

Faith Learning Integration: A Case Study of Biology, Physics, Chemistry and Mathematics Lecturers' Teaching Practices

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Received: 07/08/2021

Accepted: 02/09/2021

Published: 30/09/2021

Abstract

Faculty members of a private Christian Teachers College in Tangerang have been assigned to integrate faith and learning. The purpose of this research was to describe Biology, Physics, Chemistry and Mathematics lecturers' practices of faith learning integration on their teachings. Five lecturers including two lecturers teaching Physics, and the others each teaching Biology, Chemistry and Mathematics were involved in this research. Two student teachers contributed as well in the research. The data were derived from interview with five faculty members and collecting their course syllabus along with the interview with two student teachers. Descriptive qualitative research with a case study approach was employed. The data were described and analyzed in the light of the current literatures. The findings showed that those five faculty members have been implementing faith learning integration on their teaching with a pedagogy of transferring new information. This paper suggests faculty to go beyond faith learning integration and to focus on learning as formation of heart and desire.

Keywords: *Faith Learning Integration, Biology, Physics, Chemistry, Mathematics*

Introduction

The vision of faith learning integration started when Tertullian (ca.155 – ca.230), a Christian theologian asked a question

“What has Athens to do with Jerusalem, the Academy with the Church?” Tertullian himself answered, “nothing: we have no need for curiosity since Jesus Christ, nor for inquiry since the Evangel” Tertullian’s answer has been considered wrong. Since the day of Tertullian, there were hundreds of Christian institutions of higher learning have been founded. Since then, there have been many Christian scholars working on an integrative task- to see what Christian faith to do with the academic work.¹

¹ David S. Dockery, *Shaping a Christian Worldview: The Foundation of Christian Higher Education*, ed. Gregory Alan Dockery, David S & Thornbury (Nashville, TN: B&B Publishing Group, 2002): 134.

One of the earliest Christian scholars who used the term “integrating faith and learning” is Arthur Holmes.² Holmes noted that integrating faith and learning makes Christian higher education different from the secular academy.³ Faith learning integration can touch the entire range of life and learning through its attempt to connect human learning to an understanding of faith and to the development of a Christian worldview in the arts and sciences. He proposed liberal art as one of the methods of faith-learning integration in higher education.

Since then, the discourse regarding faith learning and integration has been widely discussed by Christian scholars. Hasker convincingly argued that the relationship between faith and knowledge, which inherently exists, needs to be developed.⁴ Other scholars Lyon, Beaty, Parker & Mencken stated that faith and learning are regarded as legitimate concerns of the colleges and universities since both Catholic and Protestant Higher education in the 19th century shared the assumption of the unity of truth, that there is only single reality, and it is created by God and under His dominion.⁵ Wilson cited by Turley emphasized the religious endeavour of education. Religious answered is required when to answer all the fundamental questions of education. Thus, imparting knowledge to the students lead to building on religious presuppositions.⁶ Echoing to Hasker, Turley argued that education has a religious nature because the knowledge of God emerges in all things and there is coherence in all things.⁷

Furthermore, scholars have been attempting to integrate their Christian faith in their academic disciplinary. Nyaradzo Mvududu wrote that Martin Hegland discussed how to relate 13 different curricular and extracurricular areas to Christian faith but he did not include Mathematics in the 13 subject areas. Then, Nyaradzo Mvududu challenged himself to teach faithfully in his Statistic course. He proposed an approach of integrating the course content of Statistic with faith by explaining the reality.⁸ Another scholar, Susan Binkley examined her approach to incorporate issues of faith into the beginning language classroom and making French convocation a spiritual experience for students of French.⁹ David Smith, a professor at Calvin university and a director at Kuyers institute for teaching and learning developed a fruitful website <https://teachfastly.com/> about faith and science teaching. He also has worked on Kuyers Math curriculum. The purpose of that curriculum is to offer

² Perry L. Glanzer, “Why We Should Discard “the Integration of Faith and Learning: Rearticulating the Mission of the Christian Scholar,” *Journal of Education and Christian Belief* 12, no. 1 (2008): 42.

³ Arthur F. Holmes, *The Idea of a Christian College* (Grand Rapids, MI: Wm.B.Eerdmans Publishing, 1987), 15.

⁴ W. Hasker, “Faith-Learning Integration: An Overview,” *Christian Scholar Review* 21 no. 3/4 (1992): 235.

⁵ Larry Lyon et al., “Faculty Attitudes on Integrating Faith and Learning at Religious Colleges and Universities: A Research Note,” *Sociology of Religion* 66, no. 1 (March 1, 2005): 61.

⁶ Hasker, “Faith-Learning Integration: An Overview,” 235.

⁷ Stephen Richard Turley, “Paideia Kyriou: Biblical and Patristic Models for an Integrated Christian Curriculum,” *Journal of Research on Christian Education* 18, no. 2 (2009): 125–126.

⁸ Nyaradzo Mvududu, “Challenges to Faithful Learning and Teaching: The Case of Statistics,” *Christian Higher Education* 6, no. 5 (November 5, 2007): 439.

⁹ Susan Carpenter Binkley, “Integrating Faith and Learning in the Foreign Language Classroom,” *Christian Higher Education* 6, no. 5 (November 5, 2007): 431-432.

approaches to integrate faith in mathematics so that mathematics is used to think about God and to have better understanding about God and His creation.¹⁰

One of the faculties of education in Tangerang, Indonesia has distinctiveness in approaching faith learning integration. The students in this faculty of education study not only professional and major-related courses, but also theology to integrate faith and learning. Faith-learning integration is also shown in all course syllabus, including course description, learning goals, objectives, and assignments with faith-based rationale. Having Biblical-based rationales in the course outlines, the lecturers who teach professional and major-related courses have been carrying out faith learning integration in their classes.

This paper aims to describe the ways how the Biology, Physics, Chemistry and Mathematics lecturers have been bringing faith learning integration to their teaching and to offer some improvement in the light of the current literature. The main questions that will guide this study is: What do interviews, and the course syllabus suggest about the Biology, Physics, Chemistry and Mathematics lecturers' practices of faith learning integration? What do the current literatures suggest about the faculty' practices of faith learning integration?

The courses or subjects in which faith learning integration was described were limited. There are two reasons underlying the limitation. First, availability of time and resources were limited. Second, because of the limited time and resources, normative subjects that need theological interpretation were not chosen.¹¹ Content knowledge of Biology, physics, chemistry, and mathematics subjects is a universal truth which does not change with time and place that need not any interpretation.¹²

The Necessary of Faith–Learning Integration

Holmes emphasized that intellectual inquiry must be driven by Christ the truth as the dominant motivation. This means each field of inquiry, thinking and understanding about truth and knowledge should be based of the biblical conception.¹³ In keeping with Christ the truth as the basis of inquiry and knowing, Harris noted five assumptions behind the integration of faith and learning. The first is a belief that all truth is God's truth.¹⁴ Christian knowledge which is based on the Biblical authority should not be considered a separate of another knowledge. Harris's belief in the relationship between faith and knowing is in line with Dockory & Thornbury who examined different ways faith and knowledge relate to each other and concluded that faith is a valid factor in the process of knowing.¹⁵ Second,

¹⁰ "Kuyers Math Curriculum," Calvin University, 2021, <https://calvin.edu/centers-institutes/kuyers-institute/education-resources/kuyers-math-curriculum/>.

¹¹ Harro van Brummelen, *Steppingstones to Curriculum: A Biblical Path*, 2nd ed. (Colorado Springs, CO: Purposeful Design Publication, 2002), 96.

¹² Roy A. Clouser, *The Myth of Religious Neutrality: An Essay on the Hidden Role of Religious Belief in Theories* (Indiana, IN: University of Notre Dame Press, 1991): 115-120.

¹³ Arthur F. Holmes, *All Truth Is God's Truth* (Grand Rapids, MI: Eerdmans Publishing, 1977), 26-27.

¹⁴ Robert A. Harris, *The Integration of Faith and Learning: A Worldview Approach* (Eugene, OR: Cascade Books, 2004), 23-30.

¹⁵ David S. Dockery, *Shaping a Christian Worldview: The Foundation of Christian Higher Education*, ed. Gregory Alan Dockery, David S. & Thornbury (Nashville, TN: B&B Publishing Group, 2002), 130-137.

there is no conflict between God's truth and other truth.¹⁶ Conflicts arise when there are incompatible interpretations and worldview. Third, the secular learning is incomplete and often distorted.¹⁷ For example, the philosophy of naturalism limits the reality to the material world only while the work of science is based on the empirical work and scientific inquiry. Fourth, Christian integration is based on a Biblical framework of reality.¹⁸ Since the secular learning is incomplete, this framework functions as a tool to test the claims of the content knowledge of the discipline. The fifth, truth is the most important goal of learning.¹⁹ The goal of faith learning integration is to develop the coherent and unified understanding and the harmony of all truth.

Echoing to Harris, Hasker persuasively argued why faith-learning integration is necessary. First, there are different ways of knowing even though there is a unity of truth.²⁰ For instance, the way of knowing in science is through experiment and organizing data, while in theology it is through responding to God's revelation. Thus, different disciplines have different ways of asking and answering questions. For example, Science relies on the observation of physical nature as the source of all truth. Any scientific discovery or interpretation that includes the supernatural is called pseudo-science while Christianity believes there are absolute and transcendent truths of God. It is only by integrating such diverse bodies of knowledge that a unity of truth is gained.

Second, some Christian faculty members might have graduated from graduate programs offered by secular universities since Christian colleges offer limited graduate study.²¹ Thus, they might lack the training in their Christian faith and are confronted with two separated bodies of knowledge and belief.

Third, there is a theological necessity for integration. The Lord's Prayer "Thy will be done, on earth as it is in heaven" implies that there is not a secular and a sacred world, but a single world created by God and a unitary truth.²²

Research Design

Descriptive qualitative research with a case study approach was employed. It is a study that describe a certain phenomenon.²³ The data resource used in the case study approach was limited that including only few persons.²⁴ The purpose of this research was to describe the practices of faith learning integration of five lecturers. Two lecturers teach Physics, and the others teach Biology, Chemistry and Mathematics. Each of them has been teaching in the faculty of education for more than three years. The lecturers were interviewed, and the data was analyzed descriptively. The analyzed data from the interview guided to some course syllabus they have been using.

¹⁶ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 23.

¹⁷ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 23.

¹⁸ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 23.

¹⁹ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 23.

²⁰ Hasker, *Faith-Learning Integration: An Overview*, 236.

²¹ Hasker, *Faith-Learning Integration: An Overview*, 237.

²² Hasker, *Faith-Learning Integration: An Overview*, 238.

²³ Wina Sanjaya, *Penelitian Pendidikan: Jenis, Metode Dan Prosedur* (Jakarta, Indonesia: Penerbit Kencana Prenada Media Group, 2013): 60.

²⁴ Wina Sanjaya, *Penelitian Pendidikan: Jenis, Metode Dan Prosedur*, 63.

The steps of data analyzing are as following:

1. Data were collected by conducting interviews with the five lecturers one by one. Questions used in the interview were guided by the research questions to discover five lecturers' practices of faith learning integration.
2. The data from the interviews were transcribed. The transcribed were labeled line by line using Microsoft text highlight color as the transcribed data were read and reread.
3. Notes were typed using Microsoft review to keep on capturing ideas from the fragmented data.
4. Analyze the syllabus by color highlighting information that would support the main data from the interview.
5. Describe the data using the conceptual memo as a guidance and connect with the literature reviews.

Discussion

The result of the interview shows that those five lecturers used expressions suggesting that Christian worldview approach to faith learning integration was implemented in their classroom. This category preserves the notion that the cognitive content of the Christian worldview which including belief about God, creation and human nature are used to test, to supplement and to clarify the claims about knowledge that the student teachers are encountering.²⁵

The integration of faith and learning was carried out by the biology professor when teaching courses such as Biodiversity, Human Biology and Microbiology. Biodiversity courses include a topic of Theory of Origin and Evolution Theory. Faith learning integration was implied as she explained to her students that there was no such thing as macro evolution explained in the Bible since macro evolution talks about how change of form happens, including the examples of how humans evolved from ape. She then emphasized to her students that they must go back to the truth of Scripture, which tells that they are all created in its own kinds, and each kind has its own variations. She also told her students that they always need to see all the sciences developed from the Biblical perspective. Theory of origin should be seen from creation perspective that was referred to the scripture.

An interview to a student who's majoring in Biology was conducted. He was asked to tell an example/example of how his lecturers related Christianity to their teachings. His answers affirmed what the biology lecturer has explained. An example that this student gave was when learning the theory of origin and evolution theory. She compared the theory with the truth written in the Bible.

The response from the biology lecturer looks that Bible serves as a source of error correction for the areas where the content knowledge of the biology has misinterpreted facts. She used her faith understanding about creation as a tool to test the knowledge claim and separating the false and the truth knowledge. Claerbaut proposed that the perspective of creation that leads us to the concept of God should be used in seeing all science.²⁶ Evolution is against the Bible due to a question what in the beginning is. It conflicts with the Bible since it says that something is already in existence which means it skipped the initial

²⁵ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 250-253.

²⁶ David Claerbaut, *Faith and Learning on The Edge: A Bold New Look at Religion in Higher Education* (Grand Rapids, MI: Zondervan, 2004): 146-150.

causality that denies the existence of God. However, Clairaut's proposal about using perspective of creation to see all science does not suggest that verses in the Bible will directly give correction to the content knowledge of science. Integrating faith and learning is not about matching and contrasting the Bible verses with a particular content knowledge of the discipline.²⁷ Instead it enables us to understand God and His world, and our fellow human beings differently than if the insights of the discipline were not available.²⁸

The Human Biology course covers explanation about the complexities of one single cell while men are not created from one single cell. Knowing that most of her students had difficulties learning one single cell, she then told her students that if even for such a basic thing as a single cell, they were still unable to understand it, then how much more it is to understand human being, which are composed by so many complexities. She then tried to get her students to understand how complex and yet precious men are, and therefore it is men's responsibility to take care of the body given in order to glorify God. Human body does not merely talk about the physical body, but it is also the temple of God and Holy Spirit. If one cannot take care of his body, then it means that he cannot glorify God.

Microbiology, which includes a study about bacteria, was approached through first explaining how the bacteria could be used to decrease the rate of environmental decontamination, which was beneficial for human being. Then, she also told her students that God took care of such tiny being and gave it a great responsibility which was to bring prosperity for humanity, by decreasing the level of environmental decontamination.

Faith learning integration using a model of creation, fall and redemption (taking action) was used by the biology professor when teaching about Pollution. Using a model of creation, fall and act, she explained to her students that each part of that element is related to the topic of pollution. As for creation, she explained that before the world became polluted, God created nature in such a way that it was beautiful and perfect. Natural cycles such as biochemical cycle, water cycle, phosphor cycle, and nitrogen cycle, function properly and automatically. It showed that God arranged all of them to happen in such a way that men could live in peace. Then it happened that men fell into sin. Men's sinful nature causes them to have the tendency of wanting to create something, without thinking of its consequences. For example, men started to develop biotechnologies and other biological findings that have been leading to what is called industrialization, which has been causing pollution and consequently has been disrupting natural cycles. God challenges Christian to take action. The Christian should respond in a redemptive way, for example, by providing facilities to reduce the pollution that the environment will not be harmed.

Hasker described that natural science is surely relevant to the Christian faith, in that God created the earth and everything else. Learning about God's creations, for example the complexities of human cells and bacteria, sparks a sense of wonder of God.²⁹ Hasker's opinion is in line with the examples given by the lecturer when teaching Human Biology and Microbiology courses and the pollution topic. The lecturer showed that life science indeed talks about creation and especially human's life that eventually leads to God.

Two physics lecturers were interviewed on the way they have been carrying out faith learning integration. They used the perspective of creation and causality. The creation

²⁷ Harris, *The Integration of Faith and Learning: A Worldview Approach*, 251.

²⁸ Hasker, *Faith-Learning Integration: An Overview*, 237.

²⁹ Hasker, *Faith-Learning Integration: An Overview*, 237.

perspective was expressed by one of the lecturers when teaching a topic of light. He said that God created light, as clearly written in the Bible: "Let there be light". Then he explained to his students that the Bible does not write anything about the details of the creation of light. The formation of light could be clearly explained by electromagnetic theory. The theory describes how magnetic electricity becomes light.

Those two physics lecturers referred to causality and God's intervention when they taught a topic of gravity. The first lecturer explained that all planets are all arranged in such a way so that there is a gravitational field. Without a gravitational field, the universe would be messy, and God intervenes. The second lecturer commented that gravity can be scientifically explained and at the end it referred to the very first cause, which is God Himself.

In addition to using God's intervention & causality to inform his Christian faith, one of the physics lecturers also referred to terms such as pattern and order to point out God's intervention when teaching about micro physics. He mentioned that since 'irregularity' exists, this means that 'regular' does too. In physics, the examples for that would be in the topic of magnetics' orientation and spin. They are both irregular. However, the lecturer said that if people see them from the bigger picture, they will find an orderly pattern. That orderliness comes inseparably from God's intervention.

The example about light shows that one of the characteristics of physics as a discipline is describing natural phenomena in the physical universe. This leads physics to answer the question of how instead of why.³⁰ Physics does not question why there is a light since light can be scientifically proven. Physics describes how the process of light by coming up with the electromagnetic theory. This example reveals that physics works in making sense of the Christian faith instead of Christian faith being used in solving physics-related problem.³¹ This echoes how disciplinary knowledge affirms Christian knowledge, as suggested by Harris.³² Thus, only quoting the verse "Let there be light" to show that light comes from God without providing a deep explanation of what it means in physics is considered a surface attempt in integrating faith in learning.

An interview with a Chemistry lecturer showed that she brought her faith in her teaching. Some expressions indicating that Christian faith was implied in her teaching are: the existence of God, the existence of a designer, the authority, God's creation, intervention, pattern and orderliness. When being asked how she integrated faith and learning, she gave two examples of how she taught an atom and the periodic system elements. Teaching about the atom, she explained that an atom has three particles: proton, electron, and neutron. The electron in each object everywhere is always negative and has the same mass. The existence of God is clearly seen through the consistent characteristics of the electron. However, there is a dispute over the existence of atom. Mach defined reality as things human sensory system can perceive, which implies that atoms are not real since they cannot be perceived by human

³⁰ J. W. Sire, *The Universe Next Door: A Basic Worldview Catalog*, 5th ed. (Downers Grove, IL: InterVarsity Press, 1979): 60-66.

³¹ J. W. Sire, *The Universe Next Door: A Basic Worldview Catalog*, 60-66.

³² Harris, *The Integration of Faith and Learning: A Worldview Approach*, 97-120.

senses.³³ The chemistry lecturer did not express this dispute when attempting to integrate faith and learning in teaching about the atom.

The Chemistry professor did not only connect the content knowledge about the atom with the existence of God, but she also led her students to the wonder of God as noted below:

“for example, how are atoms related to one another? There is a consistent characteristic among the elements. I said to my students, “Hey do you see that what we are learning is so beautiful and that it would be impossible if there is no authority behind this?”

Wondering God was also expressed when she explained about the main purpose of learning chemistry. She said that learning chemistry requires the students to understand the materials in the universe in order to be able to glorify God and to take care of the world. Further, she explained that learning Chemistry helps students to learn about creation. Creation leads humans to the Creator, The Creator’s role and intervention. Claerbout mentioned that the study of science should bring students to glorify God and to serve Him more rather than as an end.³⁴ This resonates with what Holmes argued: both the educators and students must realize that education is a calling from God, and that education must be an act of love, of worship, and of stewardship; a wholehearted response to God.³⁵

Another example was when she taught periodic system elements. She explained to her students that the periodic system elements are mapped based on the electron configuration of each element. The periodic system elements begin with hydrogen, followed by helium, and so on. The lecturer explained that the order of the periodic system is parallel to the history of creation. The first day of creation involved light and the first elements of the periodic table are hydrogen and helium, which are connected to light. Then she added that there must be a Designer behind this. This was impossible to happen without a power involved in creation. God has been working to keep the existence of the universe.

A mathematics lecturer used an expression that suggested Christian faith is connected in learning through a foundational approach. This approach emphasized on the disciplinary foundation with a strong focus on the philosophical foundations of the disciplines rather than the overall pattern of Christian beliefs quotation. He explained that in math, there is something that we called as The First in Completeness Theorems of Godels. Godels is a mathematician who focuses on logic. He said that there is no system in the world that is complete enough in itself. If it is only enough, then it will not be complete. If it is complete, then it will not be enough. Math is also a system. It is a system that is built from axiomas. Thus, math is actually enough, but it never will be perfect. But it will never be complete. Because there is something beyond design that cannot be explained. Our science is very limited. Math that looks like having absolute truth has no absolute truth. They are all based on the axiomas given. If the axiomas are changed, then there will not be math truth any longer. It can be concluded logic is very limited. A lot of times, men want to know God completely. However, he continued explaining that human would never reach to the point

³³ Roy A Clouser, *The Myth of Religious Neutrality: An Essay on the Hidden Role of Religious Belief in Theories* (Indiana, IN: University of Notre Dame Press, 1991): 129-130.

³⁴ Claerbaut, *Faith and Learning on The Edge: A Bold New Look at Religion in Higher Education*, 170.

³⁵ Holmes, *The Idea of a Christian College*, 18.

of knowing God completely because our logic cannot explain what God does. We are creatures and God Himself is the Creator. How come creation able to explain everything that God, the Creator wants? Therefore, there are things that cannot be contained in our logic.

An interview to a student who's majoring in Mathematics was conducted. He was asked to tell an example/example of how his lecturers related Christianity to their teachings. His answers affirmed what the mathematics lecturer has explained. The expression was that the lecture explained the relationship between their teaching with the truth and its nature.

The task of integration was also shown from the course syllabi the lecturers used. There were seven course outlines analyzed. How each subject is related to the Christian faith was clearly seen on the course description of the course outlines. The expressions used in the description course syllabi include as following:

- Wonders of God, Responsibility to manage nature, preserving the world, Bible perspective toward Human Biology and Christian faith based (Biology course outline)
- Wonder of God (Physics course outline)
- God's creation and appreciate His creation (Chemistry course outline)
- The Biblical worldview of God's work in nature though mathematical concept, God's creation and be responsible to God's creation (Mathematics course outlines)

Another interesting finding appeared from the data was the pedagogy used by the faculty when carrying out faith learning integration. The interview showed that the lecturers used the typical words of informing information such as; I emphasize, I tried, I told, I explained, when approaching faith learning integration. This means the students played as passive learners when the faith learning integration was carried out. Each lecturer tended to inform their Christian faith to the students that it seemed like adding another set of ideas (Christian ideas) to the content knowledge of the discipline the students were encountering. The typical expressions as the lecturers informed faith learning integration included:

- I emphasize to my students that...
- I tried to get my students to understand...
- I told to the students that....
- I explained to the students that....

In relating to the pedagogy of transferring information used by the lecturers, Bailey noted that faith learning integration is perceived to be the work of teachers and institutions that situate the student as the passive learners and the teachers as the active Christian knowledge giver. He proposed a critical thinking skill model as a pedagogy to conduct to faith learning integration in order to give intentional role to the students and to support them in developing the skills needed for independently connecting the content knowledge with Christian faith. The critical thinking skills model he proposed is informed by approaches to critical thinking from cognitive psychology that includes four sequential skills: 1) identify source of revelation, 2) apply disciplinary methods, 3) verify facts, 4) apply model(s) of integration and 5) integration in action. He then described how this model was implemented using a problem-based approach.³⁶

³⁶ Karl GD Bailey, "Faith-Learning Integration, Critical Thinking Skills, and Student Development in Christian Education," *Journal of Research on Christian Education* 21, no. 2 (2012): 156-157, <https://doi.org/http://dx.doi.org/10.1080/10656219.2012.698831>.

Similarly, Reichard proposed an initiation model as an approach to connect content knowledge with Christian faith.³⁷ This model limits indoctrination and supports the students' rational autonomy and critical inquiry. Indoctrination is defined by teaching belief as true without providing supporting reason, evidence, or justification for such belief. The initiation model he proposed includes three pedagogical processes: 1) conflict- the students acknowledge the conflict between Christian beliefs and the knowledge, 2) creativity-the students deconstruct presumptions, synthesize belief and knowledge that may appear to be in conflict and 3) commitment – the students integrate faith perspective of the community with personal solution.

The two models described above are supposed to solve the problem of the students as the passive learner and the students as the information giver when connecting the content knowledge of the discipline with the Christian faith. Smith described that the central identity of human person is not as a thinker but as a lover.³⁸ This understanding about the central identity of human person suggests learning as formation where the heart and the desire of not only the students but also the faculty are oriented to the shape of human flourishing. This calls faculty to create practices of teaching and learning that are faithfully consistent with the shape of Christian practices, that recruiting not only head but also heart and hand.

However, it is known that such pedagogy explained above is time consuming that the standard competencies required from a certain discipline may not be achieved at the end of the semester. The student interview showed that even without using these two models, the Christian perspective was not discussed a lot since many learning theories to learn and many materials to cover. The other student also mentioned that the lecturer did not always discuss the Christian perspective in one of his classes since there were many materials to achieve. If this has been the case, then connecting the content knowledge with Christian faith not only tend to be time consuming but also “less important” compared to the required learning objective of the discipline. This suggests a discussion among the faculty to what extend the worldview approach used in learning, how to implement this approach in such a way that it will not be considered as less important yet not discarded the required learning objective required in the discipline.

Conclusion

This article was an attempt to describe that the biology, physics, chemistry, and mathematics lecturers have carried out faith learning integration into their teaching practices.

Those five lecturers used expressions suggesting that Christian worldview approach to faith learning integration was implemented in their classroom. The lecturers have brought the students to wonder and glorify God, to understand God's intervention, authority, and existence over the creation, to realize human's limited logic in understanding God, and thus to invite the students taking responsibility as His image. These ways have enabled the students to understand God.

³⁷ Joshua D. Reichard, “From Indoctrination to Initiation: A Non-Coercive Approach to Faith-Learning Integration,” *Journal of Education and Christian Belief* 17, no. 2 (September 1, 2013): 289.

³⁸ James K. A. Smith, *Imagining the Kingdom: How Worship Work* (Grand Rapids, MI: Baker Academic, 2013): 114-116.

Also, the integration approach tended to be perceived as to evaluate the wrong part of the content knowledge of the discipline. The common strategy the lecturers used in carrying out faith into the classrooms was giving them additional lectures about how the academic disciplinary informed faith. Smith and Smith suggest that Christian practice should go beyond the ideas being informed and communicated.³⁹ Rather it includes a Christian pedagogy that intentionally reshape the students to be fruitful. Learning should be as formation of virtues, habits, and practices.

A suggestion regarding to further research is to gain information whether the student to whom faith learning integration is explained, understand the lecturer's explanation. It is also suggested to find out to what extent the faith learning integration throughout biblical Christian worldview contribute to the students' spiritual growth. What pedagogy used by the lecturers as they bring faith learning integration that helping the students to grow spiritually is also important to discuss for further research.

³⁹ James K. A. Smith, D. I., and Smith, *Teaching and Christian Practices: Reshaping Faith & Learning* (Grand Rapids, MI: Wm.B.Eerdmans Publishing, 2011), 11.

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