



## Tradition: A call for innovation

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### I. Thanks

I'm delighted to have a chance to share some of my reflections on how innovation is embedded in Jesuit education— and where Jesuit education *should* go – in the 21<sup>st</sup> century.

### II. Innovation: A Polarizing Buzzword

Ultimately, what we're talking about when we ask the question of where we should be going, we are speaking about *innovation*. Innovation is a powerful word in our culture these days. We tend to think of it in terms of rapid technological and economic progress. The word "innovation" conjures up thoughts of smartphones that get smaller and faster; computers that get thinner and lighter; drones delivering our packages, and cars driving themselves. A word that is often used in connection with innovation is "disruption," which is a perfect description of how we tend to think about innovation in 2017 – as a force that is changing everything in our lives, all the time.

For some people, innovation is exciting – it's a chance to build a sleeker, faster, more efficient, and possibly more just and peaceful world. For others, innovation is terrifying – it's the wave of the future rushing forward to sweep away everything that is good and useful about the past. If you work in education, then you know how strongly these two camps can hold on to their views. But the thing to notice about both tensions is what they have in common: they tend to think of innovation as inevitable, as something that's going to happen with or without them.

### III. What Innovation Isn't, and What It Is

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In a sense, they are right. Innovation *is* inevitable. But not because it's a **new** force that human beings have unleashed on themselves in the last 10 or 15 years. No, it's inevitable because it's what human beings do – we change. Each individual's life is a process of change and collectively that change shapes our human family. Innovation is just a fancy word for change, and that's one of the great ironies of how we talk about innovation: it's a new word for something as old as humankind itself.

No matter how we feel about innovation, it's important that we keep this truth in mind. If we are enthusiastic innovators who can't wait for the day every student will have her own set of virtual reality goggles, it gives us a dose of humility about just how advanced we are, and it makes us a bit more skeptical about promises of complete revolutions in how things are done. If we are hardcore traditionalists who think the Internet is a great plague leashed on mankind, it encourages us to relax a bit – to remember that change is a natural process, and to ask how we can improve on the things we hold so dear. And remembering that innovation isn't anything new reminds all of us that innovation is not something that happens *to* us. Rather, it's a process that we can build and shape to our needs, and so each of us has a responsibility to reflect critically on where we want to go, how we want to get there, and why.

#### **IV. The Jesuits: A Long History of Innovation**

If you need a good example of innovation at work in human history, then look no further than the Society of Jesus. Our nearly 500-year-old organization is the product of innovation. As many of you know, St. Ignatius spent some time with the Dominicans after his conversion. He thought about joining them – as well as the Franciscans – but they found Ignatius to be a bit too overzealous – a bit too innovative, you might say. Eventually, he started his own order, and it was clear from the start that it was unlike any other. For one thing, Ignatius and his companions bucked tradition by declining to name themselves after their founder, as the Dominicans and Franciscans did. Instead, they called themselves the Society of Jesus – a choice that caused no small amount of grumbling among established order of the times. *Who did these guys think they were?*

The Jesuits were innovative in other ways relative to religious life in their time. Members were not required to say the Divine Office every day; they took a unique oath of obedience to the pope; they had to undergo a uniquely rigorous intellectual and spiritual formation; and they professed a spirituality that advocated for the constant maintenance and adjustment of one's relationship to God through exercises like the Examen.

As you also know, their first order of business was not to found schools, yet the need to form the Society's future required structured schooling and born of their earliest innovation to meet

the need, schools were indeed an innovative insight of Ignatius' principle of a 'greater good'; a 'multiplier effect' to shape our world. All of this original thinking was innovation in its time. As the saying goes, "necessity is the mother of invention."

The *Spiritual Exercises* are our foundation. On the one hand, the *Exercises* are a format for the development of the person in relationship with God. Moving through the four weeks requires change and growth, or one might say, the innovation of the human person. In considering the exercises within the *Exercises*, one is drawn more deeply in relationship with God through innovation when we use the imagination of composition and place, through a deathbed exercise, or through a contemplation to attain God's love. These exercises replete with personal innovation are among only few examples from the structure of the *Spiritual Exercises*. Born of this truth is the underpinning truth found in the title Ignatius used for God: Eternal Lord of All Things. Our work is to help souls **develop** or **innovate** themselves in service to the created world that is a gift of God, but our ultimate graduation from our schooling is heaven – **the goal of our life is to live with God forever**. This truth for ourselves and for our students does not change. But found in the truth for Jesuit education is the requirement for the human person to respond to such love with magnanimity. By innovating our very lives, they can become a mirror reflecting God's deep abiding love for us.

It was only important to begin schools to help live into this truth. It is important to continue our development in schooling for this same truth.

## **V. Jesuit Education: Innovation Within Structure**

The Jesuits' involvement in education deepened so quickly that roughly 40 years after the death of Ignatius, the Society decided that they needed to set forth the core principles they wanted to define the schooling being done in their name. They weren't running away from innovation; rather, they were trying to intentionally guide it to serve their broader mission.

That was the point of the *Ratio Studiorum*, a plan of studies in Latin, Greek, philosophy and theology that provided a structure for Jesuit schools across Europe. It was especially important to standardize the forms of Jesuit education when you consider that in its first 100 years, the Society of Jesus had established almost 450 schools. Planning *was* innovation.

That guiding document served the Society well for more than 200 years, when it was **adapted** to to incorporate native languages, history, geography, mathematics and natural sciences. This was a reflection of how times had changed since the Jesuits first began educating pupils as well as the expanse of their reach. Mankind's understanding of the world, its history, its diversity, its geography, the mathematical laws underlying our reality – all of these had grown considerably

since the Jesuits were founded, and they recognized that their method of pedagogy needed to be updated to meet the needs of the new era. Updated – not reworked entirely.

Our task today is grounded the same tradition of innovation: we must continue to update our pedagogical methods to reflect our new understandings of the world, and to meet the particular conditions of modern life. But as we innovate, we must do so within structures, so that we can stay true to the unchanging principles that make Jesuit education Jesuit: a deep concern for the individual person and their eternal horizon; a desire to find God in all created things; and a sense of responsibility to do something about injustice, as a response of love and solidarity with our fellow human beings, our partners in eternal life.

## **VI. The case for Structured Innovation**

Various forms of Science are helping us to further understand the need for balance between structure and innovation. In 1983, in a book entitled Adolescent Spiritual Development, Jesuit Father Charles Shelton of Loyola University in Chicago provided an essay that looked at the correlation between psychological developmental theory and spirituality. In his book, Fr. Shelton notes that there is coordination between Cognitive theory of Piaget or the Moral Development Stages of Lawrence Kohlberg with the spiritual development of the human person. Where Erikson identified stages of Identity Development, Fr. Shelton, SJ noted the adolescent's ability to grow in the independence of the spiritual life. There were more examples, but the connection of development as human persons to a structure or foundation as a launch pad to innovation in our own development followed some growth pattern. Of all the scientific developmental theories observed in Fr. Shelton's work on growth in the faith life of a person, were theorists whose work moved the human person through stages – from one foundation to the next. The successful growth of the human person, as observed in those theorists work, found it necessary for the human person to create underneath themselves a certain foundation before moving or innovating to the next stage.

Medical science seems to be discovering similar information on brain-based development. In August of 2017, Dr. Shaozheng Qin of Stanford Medical School wrote a paper to help us understand how children's brains develop in the memorization of facts. Dr. Qin's research indicates that young children (age 7) will begin the understanding of counting (show fingers here) with a physical process. By age 9, the child no longer needs the physical activity but can count from memory. This research indicates that through adolescence, this recall has shown the development of the hippocampus and pre-frontal cortex of the brain. These are areas that Dr. Qin suggests have the brain reorganizing and "building a scaffold" of the brain memory

center. But, where the adolescent recalls information from the hippocampus and pre-frontal cortex sections of the brain, adults after age 19 will, with a properly formed scaffold, recall information from the neo-cortex, located even more 'deeply' within the brain and supportive of the hippocampus and pre-frontal cortex. In summary, this research seems to indicate that actual brain development is taking place with the practice of (math) skills and that the human persons ability to apply their learning for new situations draws upon that previous information from differing points in the brain, depending upon their development. Structure and innovation, with the proper balance, science seems to be telling us is the partnership for the greatest growth of our human potential.

When we consider the young people we serve, the Harvard Brain Institute is helping us understand the behavior of adolescents, according to how their brain is actually, physically growing. Consider this simple analysis from National Public Radio in the United States:

<http://www.npr.org/templates/story/story.php?storyId=124119468> (Here I hope to play a five minute audio clip from National Public Radio.)

I think Ignatius would say that one must daily reinvent to practice spiritual growth. In turn, one's loving response must also be a daily exercise of change and development.

Fr. Shelton, SJ would concur that we can track the psychological and social development growth of the adolescent through stages of structure. Innovation becomes the necessary next step for a stage of growth. More and more, neuro-science seems to support this same sense of building in the very human brain system. Natural law – the very root of our creation – seems to indicate that innovation is necessary to develop, but is best served with a good portion of foundation. All of this should inform both the need and the proper context for innovation.

## **VII. Structured Innovation in Practice**

What does this mean in practice? I can't offer you a magic formula that will tell you when you've achieved exactly the right balance between innovation and its necessary foundation. But great teaching has always had teachers who *understood what metacognitive outcomes* they wanted for their students and how best to think about achieving the goals by considering not just the mastery of material, but the very student themselves. As a former colleague of mine used to say – "our job is not just know the information we teach, but to understand how to *relate* that information so that it is relevant to the students." And in a tradition that has adapted itself to this question many times, the truth is that it is a question that we should continually be asking ourselves.

First, let me just give you some background about the school I lead. St. Louis University High School is the oldest secondary institution in the United States of America west of the Mississippi River. Its tradition is long and rich and as a result, many of our faculty members, our alumni, our parents – and even some of our students – are resistant to change. In an institution as old as ours, there's always a powerful argument to be made that we've done things a certain way for ten or 20 years, so why change it? It is actually a healthy question that helps remind us as educators that a significant portion of what we do in teaching our students is "catch them up" to a whole lot of information about our world, we already know, but they don't. And just because we can access seemingly unlimited information in an instant, doesn't mean that a developing young person understands the proper context for that information. That context for them is important to build upon our human history for good.

But of course, the history of our school is a history of change. We've occupied five campuses; really multiple schools over time; our student body has grown expanded and contracted many times; the ratio of Jesuit to lay faculty has expanded and contracted multiple times over history. Not long ago, I received a note from an alumnus of our school from the early 1950's. He was lamenting the fact that all students are not required to take Latin any longer. Today, our school offers Latin, Greek, Spanish, French, Arabic, Chinese and Russian. Our students today travel the world to all these various cultures, but to a proud alumnus from 1950, we have somehow failed by innovating. These are the tensions in a historic school like St. Louis U. High. It is also but one among numerous examples of curricular developments and innovations over the years. Today, our graduates live in Dubai and Hong Kong; Beijing and Paris; and they work in international banking with Russia and Greece. This is generally a different expectation than my loyal alumnus from 1950. As we think to the future, what are we thinking to prepare our graduates to lead tomorrow.

Still, our long experience of change doesn't mean we have a monopoly on wisdom when it comes to meeting new challenges. We still have to constantly evaluate what changes we might make; why we are making them; and how they serve the mission that has guided us for almost 200 years. With the trust we have placed in our heritage as Jesuit schools, it is my observation that our students become empowered to leap from the foundations of knowledge they have to an empowerment that readily reflects the oft used phrase, 'setting the world on fire.'

Let me give you an example.

Consider for a moment a group of 16-year-old students in my school. Building upon whatever primary education they have received, in their first two years in our school, our curriculum scaffold would expose them to a combination of the following: world history and geography; an understanding of who St. Ignatius is and the basic tenants of the Society of Jesus; a

requirement for community service for those most in need in our community beginning at age 14; foreign language; science, including Biology, Chemistry and Physics; computer fundamentals and algebraic and geometrical math. This is not a total curriculum they have been exposed to, but for the purposes of my example, I will call it the foundational scaffold. Enter their third year and a teacher, Dr. Kevin Foy, who instructs them in Economics. At the same time, he has created an activity at school known as “Ignatian Business Leaders.”(IBL). In IBL, these students learn what it means to set up and operate a business. And then, Dr. Foy, encourages them to participate in a metropolitan organization in St. Louis called Venture Café. Here, they are encouraged to dream, innovate and be entrepreneurial. But their context matters.

Together, five students, with adults really guiding them, consulting with them and connecting resources for them – but **not** directly teaching them in a traditional sense – these five students have created something they call *Skydration*. A play on the word hydration, these young people looked at a problem for their fellow human beings in Africa – water collection. They have learned of water scarcity and infrastructure limitations for that region of the world. They have learned that poor, mostly women, travel by miles on foot to collect water in “Jerry” cans – a container, which when filled, is quite heavy for transport by foot. These students observe the resources that are currently available to the villagers. Among their observations is that rainwater is not being collected for use. These students use computer coding to create a simple plug for the opening of the Jerry can, which can adapt through a simple hose system to the rooftops of homes. Rainwater once being ignored for use can now be collected and purified and stored for use. Their solution is low cost, easily expandable and in service to their fellow human being.

Last year, these students beta-tested 50 such units. They have a business plan and hope to work with National Government Organizations(NGO) for distribution. To create their plan, they had to write a computer program to create the plug(show picture). Then, they used three-dimensional printing to create a prototype. The prototype was then taken to a plastics mold injection business to establish a cost estimation. Once created the students had to construct, physically, a prototype to make certain it would work. They had to understand the physics and chemistry involved in their dream. Along the way, they have needed to earn grant monies to keep the vision moving and therefore have needed the skills of public speaking to convince others of the need for support. In the end, they are hoping this might be a possible solution for a basic resource for human survival – water.

To get to this point of incredible innovation and reach across the globe, these students needed the structure of their education in at least the following disciplines: history, geography, computer coding, mathematics, science, business, public speaking, writing, theology and Ignatian Spirituality. Their dream has potential. Empowering them to be innovative has been a

powerful and positive example for *why* we should encourage our students to be innovative and it exemplifies how one teacher, Dr. Foy, focused less specifically on what the outcome of their learning might be and more intentionally on a core set of methodologies and mindsets so that their foundation of prior learning would be used as a platform for something great. The lesson of the teacher was innovation, collaboration, creativity, trial and error that has taken a dream and now understands how to place it back into existing structures so that it might build upon human history in a very positive fashion.

Similar examples of innovation exist within my school right now with soilless plant growth in aquaponics and students who are taking this into our city to teach others. We have intellectual community service with students teacher underserved middle school student and their teachers basic robotics. Innovation has the student becoming the teacher – but we have been there before in our tradition!

### **VIII. Structured Innovation: Preparing Students to Serve Our World**

The point of Jesuit education, as Father Arrupe said, is to form men and women for others. The history of Jesuit education tells us that what that means in practice changes depending on the era. Today, for instance, we need our students to know about climate change, the plight of refugees and income and resource inequality if they are truly to serve God's world. What if we imagined our students as the mustard seeds of Holy Scripture and embedded within our curriculum the Educate Magis network of our secondary schools so that as our students learned about their respective unique cultures and the truths of Natural Laws like mathematics - universal for all students, they might simultaneously learn that there are students in every corner of the earth participating in their education – Jesuit education? How do we leverage the capabilities of technology and insure they are introduced to the scaffold of human development appropriately and leveraged for a new way of proceeding we understand. Too often, in this arena, we must master our metacognitive outcomes for students so that the disruption of innovation serves a purpose we see and that requires collaboration and a willingness to try, fail and revise. We are reminded of Fr. Nicolas, SJ wisdom that both the good and bad spirits can be at work in this arena. At once, we have instant information at our computer screen, and can connect across the world. Yet the time behind a screen can also create a severe isolation of the human person. The truths of our work do not change in the midst of our need to innovate.

Pope Francis understands this reality intuitively. As he recently said to teachers in Albania, "... [I]n educating a balance must be maintained, your steps must be well balanced, one step on the cornice of safety but the other into the zone of risk. And when the risk becomes safe, the next step must venture into another area of risk. Education cannot be confined to the safety zone.

No. This would mean preventing personalities from developing; yet it is not possible to educate solely in the risk zone either: this is too dangerous. It is a balance of steps: remember it well.”

## **IX. Conclusion**

Our past tells us that innovation is normal. Our recent past, in my hemisphere, has some tremendous examples of that continuing normal tradition of innovation. Recent in our history in the United States is the model of Cristo Rey Schools – for the poor and in partnership with local professional organizations for both funding and student experience and education by practice. There is a network of Fe y Alegria spreading throughout the world. Just a few short years ago, this congress established Educate Magis, and in my own school, we have made connections with our fellow Jesuit schools in Taiwan and France, with hopes to do more in Ireland and Central America.

If we understand the underpinnings of the truths of our Faith, then we should be driven ever further to answer the question of what we might do better, or differently, to respond to God’s deep love in working with our students. We should recognize and envision the world they lead, provide for them the foundation of human experience to understand well, and the freedom to let loose the collective goodness they possess. With (two million) secondary students around the world, our leaven is already powerful – how much greater could it be?