

Artificial Intelligence in Christian Education: Effects of AI-Assisted Learning on Epistemic Authority and Faith-Integrated Learning in a Bible School Context

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Abstract

Background: The integration of generative artificial intelligence into theological education raises distinct challenges for Bible schools and seminaries, where Scripture, confessional tradition, and instructor authority traditionally anchor legitimate knowledge. Aim: This quasi-experimental study examined the effects of AI-assisted learning on theological knowledge acquisition, epistemic authority attribution, and faith-integrated learning among Bible school students. Method: A sample of 121 evangelical-Protestant students (58% male; Mage = 22.4, SD = 3.1) was assigned to an AI-assisted condition (n = 61) or a control condition (n = 60) across one academic semester, with pre- and post-test measures of theological knowledge, epistemic authority attribution, and faith-integration. Results: The AI-assisted group showed significantly higher post-test achievement (d = 0.99) and stronger attribution of epistemic authority to AI (d = 1.01), but significantly lower faith-integration scores (d = -0.41) than controls. AI usage intensity and AI-attributed epistemic authority negatively predicted faith-integration, while Christian Worldview Strength buffered this effect. Conclusion: AI-assisted theological learning entails a genuine epistemological risk: cognitive gains may come at the cost of faith-integration unless institutions deliberately embed worldview formation within AI-mediated pedagogy.

Keywords: AI in Christian education; epistemic authority; faith-integrated learning; Bible school; quasi-experimental; theological education; generative AI

Introduction

Imagine a first-year student at a Bible college opening her laptop not to consult her professor's annotated lecture notes or to wrestle in solitude with a particularly dense passage of the Pauline epistles, but to type a query into a generative AI chatbot. Within seconds, a fluid, confident, syntactically impeccable response appears — a doctrinal synthesis that would have taken the student several hours of library research to assemble independently. The answer is plausible, comprehensive, and, in many respects, correct. Yet something of decisive importance has shifted in the encounter: the question of authority. Who has spoken? On what basis? And what happens to the student's trained instinct to weigh every theological proposition against Scripture, tradition, and the communal discernment of the Church when an algorithmic oracle dispenses it all in a paragraph?

Generative artificial intelligence — understood in the present study as large language model (LLM)-based tools capable of producing coherent, contextually responsive text across virtually any domain — has entered educational settings at a pace that leaves pedagogical

reflection struggling to keep up.¹ The volume of empirical literature on AI and academic learning outcomes has grown substantially in recent years, with studies documenting gains in student engagement, knowledge acquisition, and self-regulated learning.² Yet the vast majority of this scholarship is lodged in secular higher education contexts, where the epistemological framework governing the learner's relationship to information is relatively uncomplicated: knowledge is produced by experts and transmitted through credentialed institutions. Christian theological education operates within a fundamentally different epistemological architecture.

Within evangelical and broadly orthodox Protestant traditions, biblical authority functions as the normative center of the knowing enterprise. The Reformation axiom of *Sola Scriptura* — though variously interpreted across confessional traditions — enshrines the principle that revealed truth, attested in the canonical witness of Scripture and illuminated by the Spirit, stands as the supreme criterion against which all other knowledge claims must be evaluated.³ In the pedagogical setting of the Bible school or seminary, this theological epistemology is not merely an abstract doctrinal commitment; it is a formative practice, enacted through habits of textual encounter, hermeneutical apprenticeship, and communal interpretation under the guidance of theologically qualified instructors. The teacher, in the Christian educational tradition, is not merely a transmitter of information but a figure of mediated authority — one who embodies the interpretive community and models the integration of knowledge with faith commitment.⁴

Against this background, the introduction of generative AI into the Christian classroom raises questions that are not only pedagogical but fundamentally theological. If students increasingly turn to AI as a primary informational authority — and the evidence from secular contexts suggests this tendency is already well advanced.⁵ — what becomes of the carefully cultivated hierarchy of epistemic authorities that Christian formation requires? Does the fluency and apparent comprehensiveness of AI-generated theological content lead students to assign it a degree of epistemic weight that properly belongs to Scripture, tradition, or the teaching office? And does the convenience of AI-mediated learning, with its immediate synthesis and absence of interpretive friction, inhibit the very processes of slow, contested, faith-integrated reflection through which genuine theological understanding is formed?

These questions have received virtually no empirical attention. The existing literature on faith-integrated learning — a tradition of educational philosophy rooted in the Reformed

¹ David Baidoo-Anu and Leticia Owusu Ansah, "Education in the Era of Generative Artificial Intelligence (AI): Understanding the Potential Benefits of ChatGPT in Promoting Teaching and Learning," *Journal of AI* 7, no. 1 (December 2023), <https://doi.org/10.61969/jai.1337500>.

² Lijia Chen, Pingping Chen, and Zhijian Lin, "Artificial Intelligence in Education: A Review," *IEEE access* 8 (April 2020), <https://openresearch.amsterdam.nl/page/73414/artificial-intelligence-in-education>; Olaf Zawacki-Richter et al., "Systematic Review of Research on Artificial Intelligence Applications in Higher Education—Where Are the Educators?" *International Journal of Educational Technology in Higher Education* 16, no. 39 (October 2019), <https://doi.org/10.1186/s41239-019-0171-0>.

³ Nicholas Wolterstorff, *Reason within the Bounds of Religion*, 2nd ed. (Grand Rapids, MI: Eerdmans, 1984); Alvin Plantinga, "Advice to Christian Philosophers," *Faith and Philosophy: Journal of the Society of Christian Philosophers* 1, no. 3 (July 1984), <https://doi.org/10.5840/faithphil19841317>.

⁴ Harro Van Brummelen, *Walking with God in the Classroom: Christian Approaches to Learning and Teaching*, 3rd ed. (Colorado Springs, CO: Purposeful Design, 2009).

⁵ Xuesong Zhai et al., "A Review of Artificial Intelligence (AI) in Education from 2010 to 2020," *Complexity* 2021 (April 2021), <https://doi.org/10.1155/2021/8812542>.

scholarship of Wolters and Van Brummelen and the wider integrationist movement.⁶ — has engaged extensively with questions of curriculum design, institutional mission, and the conceptual architecture of a Christian worldview approach to knowledge. What it has not produced is empirical evidence about how specific pedagogical technologies, including generative AI, affect the degree to which students actually engage in faith-integrated cognition. Similarly, the emerging literature on AI literacy and epistemic trust has not addressed the distinctive case of theological education, where the stakes of epistemic authority attribution extend beyond academic performance into the formation of the whole person as a disciple and future minister of the Church.⁷

A small body of scholarship on artificial intelligence in seminaries and theological schools has in fact begun to appear, but it is almost entirely conceptual rather than empirical. Graves' widely cited editorial mapped the anticipated consequences of generative AI for theological education, theological scholarship, and systematic theology, noting that early large language models already operated across the full range of Bloom's taxonomy on theological material, and that AI-generated sermons raise direct questions about theological authority and human agency; it offered, however, no measurement of student outcomes.⁸ Papakostas' review of artificial intelligence in religious education organizes the ethical, pedagogical, and theological considerations at stake and documents parallel concerns in Catholic and other confessional settings — in particular the displacement of the teacher as faith mentor and the risk to moral formation — but likewise tests none of these claims against classroom data.⁹ Earlier theological engagement with artificial intelligence, notably Herzfeld's, anticipated the anthropological stakes of machine cognition long before generative models existed, again without empirical reference.¹⁰ What this literature has not produced is a controlled comparison: no published study known to the author sets AI-assisted against traditionally instructed theological students and measures what happens to knowledge acquisition, epistemic authority attribution, and faith-integration simultaneously. That is the gap the present study addresses.

The present study addresses this gap directly. Drawing on a quasi-experimental design with 121 Bible school students assigned to either an AI-assisted learning condition or a traditional instructional control condition, we investigated: (1) whether AI-assisted learning produces measurable gains in theological knowledge acquisition; (2) whether exposure to AI-assisted learning shifts students' attribution of epistemic authority toward AI as an informational source; (3) whether AI usage intensity is associated with decreased faith-integrated learning; and (4) whether students' prior Christian worldview strength moderates

⁶ Albert M. Wolters, *Creation Regained: Biblical Basics for a Reformational Worldview* (Grand Rapids, MI: Eerdmans, 1985); Van Brummelen, *Walking with God in the Classroom*.

⁷ Luciano Floridi et al., "AI4 People – An Ethical Framework for a Good AI Society: Opportunities, Risks, Principles, and Recommendations," *Minds and Machines* 28 (November 2018), <https://doi.org/10.1007/s11023-018-9482-5>; Kai Guo et al., "Investigating Students' Engagement in Chatbot-Supported Classroom Debates," *Interactive Learning Environments* 32, no 9 (May 2023), <https://doi.org/10.1080/10494820.2023.2207181>.

⁸ Mark Graves, "ChatGPT's Significance for Theology," *Theology and Science* 21, no. 2 (May 2023), <https://doi.org/10.1080/14746700.2023.2188366>.

⁹ Christos Papakostas, "Artificial Intelligence in Religious Education: Ethical, Pedagogical, and Theological Perspectives," *Religions* 16, no. 5 (April 2025): 563, <https://doi.org/10.3390/rel16050563>.

¹⁰ Noreen L. Herzfeld, *In Our Image: Artificial Intelligence and the Human Spirit* (Minneapolis, MN: Fortress Press, 2002).

the negative relationship between AI usage and faith-integration. The practical implications of these findings are considerable: if AI tools simultaneously enhance knowledge acquisition and erode the epistemic and formative structures that distinguish Christian education from secular alternatives, theological institutions must develop principled, theologically informed frameworks for governing AI integration rather than simply adopting the tools that secular higher education normalizes.

Theoretical Background

Epistemic Authority in Christian Education

The concept of epistemic authority — understood as the legitimate source from which a knower derives justified beliefs — occupies a central place in the philosophical theology of Christian education. In the Reformed epistemological tradition, which has exerted formative influence on evangelical Protestant institutions globally, the structure of epistemic authority is hierarchical and normatively ordered. Scripture, as the inspired and authoritative Word of God, functions as the supreme epistemological criterion; the confessional tradition of the Church articulates and guards its interpretation; and the theologically educated instructor mediates this inheritance to the student through a process of guided encounter, critical engagement, and formative habituation.¹¹

Wolterstorff's seminal account of reason within the limits of religion established the philosophical foundations for this understanding: Christian scholars and students are not epistemically obligated to bracket their foundational theological commitments when engaging with knowledge; rather, those commitments appropriately function as control beliefs that govern the acquisition, evaluation, and integration of all other knowledge claims.¹² Plantinga's subsequent argument for the rationality of Christian belief without the need for evidential justification extended this framework, affirming that theological conviction can function as a properly basic belief — one that grounds rather than awaits evidence.¹³ The practical educational implication is that the Christian student's epistemic posture is not one of neutral receptivity to information from any available source but rather one of discerning engagement, in which all knowledge claims are tested against the normative criterion of revealed truth.

In the institutional setting of the Bible school or theological seminary, epistemic authority is concretely enacted through the relationship between student and instructor. The teacher in the Christian educational tradition functions not as a mere transmitter of propositional content but as a representative of the interpretive community — one who models the integration of scholarly competence with personal faith, who exercises hermeneutical judgment in the presence of the learner, and who forms the student's capacity for similarly integrated knowing.¹⁴ The erosion of this teacher-as-authority figure through the substitution of AI-generated content thus represents not merely a pedagogical shift but a structural disruption of the social and relational architecture through which Christian epistemic formation occurs.

¹¹ Wolterstorff, *Reason within the Bounds of Religion*; Plantinga, "Advice to Christian Philosophers."

¹² Wolterstorff, *Reason within the Bounds of Religion*.

¹³ Plantinga, "Advice to Christian Philosophers."

¹⁴ Van Brummelen, *Walking with God in the Classroom*.

More recent Christian educational scholarship has extended, and in part reframed, this account of epistemic authority. David I. Smith argues that what is distinctively Christian about teaching cannot be located in content or philosophy alone: it is carried by the concrete practices, rhythms, and pedagogical habits through which a classroom forms its students, so that intentionality of process matters as much as orthodoxy of content.¹⁵ Together with James K. A. Smith he has shown how historic Christian practices — attentive and charitable reading, hospitality, testimony, communal discernment — can be deliberately re-embedded in higher-education pedagogy rather than added to it as devotional decoration.¹⁶ James K. A. Smith's account of the human person as fundamentally a desiring, liturgical animal sharpens the point further: education forms students less through the transfer of propositions than through repeated practices that shape what they love and therefore how they attend.¹⁷ Glanzer and Alleman, in turn, argue that Christian teaching is best understood as an identity-forming vocation rather than as a technique of worldview-integration applied to otherwise neutral disciplinary content.¹⁸ Read together with the Reformed epistemological tradition outlined above, these authors yield the question the present study puts empirically: if formation is carried by practices, then a technology that reorganizes the everyday practice of theological study is not pedagogically neutral, however accurate its outputs may be.

Faith-Integrated Learning

The tradition of faith-integrated learning, or the integration of faith and learning (IFL), represents one of the most distinctive and enduring contributions of Reformed Christian thought to educational philosophy. Grounded in the conviction that all truth is God's truth and that the Lordship of Christ extends over every domain of human inquiry, the IFL tradition insists that authentic Christian education cannot be accomplished merely by adding devotional content to an otherwise secular curriculum; rather, the entire educational enterprise must be reconceived from the ground up in light of a biblical worldview.¹⁹

Albert Wolters' foundational account in *Creation Regained* articulated the structural logic of this vision: the biblical drama of creation, fall, and redemption provides the normative narrative within which all human cultural activity — including the activity of learning — must be understood and evaluated.²⁰ Educational content is not epistemically neutral; it is always already embedded in a worldview, a set of ultimate commitments about the nature of reality, the source of meaning, and the purpose of human existence. The task of Christian education is therefore to cultivate in the student the capacity to read all learning content through the lens of this biblical narrative, identifying the creational structures that secular disciplines investigate while critically engaging the misdirected interpretive frameworks that fallen culture imposes upon them.

¹⁵ David I. Smith, *On Christian Teaching: Practicing Faith in the Classroom* (Grand Rapids, MI: Eerdmans, 2018).

¹⁶ David I. Smith and James K. A. Smith, eds., *Teaching and Christian Practices: Reshaping Faith and Learning* (Grand Rapids, MI: Eerdmans, 2011).

¹⁷ James K. A. Smith, *Desiring the Kingdom: Worship, Worldview, and Cultural Formation* (Grand Rapids, MI: Baker Academic, 2009).

¹⁸ Perry L. Glanzer and Nathan F. Alleman, *The Outrageous Idea of Christian Teaching* (New York, NY: Oxford University Press, 2019).

¹⁹ Wolters, *Creation Regained*; Van Brummelen, *Walking with God in the Classroom*.

²⁰ Wolters, *Creation Regained*.

Van Brummelen's practical elaboration of this vision in *Walking with God in the Classroom* extended the IFL framework into concrete pedagogical territory, specifying the habits of thought, curricular design principles, and relational practices through which faith-integrated learning is cultivated in actual classroom settings.²¹ Of particular relevance to the present study is Van Brummelen's insistence that faith-integration is not merely an add-on competency acquired through discrete instruction but a dispositional orientation — a habitus in the Aristotelian and Bourdieusian sense — that must be shaped through sustained engagement with materials, questions, and community in ways that consistently model and reinforce the integrative imperative. The question of what happens to this dispositional formation when AI tools mediating the initial encounter with knowledge are introduced is thus not peripheral but central to the IFL tradition's concerns.

Generative AI as Epistemic Agent

The emergence of large language model-based AI systems as educational tools represents a qualitative shift in the landscape of mediated learning that existing frameworks for technology integration — from constructivist CALL approaches to connectivist e-learning models — are inadequate to capture. Unlike previous educational technologies, which functioned primarily as vehicles for the delivery of human-authored content, generative AI produces apparently novel synthetic responses that simulate, with considerable surface plausibility, the kind of authoritative synthesis previously associated with expert human knowledge. The epistemic status of AI-generated content is thus profoundly ambiguous: it is neither the testimony of a known, accountable human authority nor the verifiable output of a deterministic algorithmic process, but something in between — a statistically probable textual surface generated from patterns in vast corpora of human expression.²²

From an epistemic standpoint, this ambiguity is consequential. Research on epistemic trust — the disposition to attribute credibility and knowledge-authority to specific sources — indicates that learners calibrate their trust in information sources according to perceived competence, benevolence, and reliability.²³ Generative AI presents itself, in its interaction design, as comprehensively competent, immediately responsive, and apparently reliable, while simultaneously lacking the accountability, personal identity, and formative investment that ground legitimate epistemic authority in human relationships. The concern, articulated with increasing urgency in the literature on AI and education, is that students may develop a disposition of epistemic deference toward AI systems that is disproportionate to their actual epistemic warrant — a phenomenon that might be described as AI-induced epistemic inflation.²⁴

In the specifically Christian educational context, this concern acquires additional theological weight. The Reformed tradition's account of the noetic effects of sin — the recognition that human cognitive capacity is affected by fallenness in ways that distort perception, reasoning, and evaluative judgment — provides a framework for understanding

²¹ Van Brummelen, *Walking with God in the Classroom*.

²² Floridi et al., "AI4 People - An Ethical Framework for a Good AI Society."

²³ Dan Sperber et al., "Epistemic Vigilance," *Mind & Language* 25, no. 4 (September 2010), <https://doi.org/10.1111/j.1468-0017.2010.01394.x>.

²⁴ Neil Selwyn, *Should Robots Replace Teachers? AI and the Future of Education (Digital Futures)* (Cambridge, UK: Polity Press, 2019); Zhai et al., "A Review of Artificial Intelligence (AI) in Education."

why the frictionless confidence of AI-generated theological content may be epistemically dangerous. Where the labor of genuine theological understanding requires wrestling with ambiguity, engaging with the plurality of interpretive traditions, and submitting one's conclusions to the scrutiny of the community and the text, AI-mediated theological information arrives pre-synthesized, presenting the appearance of settled knowledge where genuine theology demands ongoing discernment. Selwyn's broader critique of algorithmic education resonates with this concern: the substitution of computational efficiency for the productive struggle of genuine learning risks producing students who know more but understand less.²⁵

Imago Dei and Technologically Mediated Learning

The theological anthropology of the imago Dei — the doctrine that human beings are created in the image and likeness of God (Genesis 1:26–27) — provides a further theological lens through which the implications of AI-mediated learning must be evaluated. J. Richard Middleton's landmark study *The Liberating Image* recovered the functional interpretation of the imago Dei in ancient Near Eastern context, arguing that the image of God in humanity is expressed precisely in the vocation of creative, responsive, and responsible cultural agency — the royal stewardship of creation under divine sovereignty.²⁶ Human learning, on this account, is not merely the acquisition of data but the exercise of a divinely grounded capacity for meaning-making, relational understanding, and creative engagement with the created order.

The theological significance of this anthropological framework for educational technology is direct. If the imago Dei is expressed in the exercise of active, responsive, and responsible cognitive agency, then pedagogical forms that substitute algorithmic synthesis for the student's own meaning-making activity may, in a theologically serious sense, short-circuit the very processes through which genuine human formation — and, in Christian perspective, genuine conformity to the image of Christ — occurs. Biesta's philosophical account of good education in an age of measurement offers a secular parallel: the reduction of education to efficiently produced and measurably verified learning outcomes systematically neglects the dimension of subjectification — the formation of the student as a responsible, responsive self — that distinguishes genuine education from mere training.²⁷ The imago Dei framework radicalizes this concern, grounding the imperative for genuine cognitive agency not in pedagogical theory but in theological anthropology.

This framework also illuminates the specific risks of AI-assisted theological learning. The encounter with Scripture, and more broadly with the revealed knowledge of God, is not in the Christian tradition a neutral informational transaction; it is an encounter that demands the whole person — intellectual, affective, volitional, and spiritual. Formation in faith-integrated thinking requires the student to bring her whole self — her questions, her doubts, her prior commitments, her community — into contact with the materials of theological education. When AI mediates this encounter by pre-processing the synthesis, it inserts a layer

²⁵ Selwyn, *Should Robots Replace Teachers?*

²⁶ J. Richard Middleton, *The Liberating Image: The Imago Dei in Genesis 1* (Grand Rapids, MI: Brazos Press, 2005).

²⁷ Gert J. J. Biesta, *Good Education in an Age of Measurement: Ethics, Politics, Democracy* (Boulder, CO: Paradigm Publishers, 2010).

of algorithmic mediation at precisely the point where the most personally demanding and formationally significant aspects of theological encounter occur.

Hypotheses

Drawing on the theoretical framework developed in the preceding subsections, the present study advances four specific hypotheses:

H1: Students in the AI-assisted learning condition will demonstrate significantly higher post-test learning achievement scores than students in the control condition. This hypothesis follows from the well-documented efficiency advantages of AI-assisted learning for knowledge acquisition,²⁸ which we expect to replicate in the domain of biblical and theological content. Domain-specific evidence remains sparse, but what exists points in the same direction: Graves reports that early generative models already performed across the remember-to-create range of Bloom's taxonomy on theological material, and descriptive accounts from theological classrooms consistently note gains in the speed and breadth with which students assemble doctrinal content.²⁹

H2: Students in the AI-assisted learning condition will display significantly stronger post-intervention attribution of epistemic authority to AI, relative to students in the control condition. This hypothesis follows from the theoretical analysis of AI as an epistemic agent that presents itself as authoritative and comprehensive, and from research on source credibility and epistemic trust.³⁰ Two empirical findings support this expectation directly. Logg, Minson, and Moore demonstrated across six experiments that participants adhered more strongly to advice they believed had been produced by an algorithm than to identical advice attributed to a person — an effect they termed algorithm appreciation.³¹ Gerlich, in a mixed-methods study of 666 participants, found that trust in AI tools rose with frequency of use and was accompanied by increased cognitive offloading, most markedly among younger users of the same age range as the present sample.³²

H3: Within the AI-assisted learning condition, higher AI usage intensity will be negatively associated with faith-integration scores. This hypothesis is grounded in the theoretical argument that AI-mediated theological encounter, by substituting algorithmic synthesis for the student's own integrative cognitive labor, inhibits the formation of the faith-integration disposition.³³ It is also supported empirically by research on cognitive offloading: Gerlich found a significant negative association between frequent AI tool use and measured critical thinking performance, mediated by offloading, with the strongest effects among younger and less formally educated users.³⁴ Because faith-integration is, on Van Brummelen's

²⁸ Chen, Chen, and Lin, "Artificial Intelligence in Education."; Zawacki-Richter et al., "Systematic Review of Research."

²⁹ Graves, "ChatGPT's Significance for Theology."

³⁰ Sperber et al., "Epistemic Vigilance."; Zhai et al., "A Review of Artificial Intelligence (AI) in Education."

³¹ Jennifer M. Logg, Julia A. Minson, and Don A. Moore, "Algorithm Appreciation: People Prefer Algorithmic to Human Judgment," *Organizational Behavior and Human Decision Processes* 151 (March 2019), <https://doi.org/10.1016/j.obhdp.2018.12.005>.

³² Michael Gerlich, "AI Tools in Society: Impacts on Cognitive Offloading and the Future of Critical Thinking," *Societies* 15, no. 1 (January 2025): 6, <https://doi.org/10.3390/soc15010006>.

³³ Van Brummelen, *Walking with God in the Classroom*; Wolters, *Creation Regained*.

³⁴ Gerlich, "AI Tools in Society."

account, a form of effortful evaluative processing rather than a retrievable content, we expect the same substitution logic to apply within the theological domain.

H4: The negative association between AI usage intensity and faith-integration (H3) will be moderated by Christian Worldview Strength, such that students with stronger prior worldview formation will exhibit a smaller negative effect. This moderation hypothesis follows from the theoretical argument that a robustly formed Christian worldview functions as a cognitive-spiritual framework that equips students to engage AI-generated content critically and integratively, rather than as passive recipients of algorithmic epistemic authority.

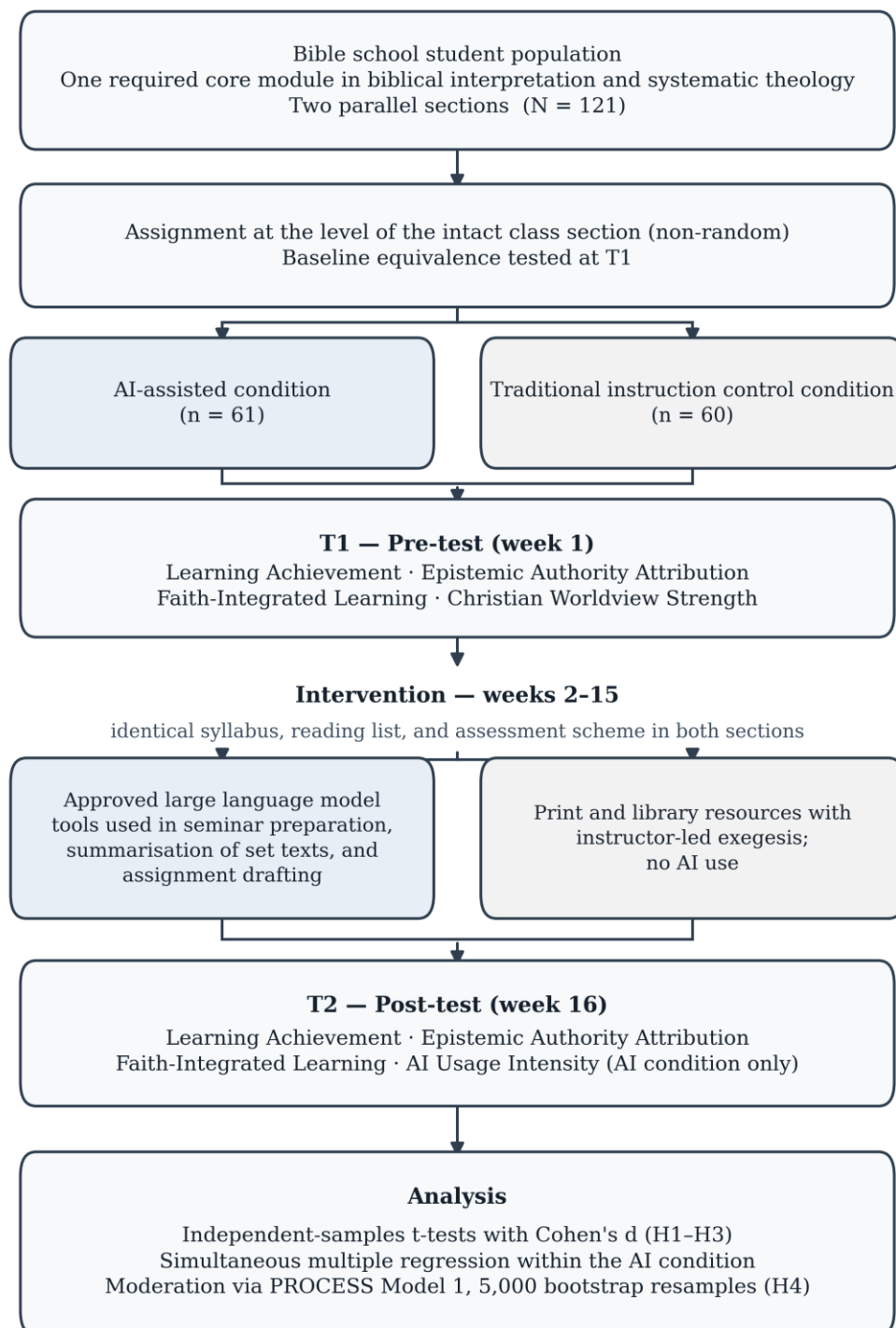
Methodology

Study Design

The present study employed a quasi-experimental two-group pre-test/post-test design. Participants were assigned to either an AI-assisted learning condition or a traditional instructional control condition based on class enrollment in one of the two parallel sections of a single required core module in biblical interpretation and systematic theology, taken by all students at the same stage of the programme. Both sections followed an identical syllabus, an identical reading list, and an identical assessment scheme, and were taught by the same instructor; the sections differed only in the presence or absence of AI-supported study activities. Assignment at section level precluded random individual allocation but allowed for comparison of groups with equivalent pre-test characteristics. The intervention extended across one full academic semester of sixteen teaching weeks, corresponding to the winter (first) semester of the 2024/2025 academic year and running from the beginning of October 2024 to the end of February 2025. The intervention was confined to this one module rather than to the students' entire course load; all remaining modules taken during that semester were identical for both groups and involved no AI component. Pre-test assessments were administered at the beginning of the semester, prior to any intervention exposure, and post-test assessments were administered in the final week of the semester. The quasi-experimental design was selected on the grounds that it permits comparison of intervention effects under ecologically valid educational conditions while acknowledging the inherent limitations of non-random group assignment, including potential selection effects and between-group differences in unmeasured variables.

Figure 1 presents the procedural flow of the study.

Figure 1 Research Design and Procedural Flow



Note. N = 121. Assignment was made at the level of the intact class section rather than the individual student; both sections were taught by the same instructor, in the same academic term, from an identical syllabus. Instruments and administration windows were identical across conditions.

Sample and Recruitment

The sample consisted of 121 students — all of them undergraduates enrolled in a three-year, Bachelor-level programme in theology and pastoral ministry, and all in their second year of study (fourth semester), so that every participant had completed the same introductory coursework in biblical studies and doctrine and stood at a comparable stage of theological formation. No graduate or postgraduate students took part. The sample was distributed as follows (58% male, 42% female; M age = 22.4 years, SD = 3.1) enrolled in a Bible school and theological training institution affiliated with the evangelical-Protestant tradition. All participants (100%) identified as evangelical-Protestant. The institution operates within a framework of confessional biblical authority and is committed to the integration of faith and theological learning across its curriculum. Recruitment was conducted through the institution's academic administration, which identified two comparable class cohorts for assignment to the experimental and control conditions. The AI-assisted group comprised 61 students; the control group comprised 60 students. Participation was voluntary and anonymous, and all participants provided written informed consent prior to the administration of any study measures. No incentives were offered for participation. Pre-test comparison of the two groups on the primary outcome measures revealed no significant differences, supporting the assumption of baseline equivalence.

Measures

Learning Achievement was assessed using a researcher-developed 20-item knowledge test covering biblical content and systematic theology appropriate to the students' level of training. Items were constructed in single-best-answer multiple-choice format with four response options, each item assessing comprehension of a specific doctrinal, hermeneutical, or biblical-historical concept addressed in the course curriculum. Two items illustrate the format. A doctrinal item reads: "Which statement best expresses the Reformation principle of sola Scriptura? (a) Scripture is the only text Christians may read; (b) Scripture is the supreme and final authority against which all other authorities are to be tested; (c) Scripture requires no interpretation; (d) Scripture and ecclesial tradition carry equal authority." A hermeneutical item reads: "In the argument of Romans 3:21–26, the phrase 'the righteousness of God' is best understood in its immediate literary context as denoting (a) God's punitive justice alone; (b) a moral quality demanded of the believer; (c) God's saving activity by which he justifies the ungodly; (d) the legal standing of Israel under the Mosaic covenant." All items were reviewed for content validity by two members of the teaching faculty who were not otherwise involved in the study, and no item referred to material covered exclusively in one of the two conditions. The test demonstrated good internal consistency (Cronbach's α = .86). The maximum possible score was 20, with higher scores indicating greater theological knowledge acquisition.

Epistemic Authority Attribution was assessed with an 8-item scale designed for the present study to measure the degree to which students attributed primary epistemic authority to four potential sources: the Bible, the course instructor, artificial intelligence, and their own judgment. Items were presented on a 5-point Likert scale (1 = not at all, 5 = to a very great extent), and scores in the present analysis focus on the AI subscale, which asks respondents to rate the degree to which they regard AI-generated information as authoritative and trustworthy in theological and academic contexts. Internal consistency was satisfactory (α = .81). A sample item reads: 'When I encounter a theological question, I rely on AI-generated explanations as a primary source of authoritative information.' A second AI-subscale item

reads: 'If an AI-generated explanation conflicts with what my instructor has taught, I assume the AI is more likely to be correct.' Of the eight items, four constitute the AI subscale reported here; the remaining four address the competing referents named above — two items for Scripture, one for the instructor, and one for the student's own judgement — and were included so that AI authority was rated within, rather than in isolation from, the hierarchy of sources that Christian formation presupposes. A Scripture-referent contrast item reads: 'When I encounter a theological question, I treat the text of Scripture as the final authority against which any other answer must be tested.'

Faith-Integrated Learning was assessed with a 10-item scale measuring the degree to which students actively connected their learning content with their faith commitments and biblical worldview. Items were rated on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree) and were adapted from established faith-integration assessment frameworks within the Christian higher education literature.³⁵ The scale demonstrated excellent internal consistency ($\alpha = .88$). A sample item reads: 'When I learn new theological content, I habitually evaluate it in light of my understanding of Scripture and Christian worldview.' Two further items read: 'I find myself asking what a given theological argument implies for how I actually live before God' and 'When I study a biblical text for coursework, I also read it as addressed to me personally.' Items were presented in randomized order; none was reverse-keyed, and the scale score is the mean of the ten item responses.

AI Usage Intensity was assessed with a 5-item scale measuring the frequency and depth of AI tool use in the student's learning activities over the semester. Items were rated on a 5-point scale (1 = never, 5 = very frequently/extensively) and addressed behaviours such as consulting AI for theological questions, using AI to summarize course materials, and relying on AI for assignment preparation. Internal consistency was good ($\alpha = .82$). This scale was administered only to the AI-assisted group.

Christian Worldview Strength (CWS) was assessed with a 6-item scale measuring the degree to which participants' thinking is guided by a comprehensively applied Christian worldview in their academic and everyday reasoning. Sample items read: 'The biblical account of creation, fall, and redemption shapes how I interpret events in the world around me'; 'I regularly ask how my Christian convictions bear on subjects that are not explicitly religious'; and 'I can explain to someone else why my faith commitments make a difference to how I study.' Items were rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree) and were adapted from worldview formation assessment tools used in Christian higher education research. The scale demonstrated good internal consistency ($\alpha = .84$). This construct served as the moderator variable in the moderation analysis.

Statistical Analysis

All statistical analyses were conducted using SPSS Version 28. Descriptive statistics — means, standard deviations, and internal consistency indices — were computed for all study variables. Baseline equivalence of the two experimental groups was assessed through independent-samples *t*-tests on all pre-test measures. Group differences on post-test learning achievement, epistemic authority attribution, and faith-integration were examined using independent-samples *t*-tests, with Cohen's *d* computed as an index of effect size. The regression analysis predicting faith-integration from AI usage intensity, epistemic authority attributed to AI, and post-test learning achievement was conducted as a simultaneous

³⁵ Van Brummelen, *Walking with God in the Classroom*.

multiple regression within the AI-assisted group, with R^2 reported as the index of explained variance and the F -statistic as the omnibus test of model fit. The moderation analysis examined the interaction between AI usage intensity and Christian Worldview Strength in predicting faith-integration, using the PROCESS macro (Model 1)³⁶ with 5,000 bootstrap resamples and bias-corrected 95% confidence intervals. The alpha level for all tests was set at .05.

Results

Descriptive Statistics

Descriptive statistics and internal consistency indices for all study measures are presented in Table 1. The AI-assisted group and the control group demonstrated comparable pre-test knowledge scores (AI group: $M = 11.3$, $SD = 2.8$; Control group: $M = 11.1$, $SD = 2.9$), confirming baseline equivalence on the primary knowledge outcome. Across the full sample, participants reported moderate to moderately high levels of faith-integrated learning, with the control group exhibiting somewhat higher mean scores ($M = 3.94$, $SD = 0.68$) than the AI-assisted group ($M = 3.67$, $SD = 0.71$). Christian Worldview Strength was assessed in both groups as a moderator candidate and demonstrated adequate variance for moderation testing.

Table 1 Descriptive Statistics and Internal Consistency for All Study Variables

Variable	Group	Items (n)	M	SD	α
Learning Achievement (Pre)	AI	20	11.3	2.8	.86
Learning Achievement (Pre)	Control	20	11.1	2.9	.86
Learning Achievement (Post)	AI	20	16.7	2.9	.86
Learning Achievement (Post)	Control	20	13.4	3.1	.86
Epistemic Authority (AI)	AI	8	3.12	0.74	.81
Epistemic Authority (AI)	Control	8	2.43	0.69	.81
Faith-Integration	AI	10	3.67	0.71	.88
Faith-Integration	Control	10	3.94	0.68	.88

³⁶ Andrew F. Hayes, *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, 3rd ed. (New York, NY: Guilford Press, 2022).

Note. $N = 121$ (AI group $n = 61$, Control group $n = 60$). M = arithmetic mean; SD = standard deviation; α = Cronbach's alpha. Learning Achievement scores reflect number of correct items out of 20. Descriptive values for the Christian Worldview Strength (CWS) subscale ($\alpha = .84$) are available from the corresponding author upon request.

Learning Achievement

H1 was fully supported. Independent-samples t -tests revealed no significant pre-test difference between groups ($t(119) = 0.39, p = .694$), confirming comparable baseline knowledge. At post-test, the AI-assisted group demonstrated significantly higher learning achievement ($M = 16.7, SD = 2.9$) than the control group ($M = 13.4, SD = 3.1$), $t(119) = 5.47, p < .001, d = 0.99$. This large effect size indicates that AI-assisted instruction produced a robust advantage in theological knowledge acquisition over the course of one semester. The AI group's gain score (pre-to-post increase) was $M = 5.4$ points, compared to $M = 2.3$ points in the control group — a difference of more than two full knowledge-test items, representing a meaningful instructional advantage by any pedagogically relevant standard.

Epistemic Authority Attribution

H2 was fully supported. The AI-assisted group reported significantly higher attribution of epistemic authority to AI ($M = 3.12, SD = 0.74$) than the control group ($M = 2.43, SD = 0.69$), $t(119) = 5.54, p < .001, d = 1.01$. This large effect indicates that one semester of AI-assisted theological instruction produced a substantial and statistically reliable shift in students' attribution of epistemic authority toward AI as a knowledge source. While the mean score of the AI-assisted group ($M = 3.12$) represents a moderate rather than extreme level of AI authority attribution on the 5-point scale, the magnitude of the between-group difference — a full Cohen's d of 1.01 — indicates that exposure to AI-assisted learning meaningfully and substantially altered students' epistemic orientation relative to peers who received traditional instruction. This finding is consistent with the theoretical expectation that AI tools, by presenting themselves as comprehensive and authoritative knowledge sources, exert a measurable gravitational pull-on learners' epistemic trust.

Faith-Integrated Learning

H3 was supported. Counter to a possible expectation that enhanced knowledge acquisition might translate into stronger faith-integration, the AI-assisted group reported significantly lower faith-integration scores ($M = 3.67, SD = 0.71$) than the control group ($M = 3.94, SD = 0.68$), $t(119) = -2.26, p = .026, d = -0.41$. Although this is a small-to-medium effect size by conventional standards, its direction is theoretically significant: the group that learned more (as measured by the knowledge test) engaged in less faith-integrated processing of that knowledge. This dissociation between knowledge acquisition and faith-integration constitutes the central empirical finding of the present study and demands careful theoretical interpretation.

Regression and Moderation Analysis

The multiple regression predicting faith-integration from AI usage intensity, epistemic authority attributed to AI, and post-test learning achievement was statistically significant ($R^2 = .28, F(3, 117) = 15.22, p < .001$), indicating that the three predictors jointly accounted for 28% of the variance in faith-integration within the AI-assisted group. At the level of individual predictors, AI usage intensity was a significant negative predictor of faith-integration ($\beta = -.29$,

$p = .008$), as was epistemic authority attributed to AI ($\beta = -.31, p = .003$). Post-test learning achievement, by contrast, was a significant positive predictor of faith-integration ($\beta = .24, p = .019$), suggesting that students who acquired more theological knowledge through AI-assisted instruction were, to a modest degree, better equipped to integrate it with their faith commitments — a finding that partially complicates the otherwise concerning picture.

Table 2. Multiple Regression Predicting Faith-Integrated Learning (AI-Assisted Group, $n = 61$)

Predictor	β	p	95% CI
AI Usage Intensity	-.29	.008	[-.50, -.08]
Epistemic Authority (AI)	-.31	.003	[-.52, -.10]
Learning Achievement (Post)	.24	.019	[.04, .44]
Overall Model	$R^2 = .28$	$F(3,117) = 15.22, p < .001$	

Note. $n = 61$ (AI-assisted group only). β = standardized regression coefficient; 95% CI = bias-corrected confidence interval estimated from 5,000 bootstrap resamples. The dependent variable is Faith-Integrated Learning (10 items, $\alpha = .88$).

The moderation analysis (PROCESS Model 1)³⁷ examined whether Christian Worldview Strength moderated the negative association between AI usage intensity and faith-integration. The interaction term (AI Usage $\times$ Christian Worldview Strength) was statistically significant ($\beta = .22, p = .031$), supporting H4. Examination of the conditional effects indicated that among students with low Christian Worldview Strength ($M - 1 SD$), the negative effect of AI usage on faith-integration was substantially larger, whereas among students with high Christian Worldview Strength ($M + 1 SD$), the negative effect was attenuated to non-significance. This finding suggests that a robustly formed Christian worldview functions as a genuine epistemological buffer against the faith-integration costs of AI-assisted theological learning.

Table 3. Moderation Analysis: AI Usage Intensity $\times$ Christian Worldview Strength Predicting Faith-Integration

Variable	β	p	95% CI
AI Usage Intensity (main effect)	-.29	.008	[-.50, -.08]
Christian Worldview Strength (main effect)	.18	.072	[-.02, .37]
AI Usage $\times$ CWS (interaction)	.22	.031	[.02, .42]

Note. $n = 61$ (AI-assisted group). CWS = Christian Worldview Strength (6 items, $\alpha = .84$). β = standardized coefficient; 95% CI = bias-corrected bootstrap confidence interval (5,000 resamples). Dependent variable: Faith-Integration (10 items, $\alpha = .88$).

³⁷ Hayes, *Introduction to Mediation, Moderation, and Conditional Process Analysis*.

Discussion

Summary and Theoretical Integration

The present study set out to investigate a question that lies at the intersection of educational technology and Christian formation: what happens to faith-integrated learning when AI-assisted instruction mediates the theological encounter of Bible school students? The answer that emerges from the data is both promising and deeply sobering. On the one hand, AI-assisted instruction produced substantial gains in theological knowledge acquisition — a large effect ($d = 0.99$) that confirms the instructional efficiency advantages of AI tools documented in secular educational literature. On the other hand, the same learning context that accelerated knowledge acquisition simultaneously produced a measurable and statistically significant erosion of faith-integrated learning, a significant shift in epistemic authority attribution toward AI, and a regression profile in which the very intensity of AI usage negatively predicted the degree to which students integrated their learning with their faith commitments.

This dissociation between knowledge acquisition and faith-integration is theoretically decisive. The IFL tradition, from Wolters to Van Brummelen,³⁸ has consistently maintained that genuine Christian education cannot be reduced to the efficient transfer of theological information; it must form the student's capacity to think and live within a comprehensively applied biblical worldview. The present findings suggest that AI-assisted instruction, in its current form, succeeds at the former while inhibiting the latter. The mechanism, as the regression analysis indicates, appears to operate through the dual pathways of epistemic authority attribution and AI usage intensity: students who used AI more intensively, and who assigned it greater epistemic authority, were significantly less likely to engage in the kind of faith-integrated processing that the IFL tradition identifies as the hallmark of authentic Christian learning.

From the standpoint of Reformed epistemology, this pattern is interpretable in terms of the noetic effects of sin and the always-present human tendency to seek the path of epistemic least resistance. The frictionless comprehensiveness of AI-generated theological synthesis relieves the student of the very cognitive-spiritual labor — the wrestling with Scripture, the weighing of interpretive traditions, the submission of one's reasoning to the community and to the text — through which genuine faith-integration is formed. Plantinga's account of proper basicity and the functioning of the *Sensus Divinitatis* implies that genuine theological knowledge is not merely informational but formational: it reshapes the knower, and this reshaping requires a quality of encounter that algorithmic synthesis cannot provide.³⁹

The moderation finding adds an important qualification to this picture. Christian Worldview Strength, as a measured index of prior formational investment in a comprehensively applied biblical worldview, significantly attenuated the negative relationship between AI usage and faith-integration. Students who entered the AI-assisted learning context with a robustly formed Christian worldview were substantially better equipped to engage AI-generated content critically and integratively, rather than as passive recipients of algorithmic epistemic authority. This finding resonates with Van Brummelen's insistence that faith-integration is a dispositional formation built up over time through

³⁸ Wolters, *Creation Regained*; Van Brummelen, *Walking with God in the Classroom*.

³⁹ Plantinga, "Advice to Christian Philosophers."

sustained habituation: where that habitus is already well-established, the potentially disorienting effects of novel epistemic tools are less severe.⁴⁰

These findings can be located within the wider empirical literature on artificial intelligence and cognition, which they both replicate and extend. The dissociation documented here closely parallels Gerlich's finding that frequent AI use is negatively associated with measured critical thinking and that this association is carried by cognitive offloading; the present results suggest that faith-integration behaves, in this respect, as a domain-specific instance of effortful evaluative processing, and is therefore vulnerable to the same substitution dynamic.⁴¹ The shift in epistemic authority attribution is likewise consistent with the algorithm appreciation effect reported by Logg, Minson, and Moore, in which advice believed to originate from an algorithm was weighted more heavily than identical advice attributed to a person.⁴² That the effect appears here in a confessional setting — among students explicitly formed to subordinate every knowledge claim to Scripture — indicates that algorithm appreciation is not confined to domains lacking a normative epistemic hierarchy, and may be the more consequential where such a hierarchy exists. At the same time, the positive coefficient for post-test achievement reproduces, at the level of individual differences, the instructional benefits of AI-supported learning documented in secular higher education,⁴³ and cautions against reading these results as a blanket indictment of AI use in theological classrooms. Finally, the moderation effect converges with Gerlich's observation that higher educational attainment buffered the negative cognitive effects of AI use, and with Smith's argument that formation is carried by established practice rather than by stated conviction: in the theological case the operative buffer appears to be formational rather than merely academic.⁴⁴

Theological Implications: Authority Shift as Structural Risk

The finding that AI-assisted learning produced a large shift in epistemic authority attribution toward AI — with a Cohen's *d* of 1.01, this is among the most robust effects in the present dataset — carries implications that extend well beyond individual students' learning habits into the structural ecclesiology of Christian educational institutions. The Bible school or seminary is not merely an educational institution in the generic sense; it is a formative community that exercises a specific kind of epistemic authority: the authority of the interpretive tradition, embodied in the teaching office and enacted in the communal practices of study, worship, and spiritual formation. When students begin to locate primary epistemic authority in an AI system rather than in Scripture, the instructing community, or their own Spirit-guided discernment, the social fabric of this formative community is at risk of subtle but progressive dissolution. This concern is not merely speculative, and it is shared across the theological literature on generative AI. Graves argues that AI-generated theological discourse raises direct questions about the nature of theological authority, about the role of the Church in transmitting the message of salvation, and about the place of human agency within that transmission — precisely the three registers in which the present authority shift registers

⁴⁰ Van Brummelen, *Walking with God in the Classroom*.

⁴¹ Gerlich, "AI Tools in Society."

⁴² Logg, Minson, and Moore, "Algorithm Appreciation."

⁴³ Chen, Chen, and Lin, "Artificial Intelligence in Education"; Zawacki-Richter et al., "Systematic Review of Research."

⁴⁴ Smith, *On Christian Teaching*.

empirically.⁴⁵ Smith's analysis of Christian pedagogy approaches the same point from the side of practice: what forms students is not principally the content delivered but the pattern of activity within which content is encountered, so that a change in the everyday practice of study is already, and prior to any change in doctrine, a change in formation.⁴⁶ Herzfeld's earlier engagement with artificial intelligence had anticipated the underlying dynamic: the more convincingly a machine simulates human thought, the more urgent the question of what is distinctively human becomes — and in the seminary, the further question of what is distinctively ecclesial.⁴⁷

This is not to suggest that AI tools are inherently incompatible with Christian theological education. The history of Christian scholarship demonstrates a remarkable capacity to appropriate the intellectual tools of each era — from Aristotelian logic in medieval scholasticism to historical-critical methodology in modern biblical studies — in service of theological understanding. The question is not whether AI may be used in theological education, but under what conditions and with what formative safeguards. The present findings suggest that the absence of intentional worldview formation scaffolding — the failure to situate AI tools explicitly within a theologically ordered epistemological framework — leaves students vulnerable to the kind of epistemic drift that the data document.

Practical Recommendations for Christian Educational Institutions

The present findings carry several specific practical implications for Christian educational institutions considering or currently implementing AI-assisted learning tools. First, the integration of AI tools into theological curricula should be accompanied by explicit and sustained instruction in the epistemological status of AI-generated content within a Christian worldview framework. Students need not merely be warned about AI's limitations as a theological authority; they need to develop a fully articulated theological account of what kind of epistemic tool AI is, what authority it legitimately possesses, and how it is to be situated within the hierarchy of epistemic sources that Christian formation requires.

Second, the cultivation of Christian Worldview Strength should be recognized as a prerequisite for safe and productive AI-assisted theological learning, not merely as one curricular goal among others. The moderation finding implies that the risks of AI-mediated epistemic drift are substantially mitigated for students who already possess a robustly formed Christian worldview. Institutions should therefore ensure that worldview formation — understood in Wolters' comprehensive sense as the capacity to think and live within the biblical narrative of creation, fall, and redemption — precedes or accompanies rather than follows AI integration.⁴⁸

Third, the role of the teacher as a figure of mediated epistemic authority needs to be actively defended and amplified in AI-assisted learning contexts. Van Brummelen's model of the teacher as one who embodies the interpretive community and models integrative knowing points toward pedagogical forms — Socratic dialogue, hermeneutical apprenticeship, collaborative exegetical practice — that resist displacement by AI and that sustain the relational and communal dimensions of faith-integrated learning.⁴⁹ Biesta's distinction

⁴⁵ Graves, "ChatGPT's Significance for Theology."

⁴⁶ Smith, *On Christian Teaching*.

⁴⁷ Herzfeld, *In Our Image*.

⁴⁸ Wolters, *Creation Regained*.

⁴⁹ Van Brummelen, *Walking with God in the Classroom*.

between qualification, socialization, and subjectification as the three irreducible functions of education is illuminating here: AI-assisted instruction may effectively serve the first function (qualification), but it is structurally incapable of serving the third (subjectification), which is precisely the formation of the student as a responsible, responsive, and committed epistemic agent.⁵⁰

Limitations

Several limitations of the present study require explicit acknowledgment. First, the quasi-experimental design, while appropriate to the educational setting and logistically feasible, does not permit unambiguous causal inference. The absence of individual random assignment means that unmeasured between-group differences — in prior AI familiarity, motivational orientation, instructional quality, or faculty characteristics — may have contributed to the observed effects. Longitudinal designs with random assignment or matched-pair controls would substantially strengthen the causal interpretation of these findings.

Second, the sample was drawn from a single Bible school institution affiliated with the evangelical-Protestant tradition. The generalizability of the findings to theological institutions in other cultural, denominational, or educational contexts — including Western evangelical seminaries, Catholic formation programs, or mainline Protestant theological colleges — cannot be assumed and requires direct empirical investigation.

Third, all primary outcome measures — including faith-integration, epistemic authority attribution, and AI usage intensity — were based on self-report, which introduces the risk of social desirability bias and common-method variance. Objective behavioral measures of faith-integrated reasoning, such as the assessment of student-produced theological texts for worldview integration, would provide a more direct and less reactive index of the construct of interest.

Fourth, the study assessed outcomes at a single post-test point, providing no information about the longitudinal trajectory of the observed effects. It is conceivable that the negative effects on faith-integration documented at the end of one semester are transient adaptation effects that resolve as students develop more sophisticated AI-literacy skills; equally, the epistemic authority shifts documented here may consolidate over time into more entrenched dispositions. Only longitudinal follow-up assessment can adjudicate between these possibilities.

Fifth, the study did not assess the specific content or quality of students' AI usage — only its intensity. Students who used AI tools primarily for retrieval of factual information may have had quite different epistemic experiences from those who used AI to generate theological arguments or interpretive syntheses. A more fine-grained assessment of AI usage typology would permit a substantially richer analysis of the mechanisms through which AI-assisted learning affects faith-integration.

Outlook

The present study opens rather than closes an empirical research program on the intersection of artificial intelligence and Christian formation. Future research should pursue at least four directions. Longitudinal designs tracking students across multiple semesters of AI-assisted theological education would provide the most compelling evidence about

⁵⁰ Biesta, *Good Education in an Age of Measurement*.

whether the epistemic authority shifts and faith-integration costs documented here are durable formational effects or transient adjustment phenomena. Experimental designs that vary the degree of worldview-formation scaffolding accompanying AI instruction — comparing groups who receive AI tools with and without explicit epistemological framing — would permit direct assessment of the intervention strategies suggested by the present moderation findings. Qualitative investigations of students' subjective experiences of AI-assisted theological learning — their phenomenology of the epistemic encounter with AI-generated content, their sense of what it means to 'wrestle with' theological questions in an AI-mediated environment — would illuminate dimensions of the formation process that quantitative measures cannot capture. And cross-institutional comparative studies would permit examination of whether the effects documented here are specific to the cultural and confessional context of the present sample or represent more general features of the encounter between generative AI and Christian theological formation.

The questions at stake in this research program are not merely academic. In a global moment in which generative AI is rapidly reshaping the epistemic landscape of virtually every domain of human activity, Christian educational institutions face a choice that is simultaneously technological, pedagogical, and theological: not whether to engage with AI, but how to do so in ways that serve rather than subvert the formative mission to which they are called. The present findings suggest that this choice cannot be deferred and that its consequences — for the epistemic formation, the faith integration, and ultimately the ministerial effectiveness of the students in their care — are real, measurable, and substantial.

Conclusion

The present quasi-experimental study set out to examine what happens to faith-integrated learning when AI-assisted instruction mediates the theological encounter of Bible school students. The findings document a genuine and theoretically significant dissociation: AI-assisted learning produced large gains in theological knowledge acquisition ($d = 0.99$), yet simultaneously produced a large shift in epistemic authority attribution toward AI ($d = 1.01$) and a small-to-medium erosion of faith-integrated learning ($d = -0.41$). Regression analyses indicated that this erosion was driven by AI usage intensity and by the degree to which students attributed epistemic authority to AI, and that a robustly formed Christian Worldview Strength substantially buffered these negative effects. These results indicate that AI-assisted learning in theological education entails a genuine epistemological risk: cognitive gains may come at the cost of faith-integration unless Christian educational institutions deliberately embed worldview formation within AI-mediated pedagogical processes. Bible schools and seminaries considering or currently implementing AI-assisted learning tools are therefore encouraged to pair such tools with explicit, sustained instruction in the epistemological status of AI-generated content, to treat the cultivation of Christian worldview strength as a prerequisite rather than an afterthought, and to actively defend the relational and communal forms of teaching authority that AI cannot replicate.

Statements and Declarations

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This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. The author had no financial support for the conception, conduct, analysis, or write-up of the study.

Conflict of Interest

The author declares that there are no competing financial or non-financial interests that could be perceived to have influenced the work reported in this article.

Ethics Approval

The study was conducted in accordance with the ethical principles of the Declaration of Helsinki⁵¹ and the guidelines of the Deutsche Gesellschaft für Psychologie (DGPs) and the Berufsverband Deutscher Psychologinnen und Psychologen (BDP). As the study involved anonymous survey data collection from adult participants without any experimental intervention involving deception, physical risk, or sensitive clinical content, formal institutional review board approval was not required under the applicable regulatory framework. All procedures were nonetheless designed to ensure the protection of participant privacy, the confidentiality of all data, and the voluntary nature of participation.

Informed Consent

All participants received comprehensive written information about the purpose of the study, the voluntary nature of their participation, their right to withdraw at any time without penalty, and the procedures for ensuring the anonymity and confidentiality of their data. Participation in the study was treated as constituting informed consent to the use of the anonymized data for research and publication purposes.

Data Availability Statement

The anonymized dataset generated and analyzed in the course of the present study is available from the corresponding author upon reasonable request. The data have not been deposited in a public repository in order to protect the confidentiality of participants in the relatively small and potentially identifiable institutional context of the study.

Author Contributions

The sole author (Dr. Dr. Sora Pazer) was responsible for all aspects of the study, including conceptualization of the research question and theoretical framework, development and adaptation of research instruments, institutional recruitment and coordination, data collection and management, statistical analysis and interpretation of results, drafting and revision of the manuscript, and preparation of the final submission.

⁵¹ World Medical Association, "World Medical Association Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects," *JAMA* 310, no. 20 (November 2013), <https://doi.org/10.1001/jama.2013.281053>.

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Use of Generative AI

Artificial intelligence tools were used in the course of preparing this manuscript for language editing and structural organization purposes. All scientific content, theoretical reasoning, analytical decisions, and empirical conclusions are the sole responsibility of the author. No AI-generated content has been presented as the author's own original research or analysis without the author's independent verification and endorsement.

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