A Case Study on the Christian Worldview Education Program through Maker Education Based Design Thinking at Christian University

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Abstract

This is a case study of an extra-curricular program that designed and implemented maker education based on design thinking to foster a Christian worldview. The program was designed at K university in the course of 10 sessions as following stages; tinkering, providing a special lecture for motivation, finding issues, empathizing, making, sharing and reflecting. A total of 15 students in 5 teams participated in the program, progressed through each stage in the process of solving the problems they found around them so that their neighbors and the creative world could become better. As a result of operating this program, the participants became concerned about their neighbors and community and reflected on the change of perspective of the world from a Christian worldview. As a suggestion for follow-up research and projects, to develop a model of maker education based on design thinking for cultivating a Christian view of the world is proposed in order to support to easy design and management of the program even if there is a lack of professional related knowledge and experience. In addition, it is needed to develop a manual and guide book including a facilitator's role and an assessment tool like a rubric that can give feedback on the performance of the program and make improvement.

Key Words

기독 대학의 디자인사고 기반 메이커교육을 통한 기독교 세계관 교육 프로그램 운영 사례 연구

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논문 요약

연구 목적 : 본 연구는 디자인사고 기반 메이커교육에 기독교 세계관 교육원리를 접목하여 운영된 대학의 비교과 교육 프로그램 운영 사례를 탐색함으로 기독교 세계관 교육의 방법으로 디자인사고 기반 메이커교육을 제안하는 연구이다.

연구 내용 및 방법 : K대학에서는 본 프로그램을 위해 10차시 분량의 비교과 교육 프로그램을 기독교 세계관의 교육원리와 디자인사고 기반 메이커교육을 접목하여 설계하였고, 5개팀 15명의 학생이 프로그램에 참여하여 운영되었다. 본 프로그램의 운영 절차는 팅커링 활동 및 동기 고취 특강에서부터 문제 발견하기, 공감하기, 제작하기, 공유 및 성찰하기의 단계로 진행되었으며, 프로그램에 참여한 학생들은 각 단계를 거치면서 자신 주변의 발견한 문제를 이웃과 창조세계가 더 나아질 수 있도록 해결해 나가는 과정으로 진행되었다.

결론 및 제언 : 이 프로그램의 운영 결과, 프로그램에 참여한 학생들은 기독교 세계관적 입장에서 이웃과 사회에 지속적 관심, 세상을 바라보는 관점이 변화되었음을 성찰하였다. 후속 연구 및 프로젝트에 대한 제언으로 기독교 세계관 함양을 위한 디자인사고 기반 메이커교육 모형을 개발하고, 제시하여 실제 프로그램과 관련된 전문적 지식이 부족해도 수월하게 설계하고, 운영할 수 있도록 지원할 것을 제안한다. 또한 퍼실러테이터의 역할 및 활동 가이드 등을 개발하고, 마지막으로 프로그램의 성과를 평가할 수 있는 관련 루브릭이나 평가도구를 개발하여 프로그램을 환류 개선할 수 있도록 하는 것을 제안한다.

《 주제어 》
기독교 세계관, 기독교 세계관 비교과 프로그램, 기독교 세계관 교육 , 디자인사고, 디자인씽킹, 메이커교육

I. Introduction

The Christian worldview is about using the word of God to illuminate the whole world. It doesn't mean that to isolate the Bible from the our daily life, but rather it indicates to manifest and demonstrate what is written in the Scripture outwardly through praxis(Kim, 2020; Welty, 2021). To put it simply, it includes everything revealing through every thought and action of human beings. The worldview guides a person by functioning as a navigation of his or her life and affects the standard to judge various aspects in life history(Kim, 2011). For these reasons, to teach worldview is very essential and many Christian colleges establish the goal of education and a curriculum to cultivate a Christian worldview to help students nurture it. However, the increase in negative images of Christianity and the decrease in the number of Christian college students are making it more difficult to operate classes, programs, and even chapels that provide an opportunity to grow the Christian worldview(Yoon, 2016). Nevertheless, the most Christian universities open the compulsory courses related to Christianity by structuring to take them at the certain level of credits, so that all students can learn the Christian worldview. It is constantly striving to keep its educational purpose and mission as a Christian university. However, there is a limit of cultivation the Christian worldview from the theory-oriented teaching and learning, because as can be seen from the definition of it, it should be not only knowledgeable, but practiced in real life. As mentioned above, it is difficult to teach the Christian worldview in an educational environment, so it is necessary to prepare how to teach it to reach not only intellectual achievement but also awareness and practical outcomes.

This study aims to implement education for cultivating a Christian worldview in a Christian university by grafting into a maker education program based design thinking(MEBDT). Some studies proved that students who participated in the MEBDT achieved in multi-faced dimensions such as cognitive, affective(fun, interest, and positive attitude), social relational(cooperation and sharing) and even practical(problem-solving ability, and social value) aspects connected to real life (Yoon, 2018; Yoon, Kang, I., & Kang, E., 2019). From this, we can assume that

if MEBDT is implemented as an educational model for nurturing a Christian worldview, the outcome that students practice Christian worldview outwardly can be expected. Therefore, this is a case study that designed and operated MEBDT to foster a Christian worldview in the non-curricular program run by K Christian University to verify what we assumed.

Ⅱ. Education for Christian Worldview at Universities

1. A Concept of Christian Worldview

A human being follows a worldview, a direction that leads human life. This means that whoever with a Christian worldview will live based on it(Kim, 2020; Kim, 2011; Lee, 2017; Cho, 2014; Choi & Kim, 2018). The goal of Christian worldview education is to know God, human beings, and the created world. When getting to know them, we become Christians who resemble Jesus according to God's will in this world. In other words, what Christian worldview education should teach is how to live like Jesus as a Christian. Then, how can be students taught to contemplate like a Christian? Based on a research of Yoo(2020) that stated the principles to act like a Christian, educational strategies that enable students to ponder as Christians can be suggested as following. The first strategy is to instruct the core of the gospel, creation, fall, redemption, and completion of the kingdom of God, and secondly, it is to guide students to become aware of the biblical answers to basic questions they may have in life, such as 'the origin and purpose of this world?' and 'what is right or what is wrong?'. Last one is to train students to judge and consider the situations and topics they encounter while living on this earth based on the Christian worldview. At this point, various methods to implement these strategies of Christian worldview education need to be considered. First of all, in order to improve the educational effect, an integrated approach linked with faith training is absolutely necessary. In addition, various teaching and learning methods to support individual learning needs and styles such as coaching, storytelling, and cooperative learning can be alternative. The most important thing in Christian worldview education is to motivate

learners to feel the need for it to solve the many problems they will face in their lives(Yoo, 2016).

2. Cases of Christian Worldview Education in Christian Universities

As mentioned above, Christian universities incorporate the Christian worldview into their founding philosophy and set educational goals and objectives accordingly. In this regards, this study examined how Christian universities in Korea include them in their curriculum and which subjects are offering. The universities to be reviewed were singled out by if they are located in the metropolitan area and information about Christian worldview education are given within the website. In order to organize by subjects and curriculum, courses for Christian-related majors and chapel are excluded, and the result shows in the 〈Table 1〉.

〈Table 1〉 Objectives and curriculum of Christian worldview education of Christian universities

Division	Related Subjects	the Curriculum
Myongji	· The Bible and Human Understanding · Modern Society and Christian Ethics · Religion and Science · Christianity and Culture	general education required taking 2 courses out of 4 total 4 credits of 2 credits each
Seoul Theological	· Understanding of Christianity · Understanding the Bible	general education required total 4 credits of 2 credits each
Seoul Women's	· Introduction to Christianity · Bahrom Character Education 1 · Bahrom Character Education 2 · Bahrom Character Education 3	5 credits of founding philosophy and Christianity-related Including experiential practical integrated education program
Soongsil	· The Modern Man and the Bible	3 credits of general education required
Anyang	· Introduction to Christianity	2 credits of general education required
Presbyterian	· Old Testament · New Testament · Understanding of Christianity	3 credits of Old and New Testament 2 credits of Understanding fo Christianity
Chongshin	· The Old Testament World and Humanity · New Testament World and Service	general education required total 6 credits of 3 credits each
Korean Bible	· The Basis of the Biblical Worldview 1,2 · Establishment of the Biblical Worldview 1,2 · Practice of the Biblical Worldview 1,2 · Evangelism Training 1~6 · Milal Training	13 compulsory subjects in general education total 13 credits of 1 credit each) Experiential and practical programs included
Hansei	· World Cultures and Christianity	3 credits required for general education Absolute evaluation

Most of them try to nurture a Christian worldview by operating in a curriculum. It is difficult to assume whether those courses are heuristic and practical or not by looking up some information. One thing clear is that the model of Christian worldview education that allows learners ponder and act in a real-life situation is needed because Christian worldview is something to be learned by experience, not just by reading and listening.

Ⅲ. Maker Education Based Design Thinking and Christian worldview education

1. Maker Education Based Design Thinking

Maker education based on Design Thinking is a learning model to discover what to resolve and suggest the solution by grafting making activity into the process of Design Thinking(Yoon, 2018). Maker education to create a visible product as a result of solving the problem, pursue the educational value of "learning by making"(Papert & Harel, 1991, 1). Constructivism is the basis for bringing the making activity as an educational method. It shares with constructivism the relativity of knowledge and the view that knowledge is constructed through practical activities related to the real world, and this process is defined as learning. However, it seeks to bring out the knowledge constructed in the head and reveal it in the world, and believes that deeper learning takes place when creating something that can be shared with the community(Papert & Harel, 1991). For theses reasons, maker education give learners opportunities to explore various tools and create spontaneously through tinkering activity (Yoon, 2018). While learners take the initiative in producing outputs to solve real-life related tasks with various tools and human and material resources, they can have playful asset-oriented, failure-positive, and collaborative experience (Kang & Yoon, 2017; Cohen et al., 2016; Dougherty, 2013; Wigner, 2017). These are called maker mindset(Dougherty, 2013), not only producing observable out-puts but also nurture maker mindset during the process is the key value of

maker education. Thus, maker education enable learners grow in various aspects such as cognitive, tactile, affective, social, and practical.

However, before making something, what, how, and why to make need to be decided, and the design thinking supplement the process to find out what to make. The core of Design Thinking is to recognize a "wicked problem"(Dunne & Martin, 2006, 513) by put him/herself in someone else's shoes. In other words, to find out what needs to be improved by carefully observing the people and the environment are essential parts of the Design Thinking process in a situation where nobody really notices what is the problem. However, we must always adhere to the human-centered point of view, which is to find out what needs to be solved from the other person's point of view, not what we want to do. Thus, whoever engaged in Design Thinking process becomes an agency to connect between others and problem to be solved and doer to put in practice to bring the best answer for others. To this end, designers who participate this process, engage in complex thinking activities such as divergent, convergent thinking and abductive reasoning(Noel & Liu, 2017), and they can propose a new perspective based on creativity and innovation(Karjalainen, 2016; Zupan & Nabergoj, 2016). The 5 stages of design thinking enable these complex thinking activities to occur in the process of empathy for others, discovery and definition of problems, idea generation, solution prototyping, testing and revision.

Maker education and design thinking are similar in that they take initiative to find ways to solve problems, emphasize the process of overcoming failure, and cooperate with others. However, the use of various tools, the production of visible results, and performing tinkering activities in maker education and the emphasis on empathy for others, social participation as an agency, and presenting problem-solving steps in design thinking can make up for each one's deficiencies to be a teaching and learning model.

Based on the complementary relationship between maker education and design thinking, Yoon(2018) presented a teaching and learning model that combines them. In her study, it was revealed that this model has led to learning outcomes in various aspects, and those are expected presented in 〈Table 2〉; minds-on aspects that self-directed learners take the lead in carrying out and

exploring projects, hands-on about utility of tools and materials, hearts-on that shows positive attitude and empathy for others, social-on that collaborates and interacts with others, and acts-on to practice in a real life.

⟨Table 2⟩ Factors for assessment of MEBDT

Division	Minds-on	Hands-on	Hearts-on	Social-on	Acts-on
factors	· self-directed · Inquiry · Critical Thinking · Creativity	· Utility of Tools and Materials · Functionality	· Challenging · Productive Failure · Sense of Satisf-action · Empathy	· Roles and attitude as learners · Collaboration · Sharing	· Ethical Respon-sibility · Agent of Change

(Yoon, 2018, p.109 partial revised)

2. Connection between Christian Worldview Education and Maker Education Based Design Thinking

As mentioned earlier, I will explain the principles of Christian worldview education in connection with MEBDT.
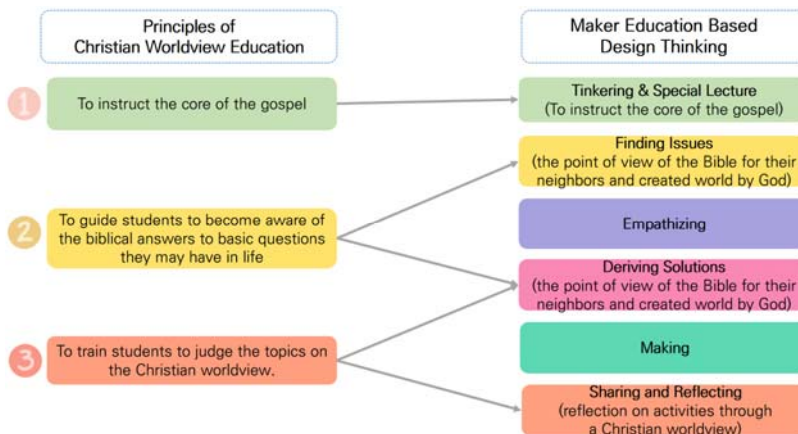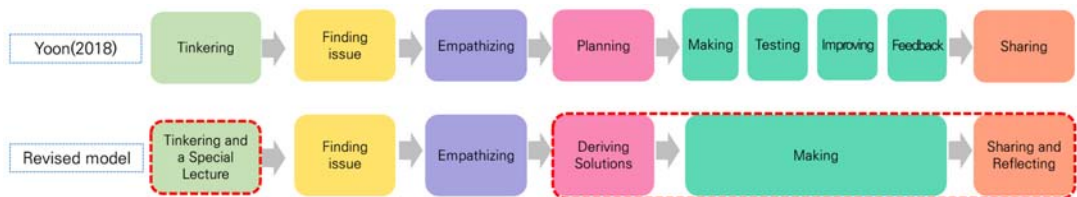

[Picture 2] Connection between Christian worldview education and Maker Education Based Design Thinking

MEBDT allows learners not only to gain knowledge but also to carry out real-life tasks that they will face. This means that MEBDT could work as an appropriate educational model for Christian worldview education because it includes a practical aspects that learners perform according to the biblical point of view.

Ⅳ. Results

1. Design of Maker Education Based Design Thinking

The MEBDT program designed for this study was implemented following the model developed in the study of Yoon(2018). While following Yoon's model, a special lecture was given to promote participants' understanding about the program and motivate active performance. This program was conducted as a non-curriculum program at K University.

[Picture 3] Comparison between MEBDT for cultivation Christian worldview between original MEBDT

According to revised stages, a lecture for promoting motivation and tinkering were carried out in the first step. By experiencing how to build 3D models and print them out and halocode, one of the physical computing materials, participants could have interest in and a comfortable mind for making activities. Also, in order to help them think broadly, a lecture was to guide them to solve problems in the point of view of the Bible for their neighbors and created world by God based on their majors. Next, for each procedure learners found a problem and observed or interviewed others to empathize them. After coming up with a solution, the processes of producing, testing, revising, and feedback are integrated so that learners can autonomously perform those processes. Through the entire process, coaching was given for appropriate feedback in order to keep learners in the right track. The difference between the original MEBDT and the program of this study is shown in the [picture 2]. The program was operated for 10 sessions, detail contents are like following. In the first session, OT for the program and a special lecture were provided so that participants can expect what

they will do, and next session was planned to do tinkering activities with digital tools like Tinkercad, 3D modeling program, and halocode. During two sessions, all participants came together to perform the same activity. From third session to ninth session, each participant belonged to a team interested in a similar subject and were asked to empathize, discover problems, and produce products, and at the sixth session, whole group activity was designed to share their progress and receive feedback. In the last session, completed works were shared and reflection was conducted. Also, each team's activity process and results were exhibited in an online space to share with others.

〈Table 3〉 activities in each stage of MEBDT

Stages	Session	Division	Activities
tinkering and a special lecture	1	all	· Orientation · A special lecture about Design Thinking
	2	all	· learning Tinkercad and Halocode · practicing Tinkercad and 3D printing
finding issue	3	team	· finding issue in the creative world for projects
	4	all	· sharing what each team finds · providing feedback
empathizing	5	team	· interviewing · defining the problem
	6	all	· sharing the result of interviewing · sharing defined problem · providing feedback
making	7~9	team	· idea brainstorming · deriving a solution · planning making project and scheduling · making and improving · providing feedback · completing the output
sharing and reflecting	10	all	· presenting final work of each team · online exhibition · reflecting

(Lee, 2022, p.108 revised)

2. Implementation of Maker Education Based Design Thinking

1) Overview of implementing the program

The program was run according to the designed above, and 15 students of 5 teams participated in that program. To analyze the distribution of participants in detail, from the freshman to the senior year students, each level joined at a similar level, and participants are from all 5 departments of K university, but ones in child care and education joined the most. The operation of this program started during the summer vacation, and it was fully supported to be able to participate in activities within the program. After running the program for 10 weeks, in September, we had time to evaluate the participating students and share their results.

〈Table 4〉 Overview

Division	Major	Number	Grade	Number
Participants	biblical Studies	5(33.3%)	freshman	3(20.0%)
	Child Care and Education	4(26.7%)	sophomore	5(33.3%)
	Computer Software	2(13.3%)	junior	3(20.0%)
	Science of Nursing	2(13.3%)	senior	4(26.7%)
	Social Welfare	2(13.3%)	total	15
	Total	15		
Schedule	Recruitment	May ~ Early June		
	Operation	Late June to mid-September		
	Assessment	Late September		

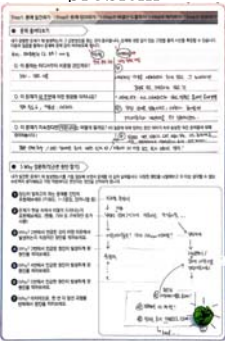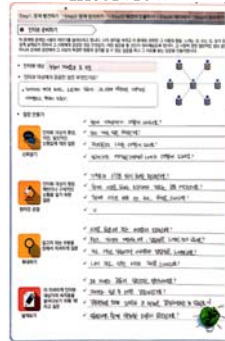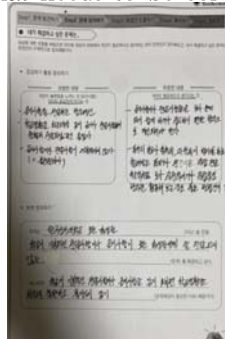## 2) Details of Implementing the Program
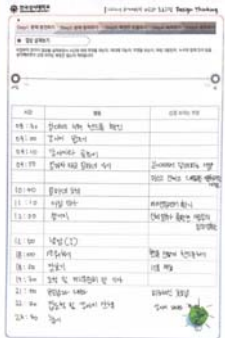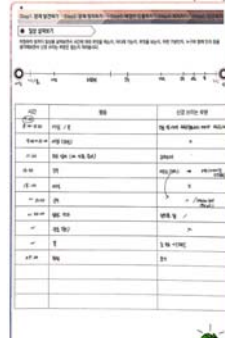
Through the results of participating students at each stage of the program, how the program was operated are presented.

(1) Finding issues and empathizing

The stage of 「Finding issues」were proceeded to the following mini activities; 「taking a look at routine」→ 「writing an observation diary」 →「discovering the issues that begin from me」. After being aware of what issues exist around me, to define the problem to be solved based on empathy for the people affected by issues found through previous activities is conducted; 「looking into the problem」→「stakeholder Mapping」→「preparing for an Interview」→「interviewing」→

「defining the problem that needs to be solved」. When finding issues, participants were allowed to think about problems around neighbors and the world by thinking in accordance with the Christian worldview. 〈Table 5〉 shows the results of this stage.

〈Table 5〉 Examples of activities in the stage of 「Finding issue and Empathizing」

Details step	Examples of activities of participants		
Finding issue	taking a look at my routine	writing an observation diary	discovering the issues that begin from me
Empathizing 1	looking into the problem	stakeholder Mapping	preparing for an Interview
Empathizing 2	interviewing	drawing an empathy map	defining the problem that needs to be solved

Through these steps, each team derived the problem they wanted to solve, and the summary is shown in ⟨Table 6⟩. By coaching students to deeply observe based on their own worldview, the objects of problem solving, such as neighbors and the environment, were presented.
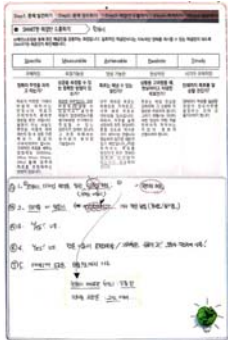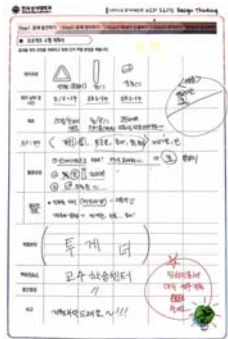
⟨Table 6⟩ Issue found by each team

Team	Issue found	Object whom reflected based on Christian worldview
A	Inconvenience of using public toilets felt by infants and young children	neighbors
B	Discomfort felt by short people on the subway	neighbors
C	Difficulty felt by the transportation vulnerable (elderly, children, etc.) in using the subway	neighbors
D	Environmental problems caused by ecosystem destruction	environment
E	Inconvenience of using the K University website	neighbors

(2) Deriving a solution and making

In the stage of 「Deriving a solution and making, after defining the problem, students had a brainstorm about how to resolve the problem and suggested the best solution. In order to propose how to improve the situation that the people feel inconvenience, 「generating ideas: brainstorming」 and 「deriving solution: SMART」 activities were carried out. SMART that stands for specific, measurable, achievable, realistic, and timely, it helps to inspect the solution suggested in multiple aspects whether it is the reasonable and appropriate one or not. When the solution is chosen, students get into the process of fabrication as followings; 「idea sketch」→「planning making steps」→「testing outputs」→「finalizing」

〈Table 7〉 Examples of activities in the stage of 「Deriving a solution and Making」

Details step	Examples of activities of participants		
finding issue	generating ideas: brainstorming 	deriving solution: SMART 1 	deriving solution: SMART 2
empathizing 1	idea sketch 	planning making steps 	testing outputs

(3) Sharing and reflecting

In the stage of 「sharing and reflecting」, participants shared their outputs by making a video clip, which shows all processes including why they chose this issue, how they derived this solution, and how they made this output. Theses were presented through an online exhibition with using google site. After all activities were finished, they reflected on following questions; ① reflection on myself that has changed before and after carrying out the project, ② the most meaningful thing in the process of trying to change, ③ an alternative to what was regrettable, ④ my role in the movement of change that I attempted. Although questions about the Christian worldview were not directly asked, we tried to examine the influence of the Christian worldview in the reflection of the students.

In fact, looking at the students' reflections, it was confirmed that the questions ① and ④, students mentioned that their concern for their neighbors and the world had increased, and their perspective on the world had changed. The summary of students' reflections can be summarized as shown in ⟨Table 9⟩.

⟨Table 8⟩ 「Online exhibition」 Google site for production process and products

(Lee, 2022, p.113)

〈Table 9〉 Summary of participants' reflections by each question

Questions	Reflection
myself before and after performing project	· Increased interest in surrounding social issues · Being able to think from the point of view of the minority · Paying attention to other people and the little things · Being conscious and concerned of things that have nothing to do with oneself · Becoming more confident through the experience of performing difficult and challenging tasks · Looking at problems in a new light · Not just recognizing it as a problem, but thinking of a solution
the most meaningful thing in the process	· The process of collaboration · The process of deriving various perspectives through brainstorming · The process of turning ideas into reality · The process of resolving conflict situations
an alternative to what was regrettable	· Requiring face-to-face collaboration · Professional help is needed for design and actual product implementation
my role for sustainable change	· Efforts to continuously recognize community issues are needed · The way you see the world changes · To keep an interest in the world · Constantly looking for problems and improvements in life · Desiring to expand and learn in more fields · Keep looking for problems in the world myself

3. Suggestions for promoting a Christian worldview with the program

The MEBDT applied for this study is a program that can develop various competencies such as creativity, problem solving, critical thinking, initiative attitude, and collaboration in general education. In particular, it was judged that it was suitable for cultivating a Christian worldview because it was configured to promote change and present an environment in which ethical responsibility could be practiced. Therefore, ethical responsibility was viewed as a Christian's thoughts and responsibilities that conform to the Christian worldview, it enabled us to focus on our efforts as Christians to improve the problems we wanted to solve on earth in a better way for our neighbors and the creation. As a result of running a case study, if we match the stages that require Christian worldview education and coaching in the activity, and present the necessary contents, it

can be summarized as shown in ⟨Table 10⟩.

⟨Table 10⟩ Connecting each step of MEBDT and Christian worldview

Stage	Contents related to Christina Worldview
Tinkering and a special lecture	Giving a special lecture that explains not only maker education and design thinking but also Christian worldview in order to be conscious of the mission as Christians
Finding issue	Coaching participants to consider as Christians when observing around themselves to find issue
Empathizing	Guiding to include those who can give their opinions from a biblical perspective, When selecting interviewees for in-depth observation of problem situations
Making	Resolving conflict situations that arise in the process of collaborating with team members wisely, and fully recognizing the joy of being a learner who solves problems
Sharing and reflecting	Reflecting based on Christian worldview

In addition, if MEBDT is run for the purpose of cultivating a Christian world-view, we would like to suggest the following activities at each stage. First of all, in the stage of the motivational special lecture, it is set aside as a separate class that helps learners consider the world with a Christian worldview in order to motivate them to participate in this program as Christians. Second, in the stage of finding issue, learners need to supported not only by facilitating of an instructor but also worksheets that they can check if they approach with right attitude of Christians, so that they can constantly ponder on Christian worldview. Third one is about empathizing, when learners select stakeholders, of course they should pick someone primarily who is directly affected by the issue. However, by including interviewing ministers or whoever can observe the issue with Christian worldview, learners can have another perspectives as Christians. Fourth, in the process of reflection, the current program did not require a separate reflection on the Christian worldview, this stage might nurture more Christian worldview by adding direct questions that participants can reflect on how they think, judge, and practice according to the Christian worldview.

V. Conclusion

The consciousness and religious life of modern Christian college students do not read the Bible regularly and do not believe the Bible with their whole hearts, and the influence of the Christian worldview is insignificant, especially in judgments related to ethical issues(Oh, 2019). Though, it is not possible to force the current college students, represented by the MZ generation, to read the Bible. Nevertheless, Christian universities must educate students to acquire a Christian worldview. It is important that they not only have a Christian worldview through the Bible, but also provide various opportunities so that they can think and practice what they have learned and learned in their lives. This means that it is necessary to apply various educational methods that can cultivate a Christian worldview(Yoon, 2019). In this context, this study ran a program for nurturing a Christian worldview using MEBDT. As a result, participants could not only foster the competencies (refer to ⟨Table 2⟩) that can be developed through MEBDT, but also learn and practice how to think, apply and live through their own Christian worldview. Many Christian universities are indispensably running courses to learn the Christian worldview. However, it may be difficult to learn how to implement what they learn in life due to limited curriculum operation that most of the courses are liberal arts and require one or two semesters, and are theory-oriented. The compulsory subjects can be regarded as subjects in which students are forced to learn what they have learned in church. Therefore, MEBDT can be a complementary alternative to the current Christian worldview education.

However, as this study has significance as an attempt, the matters to be considered need to be mentioned when utilizing and applying it afterwards. First, we would like to make a suggestion regarding the human resources. It is necessary to have related experts to plan and operate MEBDT. Therefore, if planing it, it will be able to design after training for a certain period of time and having an understanding of the program in advance. Even if it is a program designed by an expert, during running it, collaboration between experts in each field is required. For example, when learners experience various digital or analogue tools and materials for making in the stage of tinkering, an expert who

can instruct these activities with understanding of maker education. Also, in motivational activities, not only maker education and design thinking education, but also education on the Christian worldview are needed. In order for the program to produce learning outcome as planned, the role of the facilitator is important in the process of operating the project, so this also requires a professional human resource who understand the program. Ultimately, for the success of this program, not only a deep understanding of the operator's program, but also convergence and cooperation between various fields are inevitable. There are also aspects to consider in terms of how the program operates. This program is conducted as a team activity, and each team may have very different time required to solve problems, materials required for production, and budget. Therefore, it is appropriate to operate as an extracurricular education program supported by the school rather than being operated within the subject. If it is operated within the regular curriculum, and it is more effective to carry out to support various activities of students in various ways in connection with extracurricular programs.

Based on these circumstances to be considered, as a suggestion for future research, first, a study designing and presenting a model of MEBDT for cultivating a Christian worldview can be conducted as a follow-up study. This future study enables to design and implement more easily, although there is no expertise in maker education and design thinking. MEBDT is a program in which the initiative of learning is transferred to the learner, but a facilitator's guide to help the learning is absolutely necessary. Therefore, apart from the model, it is possible to propose a study on the role of a facilitator for the operation of MEBDT incorporating Christian worldview education. Finally, an assessment tool such as a rubric that can assess the performance of the program for the purpose of fostering Christina worldview. Through the assessment tool, to figure out how much the Christian worldview is actually being cultivated through this program, and to improve feedback based on this result will be possible. Concluding this study with the above three suggestion, it is expected that this study will contribute to the cultivation of the Christian world view of Christian university youth and the expansion of the kingdom of God.

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