursing will be a premier program that prepares an increasingly diverse community of clinicians, leaders, educators and researchers who transform health care and will be the College of choice for those who are committed to:

- Providing high quality, compassionate care focused on individuals, families and communities
- Advocating for social justice to eliminate health inequities
- Engaging community partners to promote health care for all
- Generating, evaluating and applying knowledge to improve health and education outcomes
- Creating a dynamic, innovative learning community
- Leading change to improve the health care environment

The College strategic plan and several priorities related to curricular change were developed. The most important priority that drove the prelicensure curricular change was Strategic Priority #1: Create a dynamic learning environment that supports the transformation of nursing education and positions the college to be the choice of exceptional students, faculty and researchers. Finally, in 2009 a curriculum revision task force was appointed with the following goals:

- 1. Develop a conceptual framework for the prelicensure curriculum that furthers the mission and vision of the College of Nursing.
- 2. Identify freshman, sophomore, junior and senior level outcome competencies and relate the competencies to levels in the Direct Entry Master of Science in Nursing program.
- 3. Identify theoretical, conceptual and practice concepts that facilitate students to achieve the academic year outcome competencies.
- 4. Propose an innovative curriculum plan that is of high quality and is cost efficient that incorporates the identified theoretical, conceptual, and practice concepts and meets the AACN Baccalaureate Essentials (2008).

# The Turning Point: Selection of the Ignatian Pedagogical Model as the Framework for the Revised Curriculum

Initially members of the curriculum revision task force had in-depth discussions about the philosophy or model that would drive the formation of the revised curriculum. Because faculty could not settle on one philosophy or model to serve as the basis for the revised

curriculum they chose to be guided by the philosophy of St. Ignatius of Loyola and the nursing process. They also chose to integrate various nurse theorists into courses as appropriate. The first product of the group was a new logo for the revised pre-licensure curriculum that reflected Ignatian principles (see figure 1).

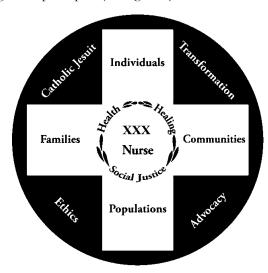


Figure 1

In the summer of 2012 a workshop was held with the course coordinators of the pre-licensure curriculum who needed to revise their courses based on the work of the curriculum revision task force. At the workshop the college's new Mission and Vision statements and pre-licensure curriculum logo and program plan were reviewed, faculty were re-grounded in Ignatian pedagogy and its ties to Jesuit education; revised course objectives, proposed course content outlines, and curricular threads were discussed (community,

mental health, gerontology, multiculturalism, and leadership); and simulation learning as value added was further explored.

After a discussion on how Ignatian pedagogy would be incorporated into each of the two new freshmen nursing classes, and while faculty were talking about the philosophy of St. Ignatius and the Jesuit tradition of Ignatian Pedagogy, "...a process by which teachers accompany learners in the lifelong pursuit of competence, conscience, and compassionate commitment,"9 the faculty had a huge revelation. They unanimously voiced that it was the philosophy of St. Ignatius that should drive the curriculum, as they felt the Ignatian Pedagogical Paradigm (IPP)<sup>10</sup> a cyclic educational approach that sequentially addresses (1) context, (2) experience, (3) reflection, (4) action and (5) evaluation closely mirrored the steps of the cyclic nursing process (1) assessment, (2) plan, (3) intervention and (4) evaluation.

Faculty voiced that they were living the educational philosophy of St. Ignatius without ever naming it. In the assessment phase of the nursing process nurses meet patients where they are at and take into account the patients' and their own lived experiences (context and experience) as they plan for interventions to help patients strive for a better level of health. After a plan is made, nurses intervene with patients (action) and then evaluate and reflect on the outcome of the intervention. This leads to a re-assessment of the patient and a new plan as the cycle continues.

As a result, the undergraduate course coordinators came to consensus that they would intentionally thread the philosophy of St. Ignatius into the revised undergraduate courses at each level of the curriculum. They also decided that they would intentionally and consistently frame coursework/assignments using the Ignatian Pedagogical Paradigm (IPP) terminology of context, experience, reflection, action and evaluation.<sup>11</sup>

## The Work Continues: Ongoing Faculty Development

In the fall of 2012, the UPCC held a workshop for all full-time faculty at the college. The purpose was to inform all faculty of the undergraduate

course coordinators' progress on the revised curriculum and to further the conversation about the IPP and how to practically apply it in nursing courses. The invited speakers were the university's Vice President for Mission and Ministry and a College of Professional Studies faculty member who worked with her colleagues to embed the Ignatian Pedagogical Paradigm (IPP) into the curriculum of four core courses in her college. The speakers talked respectively about St. Ignatius, Jesuit Education and practical ways to infuse the IPP into coursework. Faculty were actively engaged and asked for more information/workshops on the practical application of Ignatian pedagogy into the revised pre-licensure curriculum. As the revised curriculum is further developed and implemented, the college plans to host workshops on the IPP at least annually.

## The Work Continues: Ongoing Student Development

In addition to learning about and applying Ignatian philosophy and spirituality and the IPP in the classroom, students will be required to attend annual retreats based on the Spiritual Exercises which will help them view the world and their development as professional nurses through an Ignatian lens. These retreats will be progressive, building on the previous year's theme or topic, and will be rooted in the principles of college student development theory. During the freshman year, students will focus on personal identity and responsibility as an adult and their relationship with God. The sophomore retreat will facilitate students to re-imagine who they can be as they grow in their ability to reflect on experiences. At the junior retreat, students will learn to begin to deal with the gap between privilege and poverty. Finally, at the senior retreat students will learn to put the pieces of their life and vocation together as they use reflective learning in their daily lives.

## The Work Continues: Implementation and Evaluation of the Revised Curriculum

Curriculum revision will take place over the next four years with continuous monitoring of its process and outcome as courses at each level of the curriculum are developed and implemented. Implementation of the revised pre-licensure curriculum is being facilitated by the Associate Dean for Undergraduate Programs and the UPCC. The Associate Dean for Undergraduate Programs meets with all course coordinators individually prior to and during course development, to facilitate the incorporation of the IPP and required baccalaureate content, as identified by the curriculum revision task force, in the course design and syllabi of revised courses. At these meetings each course coordinator gains a better understanding of the content of the courses that came before their course. In addition, s/he learns how these courses implemented the IPP. The course coordinator also shares information on how s/he plans to integrate contextual, experiential, reflective, action-oriented and evaluative activities in their revised course. Once the proposed courses are completed they are reviewed by the UPCC as an additional check for inclusion of required course content and IPP principles.

To further facilitate the building of the revised curriculum courses in a cohesive and meaningful manner, course coordinators from all theory and clinical courses are meeting to "content map" the IPP and the required curricular concepts across the entire curriculum. To assist in this endeavor, two types of work groups have been formed. The first consists of course coordinators grouped along content specialty areas (mental health, maternal-child, pediatric, community, and medical-surgical nursing). These specialty course coordinators are meeting across and between levels of the curriculum to content map IPP and required curricular concepts along their specialty lines. The second work group consists of the clinical course coordinators. These coordinators have already identified the simulations that will be incorporated into each of their clinical courses. They are currently meeting as a "group of the whole" to discuss how the curricular threads (community, mental health, gerontology, multiculturalism, and leadership) are incorporated in a logical and meaningful manner across the simulations. They are also developing a content map for the simulation scenarios and incorporating the terminology and IPP in these scenarios.

UPCC will evaluate the revised curriculum courses for both content and incorporation of IPP principles at the end of the semester the course is taught as well as at the end of each academic year. The goal of this ongoing evaluation process is continuous quality improvement. Faculty want to be certain that courses taught at each level of the curriculum build upon each other in a meaningful way with respect to required content and inclusion of the IPP.

A separate working group was formed to develop a process that could best measure the change in our nursing students over time as a result of their Jesuit education in the revised curriculum. This group is composed of the College's Dean, the Associate Dean for Undergraduate Nursing Programs, an Assistant Professor from the College of Nursing, Marquette's Vice President for Mission and Ministry, Marquette's Associate Vice President who is a Jesuit and serves in the Office of the Executive Vice President, a faculty member from the College of Professional Studies who has facilitated the integration of IPP into four of that college's courses and two freshmen nursing students who are in the first class to experience the revised curriculum.

Recently a survey was used to collect baseline data from a convenience sample of 25 senior nursing students on their definition of spirituality; how they, as student nurses, provide spiritual care to the patients; and about how they talk with patients about their spiritual needs and beliefs. The same survey will be given to a convenience sample of freshmen nursing students. The result of the senior nursing surveys supports that students had difficulty defining spirituality, stating how nurses provide spiritual care, and talking to patients about their religious beliefs and needs. It is the hope of this paper's authors that there will be a change in responses to the questions over time, as a consequence of Ignatian philosophy and IPP being intentionally woven into their coursework in the revised curriculum.

#### Implementation of Revised Nursing Courses

In fall 2012, the revised curriculum courses were implemented at the freshman level; subsequent revised courses will be rolled out each year thereafter for sophomore through senior students.

In the fall semester freshman students took NURS 1001: Nursing & Health in the Jesuit Tradition, where they learned about the philosophy of St. Ignatius and how it is the foundation for Ignatian and Jesuit pedagogy. They learned about the IPP and applied its constructs in course discussions, exercises, and assignments. In this course students also began to explore their understanding of nursing as a "calling" and a profession, the essence of nursing: knowledge and caring; spirituality and servant leadership. They also explored the concepts of health and wellness, health disparities, patient centered care and cultural competency.

From a contextual standpoint students were encouraged to share their lived experiences as they related to course content. Some questions that were explored included:

- What life experiences led you to a career in nursing?
- What is a nurse from your perspective?
- What is a Marquette nurse?
- What role does spirituality/religion play in becoming such a nurse?

From an experiential perspective students focused on how their lived experiences affected their values, beliefs, and understanding of course content. Students identified personal values and beliefs and through experiential exercises and discussion recognized the impact of race and socioeconomic status on health and wellness. They also explored the concept of servant leadership and how they were servant leaders. Reflection was integrated into the course through in-class group discussions and weekly reflective journaling. These weekly journal entries were incorporated into a summative reflection paper. The goal of these reflective activities was to facilitate students to understand how their personal experiences will shape them into Marquette nurses educated in the Jesuit tradition. Students were facilitated to move beyond knowledge to action as they participated in a "dashboard" survey of one of the neighborhoods within which Marquette University is located, and a health promotion project based on the information students collected on their walking tours of these neighborhoods. Students were also

introduced to health statistics of the neighborhoods published in various documents that they needed to retrieve from the library. They could retrieve the data either before or after their walking tours so it could direct or substantiate their observations during their neighborhood assessments. From data collected, the students identified potential health issues within their assigned neighborhoods and then generated a health promotion project for that neighborhood based on their findings and published statistics. Students addressed the concepts of the IPP throughout this assignment. Evaluative course components included class participation, a reflection paper, and a mid-term and final exam.

Student evaluations of their first nursing course were highly positive. One student in particular stated that he and his friends found the seminar on "Incorporating Ignatian Philosophy into Nursing" motivating and that it put a lot of things in perspective for the students.

Currently students are enrolled in their second nursing course of the revised curriculum - NURS 1002: Nursing in the Jesuit Tradition & Ignatian Pedagogy. From a contextual standpoint students are encouraged to share their lived experiences based on course content. Some questions that are to be explored include:

- What is your understanding of nursing at this time?
- What outside forces are shaping who you are today?
- What is spirituality to self and to others?
- What is caring?
- How do we develop a community of caring?

From an experiential perspective students will focus on ethical care and caring communication and communication that helps build healthy relationships and cultures. Reflection will be infused via weekly journaling and in-class discussions and assignments as well as further discussion of the IPP with respect to the constructs of context, experience, action, reflection and an introduction to Praying the Examen.<sup>12</sup> Students will also interview a practicing nurse to help them better understand

nursing as a profession. Students will be facilitated to move beyond knowledge to action via participation in simulation exercises and case studies that focus on therapeutic communication and ethical decision making. They will also participate in a reflective activity that will force them to look at a topic from 6 different viewpoints. Finally, evaluative class components not only include didactic midterm and final exams but an ethical presentation, nurse interview paper and therapeutic communication simulated exercise with challenging client/patients (depressed student/peer, slightly confused elderly) with a reflective critique.

#### Conclusion

It is the hope of Marquette administrators and faculty that by intentionally infusing the philosophy of St. Ignatius and the IPP into the pre-licensure curriculum and incorporating the Spiritual Exercises into students' personal and professional development, that Marquette Nursing students will clearly and consistently articulate how their Jesuit education has transformed them into excellent practitioners and men or women for others!

#### Notes

- <sup>1</sup> American Association of Colleges of Nursing, "The Essentials of Baccalaureate Education for Professional Nursing Practice," October 2008, http://www.aacn.nche.edu/education-resources/BaccEssentials08.pdf.
- <sup>2</sup> Linda Cronenwett, Gwen Sherwood, Jane Barnsteiner, Joanne Disch, Jane Johnson, Pamelia Mitchell, Dori Sullivan, and Judith Warren, "Quality and Safety Education for Nurses," *Nursing Outlook*: 55, no. 3 (2007): 117-162.
- <sup>3</sup> Christine Gorman and Rona Briene, "The Future of Nursing: Leading Change, Advancing Health" (Report presented to executive board of the Institute of Medicine in collaboration with the Robert Wood Johnson Foundation, Washington, D.C., October 2010).
- <sup>4</sup> Patricia Benner, Lisa Day, Victoria Leonard, and Molly Sutphen, *Educating Nurses: A Call for Radical Transformation* (San Francisco, CA: Jossey-Bass, 2009).
- <sup>5</sup> The phrase, "men [and women] for others" derives from an address delivered in Valencia, Spain by Jesuit Superior General Pedro Arrupe, S.J., who enjoined the graduates of

Jesuit colleges and universities to put their knowledge and skills to use on behalf of the poor. Pedro Arrupe, S.J., "Men and Women for Others," *Men for Others*, 1973, <a href="http://onlineministries.creighton.edu/CollaborativeMinistry/men-for-others.html">http://onlineministries.creighton.edu/CollaborativeMinistry/men-for-others.html</a>.

- <sup>6</sup> Adolfo Nicolas S.J., "Depth, Universality, and Learned Ministry: Challenges to Jesuit Higher Education Today," Association of Jesuit Colleges and Universities, 2010: 6-9, <a href="http://www.ajcunet.edu/ajcunet/files/ccLibraryFiles/Filename/000000000595/NicolasSJ.pdf">http://www.ajcunet.edu/ajcunet/files/ccLibraryFiles/Filename/000000000595/NicolasSJ.pdf</a>.
- <sup>7</sup> David L. Fleming, S.J., What is Ignatian Spirituality? (Chicago: Loyola Press, 2008).
- <sup>8</sup> International Commission of the Apostolate of Jesuit Education (ICAJE), "Ignatian Pedagogy: A Practical Approach" (Rome: International Center for Jesuit Education, 1993), i, accessed January 17, 2013, <a href="http://www.rockhurst.edu/media/filer\_private/uploads/ignatian\_pedagogy\_a\_practical\_approach.pdf">http://www.rockhurst.edu/media/filer\_private/uploads/ignatian\_pedagogy\_a\_practical\_approach.pdf</a>.
- <sup>9</sup> Peter-Hans Kolvenbach, S.J., "Jesuit Education and Ignatian Pedagogy," September 2005, http://business.fordham.edu/faculty\_resources/documents/ Jesuit-Education-and-Ignatian-Pedagogy.pdf.
- 10 ICAJE, "Ignatian Pedagogy."
- 11 Ibid.
- <sup>12</sup> Loyola Press, "How Can I Pray? Try the Daily Examen," 2013, http://www.loyolapress.com/how-can-i-pray-try-the-daily-examen.htm.

#### **Bibliography**

- American Association of Colleges of Nursing. "The Essentials of Baccalaureate Education for Professional Nursing Practice." October 2008. http://www.aacn.nche.edu/education-resources/BaccEssentials08.pdf.
- Arrupe, Pedro, S.J. "Men and Women for Others." Men for Others. 1973. <a href="http://onlineministries.creighton.edu/CollaborativeMinistry/men-for-others.html">http://onlineministries.creighton.edu/CollaborativeMinistry/men-for-others.html</a>.
- Benner, Patricia, Lisa Day, Victoria Leonard, and Molly Sutphen. *Educating Nurses: A Call for Radical Transformation*. San Francisco, CA: Jossey-Bass, 2009.
- Cronenwett, Linda, Gwen Sherwood, Jane Barnsteiner, Joanne Disch, Jane Johnson, Pamelia Mitchell, Dori Sullivan, and Judith Warren. "Quality and Safety Education for Nurses." *Nursing Outlook* 55, no. 3 (2007): 117-162.
- Fleming, David L., S.J. What is Ignatian Spirituality? Chicago: Loyola Press, 2008.

- Gorman, Christine and Rona Briene. "The Future of Nursing: Leading Change, Advancing Health." Report presented to executive board of the Institute of Medicine in collaboration with the Robert Wood Johnson Foundation. Washington, D.C., October 2010.
- International Commission of the Apostolate of Jesuit Education. "Ignatian Pedagogy: A Practical Approach." Rome: International Center for Jesuit Education, 1993. Accessed January 17, 2013. http://www.rockhurst.edu/media/filer\_private/uploads/ignatian\_pedagogy\_a\_practical\_approach.pdf.
- Kolvenbach, Peter-Hans, S.J. "Jesuit Education and Ignatian Pedagogy." September 2005. http://business.fordham.edu/faculty\_resources/docume\_nts/Jesuit-Education-and-Ignatian-Pedagogy.pdf.
- Loyola Press. "How Can I Pray? Try the Daily Examen." 2013. http://www.loyolapress.com/how-can-i-pray-try-the-daily-examen.htm.
- Nicolas, Adolfo, S.J. "Depth, Universality, and Learned Ministry: Challenges to Jesuit Higher Education Today." Association of Jesuit Colleges and Universities, 2010: 6-9. http://www.ajcunet.edu/ajcunet/files/ccLibraryFiles/Filename/0000000000595/NicolasSJ.pdf.