

# Aquinas and His Understanding of Teaching and Learning

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## 1 Introduction

The nature of the educative process continues to be hotly debated not just because the purposes of education remain contested but also because there is little agreement about how the efficacy of teaching can be improved so that students can learn more successfully. There is at least agreement on one point, namely, that teaching (at a minimum) has the aim of enabling pupils to learn what is worth knowing, whatever other functions it might have. Universities and other higher education providers prescribe models of teaching and learning, and demand that teachers within them adhere to the established teaching and learning paradigms.<sup>1</sup> Michael Peters writes that in most institutions, philosophy of teaching usually refers to a statement of an individual's teaching philosophy, which is generally a statement about teaching practice, rather than a statement about a philosophy of teaching (Peters 2009).<sup>2</sup> Nevertheless, despite the difficulties in articulating a clear statement about what philosophy of teaching an individual teacher adopts, it is important to have some conception of what it is that is going on in the educative process and some theoretical justification for the particular teaching decisions made. Every teacher needs to enter into some reflection on whether his or her essential approach is one which adopts a transmission model of teaching or a facilitation model of teaching or perhaps a combination of these two approaches.<sup>3</sup> Other substantive questions arise, especially in relation to these two broad models, concerning the nature of knowledge. If knowledge is innate, we might be inclined to think that all we need to do is draw it out of the student, much as Socrates famously does in Plato's *Meno* (Plato 2005). That is, the teacher's job is to facilitate remembering. On the other hand, if knowledge depends on experience and is hard won through observation and theory

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construction, we might be inclined to adopt a transmission model, for we would want the next generation to benefit from what has been painstakingly accumulated.

In this paper, it is not our intention to address the broader issues that arise in relation to teaching and learning. Not only are there questions about whether we should adopt a transmission or facilitation model of teaching, but also whether we should adopt a traditional approach or a progressivist approach.<sup>4</sup> Still other questions concern the nature of knowledge itself. Our aim in this paper is modest. We will be concerned to elaborate, from various sources, Aquinas' view of teaching and learning. We would like to think that if he were to be asked to provide us with a teaching portfolio describing his approach to teaching, he would furnish an outline such as we develop below. For Aquinas, teaching is connected with the Divine, since he argues that though human beings are able to teach, they do so in a secondary sense and that it is God who primarily teaches. This is because God is the source of all being and is the light at the heart of our being. In the learning process, a key feature of Aquinas's account builds on the nature of illumination, which is to say an understanding of what is taught that enables us to see how what we have learnt connects to other things. Ultimately, these connections lead us to Wisdom, which is to say God, and for Aquinas wisdom in its different forms is the central aim of all teaching and learning.

## 2 Teaching and Learning

Although Aquinas does not develop a treatise on teaching and learning, he spent a considerable amount of his time teaching and throughout his writings there are references to teaching and to learning. He deals explicitly with teaching and learning in a number of his works, most notably in *De Veritate*, question 11 (Aquinas 1953); *Summa Theologica, prima pars*, question 117 (Aquinas 1948); and also *II Sentences* questions 9 and 28 (Aquinas 1929), though there are other passages where he discusses teaching and learning. It is clear that for Aquinas education has, and hence teaching and learning have, an unambiguous theological goal, namely, God, who is wisdom and truth. This theological dimension is articulated in the opening paragraphs of the *Summa Contra Gentiles*, where Aquinas says that the ultimate end of the whole universe is Truth and this is also the aim of the wise (Aquinas 1955).<sup>5</sup> This truth, he contends, is incarnated in the person of Jesus Christ.<sup>6</sup> Mindful that in the *Summa Contra Gentiles* he is not necessarily addressing Christian believers, Aquinas adds that Aristotle agrees that truth is the ultimate end of the wise (Aristotle 1976). That is, even if one does not begin from the position of someone who believes in God, in Aquinas' view, someone who seeks wisdom aims at the truth and there can be no further end than its attainment.

What emerges from the theological account that Aquinas gives is the recognition of the teacher as a role model for the pupil. The pupil learns by spending time with the teacher, not only listening to the words of the teacher, but by paying attention to his or her way of living out what he or she teaches.<sup>7</sup> It is thus important that the teacher be a person of good character, as the teacher inevitably serves as an exemplar

for students. There is, therefore, an inescapable moral dimension to all teaching, and this is not restricted to the teaching of morals, but applies to other kinds of human knowledge. A teacher who loves his or her subject and who is enthusiastic is far more likely to capture and retain the attention of the learner than one who shows no commitment to the educative task.

Love and enthusiasm for the subject, while crucial to teaching, are not enough; the teacher must also genuinely care for the truth and be committed to possessing a mastery of his or her subject, so that he or she has the breadth and depth of knowledge requisite for confidently teaching his or her pupils. The pupil, on his or her part, begins by having faith that what the teacher is about to impart is trustworthy and that the teacher is knowledgeable about the subject. Faith is required not just for religious belief, but for scientific understanding as well, for as Aquinas says, we could not live in the world at all unless we are prepared to have faith.<sup>8</sup>

The emphasis on trust and faith in teaching and learning in particular highlights the importance of the relationship between the teacher and the learner. A poor or distant relationship will not facilitate learning, since it will not promote the trust required for the pupil to have confidence in the teacher. Aquinas emphasises the importance of friendship between teacher and pupil which develops a love of learning in the pupil. The learner must, if he or she is to grow in wisdom, listen willingly, seek diligently, respond prudently and meditate attentively.<sup>9</sup> In order for this to occur, the pupil needs to have the right conditions for learning, and a key component of these is the nurturing and encouragement that he or she receives from teachers.<sup>10</sup> This is in contrast to a 'shopkeeper view' of teaching and learning where there is no need for any relationship between teacher and learner, save for a commercial one in which a product is exchanged for financial gain. In such a view, learning is a transaction facilitated by the teaching of the teacher, a contractual obligation to be fulfilled. The educative process as Aquinas sees it is one which enables the relationship between teacher and learner to facilitate learning. Nevertheless, though trust is vital in the interaction between teacher and learner, he does not deny that there is something to be transmitted to the learner, but it is no inert product, the learner is actively involved in the learning process. There is an exchange between teacher and learner, but for Aquinas, this is a vitally active process, involving both teacher and learner. Teacher and learner are both engaged in a voyage of discovery for the truth. In this, he has much in common with the proponents of progressive education. Aquinas is fundamentally and critically interested in the question of how one person is able to teach another.

This is no facile question, but goes to the heart of the nature of teaching, since, despite the dividing of the concept of teaching into a task and achievement sense,<sup>11</sup> we still want to know whether what has been taught has been learned. It is achievement that matters to us. Hence, a teacher who attacks her subject with enthusiasm, but whose pupils fail to learn, is perhaps carrying out the task of teaching, but if the pupils fail to learn, she cannot be considered a successful teacher because nothing has been achieved. We are not satisfied simply by the adequate completion by the teacher of her teaching duties, that is, by her mastery of her subject, by her preparation of her lessons, and her performance of the act of teaching the pupils.

It is expected that learning will have taken place. A central question, then, in any evaluation of teaching is a concern for knowing whether the learner, as a result of teaching, now knows what the teacher knows. A classic puzzle, in the apparent absence of a mechanistic didactic process, is how teaching enables the learner to come to know what he or she did not know before, so that a new state in the learner is brought about. One response is to assert, as St. Matthew and St. Augustine do, that only God can teach, an assertion that Aquinas takes up the challenge to discuss and to explain.<sup>12</sup> Moreover, it might be added in support of this assertion, that it seems to be an uncontroversial empirical claim that one person cannot cause another to know, in the sense that it is a matter of efficient causation, where what the teacher does invariably leads to learning.<sup>13</sup> That is, experience tells us that sometimes despite the best efforts of a teacher, a student can fail to learn.<sup>14</sup> Teaching is often compared to an art<sup>15</sup> and Socrates, as is well known, compared teaching to the work of the mid-wife (Plato 1987, 25–29). Its success seems to be unpredictable and so it is possible to conclude that if learning occurs at all it is due to God's Grace. Aquinas agrees that in a sense only God teaches, but he also claims that teaching is an effective cause of learning.<sup>16</sup>

An immediate response we might make here is to question Aquinas about what he means by knowledge, that is, we need to ask what might be meant by saying that one person cannot cause another to know, or more positively, can cause another to know. It is plain that he does not think that learning is a mechanical process or that it takes place merely by means of signs, and it is evident that teaching is more efficacious than any other process in bringing about learning.<sup>17</sup> It is more efficacious, for instance, than allowing children to do what they like.<sup>18</sup> Whatever it is that is meant by knowledge and hence, coming to know what the teacher teaches, it is not a matter of a simple, straightforward transaction or a case of a simple operation of an efficient cause. What the student will have gained from the teacher will be an understanding of what is being taught, and this likely will not coincide with the understanding the teacher has of whatever is taught. For a start, the teacher has a wider understanding of the subject and sees connections that the pupil may not. Nevertheless, despite this apparent acknowledgement that to some extent, knowledge is constructed, Aquinas rejects a relativist view of knowledge and argues that human beings can discover the truth about the nature of the world and of themselves. That is, Aquinas rejects the view that individuals construct knowledge which is idiosyncratic, since the quest for knowledge is the quest for truth and whether something is true or not is not determined by individual whim.<sup>19</sup> He defends the notion of the individual human person as a being capable of intellectual knowledge, moral agency, and creative engagement with the world. Knowledge for Aquinas involves the use of our sensory and cognitive powers to gain an understanding of the interconnections among the phenomena that we experience.<sup>20</sup> In other words, the student always contributes something to what the student learns.

Although we can postulate a species of causal relation<sup>21</sup> between teaching and learning in that a pupil learns because the teacher teaches, it certainly can be concluded that the student in learning actualises something which did not previously exist, since it is not a straightforward replication of what the teacher knows. That is,

there is a real change brought about in the world, for something new, knowledge in the student, has been created. What was not previously known by the pupil is now known, and the pupil is changed. Since only God has the power to create, to bring something into being *ex nihilo*, the issue of whether one person can teach another needs some explanation, since it seems apparent, that teachers can teach, that is, bring about learning, and pupils can know what they did not know before. In framing a response, Aquinas distinguishes between principal and instrumental causes, and argues that in a sense it is true that only God can teach, just as a pen can write provided there is an agent using it. By this, however, Aquinas does not intend to imply that human beings have no free will;<sup>22</sup> rather, his main point is that though human beings act as free agents in the world, they do so in co-operation with God, who is the source of all being. Nevertheless, if only God is able to bring something into existence *ex nihilo*, we need to be able to explain how that which was not known is now known, and how a real change has been brought about, since it is through teaching that something new now exists. The intellectual state of the learner is changed: if she has learnt, then she knows.

Aquinas argues that knowledge itself does not change, since knowledge is only knowledge if it is the truth, and what is true remains true, but there is a change from what is in potentiality to what is in actuality.<sup>23</sup> Underlying Aquinas' understanding of how teaching brings about learning is a conviction that the world is discovered, that realities previously unknown are brought to light. Finite beings do not create in the absolute sense, but they do co-operate in the unfolding of the universe and in that sense, they bring what was formerly only potentially known into actuality.

Austin Farrer provides a helpful account of the way in which human beings are co-operators in the fulfilment of God's plan for the universe and hence how they are able to act creatively. In one sense of 'cause,' it is true that God is the Cause of all things, so that human beings can only be a type of subordinate or secondary cause. Thus, though God is the ultimate author of all things, it does not mean that human beings are not able, in their own way, to act as causes. In acting as causes, human beings will not be directly aware of the Divine hand which is the source of their ability to act, but may be able through reason to apprehend its origin. Farrer comments that a person may suppose herself to infer God as the cause of the physical effects she studies, or as the cause of her own existence, without being aware of the divine causality behind her own thought. She may, in fact, be aware of it as a simply general illumination, lighting up all her understanding indifferently, so far as she understands; as a candle illuminates all equidistant objects with indifferent rays. In saying this, Farrer draws on Augustine's image of God shining through a person's acts of intelligence (Farrer 1948, 8–10).<sup>24</sup>

Farrer observes that God's actions are not apparent to human beings because we take for granted the light by which we see, the source of which may be hidden from us. Thus, it is possible to act without any consciousness of God acting through us. Farrer does not mean that we have no capacity to act through our own free will; rather, he means that it is through God's power that we are able to act at all. That is, when we act according to our nature and to the laws of nature, we are enabled to do so because it is through God's creative power that both our nature and the laws of

nature exist, a point with which Aquinas agrees completely.<sup>25</sup> There is a distinction, says Farrer, between the First Cause and the secondary efficient causes. If God acts supernaturally, it is only for human beings that these acts are supernatural since for God, as the author of all being and whose nature is infinite, there are no actions which are not willed by Him and none which exceed His nature. For human beings acts may be designated as supernatural because they exceed human capacity to understand (Farrer 1948, 10).

Farrer explains that we should understand the term ‘cause’ as meaning an agent, and the term ‘First Cause’ as meaning a creative agent, which is not a cause in the first sense at all, since it is not an efficient cause. It is not, he says, to be thought of as a supreme causal law or as a first event from which other events follow. In a Kantian definition of cause, for example, a cause is an event belonging to a class of events, of which it is universally true that they are followed by events of a further given class. This is understood to mean that no cause is endowed with an efficacy beyond what it has in nature. What this implies, says Farrer, is that if we say that a flash of lightning is the cause of the consequent thunder, we are held to be classing the lightning as an electrical explosion, and acknowledging that from all electrical explosions sound-waves arise. If cause is understood in the Kantian sense, he says, then to talk of a cause being endowed with an efficacy beyond its natural scope is nonsense (Farrer 1948, 11–12).

That this is so is explained by Farrer in the following way. As already stated, according to this definition of ‘cause,’ no cause can be endowed with an efficacy above what it has by nature. This means that if event B follows an event A in a manner other than that which the causal law applicable to A demands, then by the Kantian definition A is not the cause of B at all, and B’s cause must be sought elsewhere. If no natural cause for B can be established, then in view of the Kantian definition, it would not be possible to propose that what caused B was a supernatural event, since, by definition, this would mean the cause has an efficacy beyond what it has naturally. It seems that to avoid the unwanted violation of the definition we would have to say that the event was uncaused. The way is not open to us to attach the event to the First Cause, since it would not be then a natural cause. Furthermore, if the event is uncaused, then it seems to imply that it has simply come into being of its own accord, again, in violation of our definition of cause.<sup>26</sup>

What this shows is that difficult problems arise if it is supposed that God acts in the world in the same way that secondary causes, such as human beings, act. How God acts in the world remains unfathomable. There are hierarchies of human actions, where some are higher than others, as Aquinas says, but these, if they are the actions of human beings, remain within the natural world.<sup>27</sup> Nevertheless, Farrer points out that there is a two-sided aspect to our existence as human beings. On the one hand, we are active secondary causes in interaction with each other and, on the other hand, we owe our being to the first cause. We are never alone in the world, but always have our existence in these two ways, as active beings in the world and as beings with God. There is a sense in which both the human being and God are *en-act-ing* the human being’s life, though in different ways and at different depths. The first cause operates in the secondary cause, says Farrer, and a number of difficult problems turn on this double agency.<sup>28</sup>

The idea of double agency allows us to see how, though God is the first cause of everything, He is not a cause in the usual sense, and so it is plausible to propose that human beings are secondary causes. Ultimately, God is the source of all creation, but double agency implies that human beings are able to collaborate in creation through what they can make. Their ability to act as secondary causes establishes their autonomy as distinct individuals, but still leaves us with the problem of how it is that knowledge is imparted to another. What has been shown, at least in outline, is the sense in which the assertion that it is God who teaches can be affirmed while not excluding our conviction that human beings teach. Moreover, it is also possible to see the sense in which we can say that human beings can create and how new knowledge can be discovered. It is the question of teaching itself to which we return in order to explain how one person is able to teach another.

Teaching, Aquinas argues, needs to employ, as far as possible, the same processes that the individual uses in coming to know anything at all about the world. The teacher leads the pupil to the knowledge of things unknown in the same way that one directs oneself through the process of discovering something one does not know.<sup>29</sup> In general, there are two processes that enable us to acquire knowledge and these are: (1) by discovery (*inventio*) and (2) by learning (*disciplina*). In the first case, we come to know through unaided natural reason, in the second, we are helped by a teacher. Aquinas says that in *discovery* the order of proceeding is this: first anyone who wishes to arrive at the knowledge of something unknown applies general self-evident principles to certain definite matters, second, from these moves to particular conclusions, and third, having done this, advances from these to others. Consequently, he says that one person is said to teach another if that individual is able to show the other person, through signs or general principles, the natural reasoning process that he or she used in arriving at those conclusions. Through having been led through that reasoning process, the pupil applying his or her own natural reason is able to come to know things that he or she previously did not know. Aquinas compares this process to that of a doctor who heals a patient, not through some power that she possesses herself but through the activity of the patient's nature. In the same way, Aquinas says, a teacher is able to cause another to have knowledge through the activity of the learner's own natural reason.<sup>30</sup>

Although Aquinas says that teaching takes place through the use of signs he explicitly rejects the idea that we learn through signs. Signs are instruments (*instrumenta*) which aid the learning process, but are no more than aids in the process of learning. In teaching another, the discourse of reason is expressed through signs (*per signa*) so that the student comes to know through these aids (or *instrumenta*).<sup>31</sup> It is through the principles which are represented by the signs that we learn. Aquinas says that to some extent we know the things we are taught through signs and to some extent we do not know them. Thus, he says, if we are taught what man is, we must know something about him beforehand, namely, the meaning of animal, or of substance, or at least of being itself, which last concept cannot escape us. Similarly, if we are taught a certain conclusion, we must know beforehand what the subject and the predicate are. Aquinas, in agreement with Aristotle (whom he quotes), suggests that learning comes from pre-existing knowledge.<sup>32</sup> For Aquinas, learning is an activity which starts from some pre-existing knowledge and proceeds through the use of reason to new knowledge.

Aquinas does not think that knowledge is innate, but quite sensibly says that we cannot teach someone who has no basic understanding of the general subject to begin with. Pupils need to be prepared to learn and to be in the right frame of mind before they are ready to learn. In respect to preparation, one kind of pre-existing knowledge, but not the only sort, that Aquinas has in mind are the general principles of logic. A second kind of pre-existing knowledge will be principles and concepts—signs represent both these—that are used to explain something new to a learner. Finally, learners also need to be in the right frame of mind, which means that they are paying attention and attending to the tasks of learning in an active way. Like Aristotle, Aquinas thinks that knowledge is *potentially* in the mind and has to be drawn into *actuality*, but it is also clear that the learner cannot be a passive vessel into which knowledge is poured.

Aquinas considers knowledge as being seeded, that there are *rationes seminales* (seminal reasons) which are immediately given and which arguably form the beginning principles from which knowledge can be built.<sup>33</sup> This seems to imply a kind of constructivism, since knowledge is built or acquired around these seeds, but this would be a mistaken view of Aquinas' position.<sup>34</sup> Aquinas says that we immediately know such things as the principle of non-contradiction, that the whole is greater than the parts, and that we should seek good and avoid evil.<sup>35</sup> This, however, does not commit Aquinas to constructivism and he explicitly rejects any relativist form of constructivism. He rejects it on the grounds that if the mind were to construct its own knowledge from sensory data this would imply that the mind already possessed that knowledge in actuality, since it would otherwise not be able to recognise the perception as being a perception of something. That is, in order to know that one sees a rose, one already has to know what a rose is.<sup>36</sup> Later, however, Aquinas nuances his position by saying that though it is true that the mind receives knowledge from sensible things, the soul forms in itself likenesses of things, inasmuch as through the light of the agent intellect the forms abstracted from sensible things are made actually intelligible so that they may be received in the possible intellect.<sup>37</sup> In saying this, Aquinas wants to steer a middle path between those who argue that knowledge is innate and only requires the senses to stimulate our minds into remembering, and those who argue for something like a naïve causal theory of perception, that is, that our knowledge is basically caused by external factors.<sup>38</sup>

There are common principles known immediately by the agent intellect in accordance with which our knowledge is constructed, but since these are available to everyone, it is possible to see how it is that human beings arrive at the same conclusions from the same sensory data. Every human being is equally human, but each human being individually possesses that human nature. In other words, though each human being has an individual rational nature, all human beings are recognisably similar in certain overlapping features. Although some writers argue that there is no common human nature, this does not accord with our experience,<sup>39</sup> since we are able to reliably recognise each other as human beings. Human beings do not each possess a human nature which is so radically different from that of another that we fail to recognise the other person as a human being. It is the possession of our distinctively human rational nature which enables human beings to come to know the truth,

though each individual comes to the truth in his or her own way. Objective reality is something we subjectively learn and know in common with other human knowers. That is, knowledge for each person is obtained in the exercise of his or her own agent intellect and rational nature. Thus, Aquinas does not take a radical constructivist approach, but explains how knowledge is obtained in the mind in terms of act and potency.

The mind is related to external things in two ways. In the first way, things outside the mind are only potentially intelligible, that is, able to be known. The mind itself—at least that part of it which enables us to understand (*viz.*, the agent intellect)—is active, since it is this power of the mind which makes potentially understandable things actually understandable. In other words, there is a part of the mind which acts to make sense of the information or sensory data we receive. In order for the mind to make sense of the sensory data it receives, it needs to situate these data where it can be acted upon. In the second way, the mind must be such that it can receive the sensory data which originate outside the mind. That is, sensory data are actualised by objects which are outside the mind, that is, scent of flowers comes from the flowers. Hence, external objects are the source of the sensory data that the mind receives. The part of the mind which acts as receiver Aquinas calls the possible intellect, that is, it receives the sensory data which are potentially knowledge and thus are made actual by the work of the agent intellect. That is, on receiving the sensory data which are, say, the scent of flowers, the agent intellect enables us to identify the sensory data as the scent of flowers and so we know that we are smelling flowers.

Aquinas notes that something can pre-exist in active completed potency, where something can bring about the thing into existence via an intrinsic principle. By 'pre-exist' Aquinas means that something is already present in a latent form, ready to act when the conditions are right for its action. The human immune system, for example, springs into action when it is needed; it is not activated until then. Hence, a person who is sick may, through the healing power of the body itself, be restored to health without any assistance from some external agent. Passive potency, on the other hand, means that something requires the aid of some external agent to bring it into actuality. For example, a doctor assists healing by administering medicines which act as instruments that restore health. Knowledge, by analogous reasoning, pre-exists in the learner, not as pure passive potency, but as active completed potency, that is, the seeds of knowledge already exist within us, which is to say, the capacity to learn and some basic understanding pre-exist in the active learner.<sup>40</sup> If this was not the case, a person could not acquire knowledge independently.<sup>41</sup> Just as the physician can aid the process of healing, so too can the teacher aid the process of learning. This can be done by utilising natural reason. Aquinas reiterates that knowledge gained exists in seminal form and can be developed by means of the activity of a created power.<sup>42</sup>

Instructively, he continues by remarking:

We do not say that a teacher communicates knowledge to the pupil, as though the knowledge which is in the teacher is numerically the same as that which arises in the pupil. It is rather that the knowledge which arises in the pupil through teaching is similar to that which is in the teacher, and this was raised from potency into act, as has been said. (*DV* 11, Art.1, 85)

The interesting thing here is that Aquinas recognises that the knowledge gained by the pupil is not quite the same as that of the teacher, though of course, it cannot be entirely different, otherwise it could not be common knowledge or intersubjectively shared knowledge at all. This is the mistake made by the constructivist who claims that knowledge is constructed by the individual learner. If that were so, knowledge would be idiosyncratic and personal, and if we take knowledge to be public it could not be knowledge at all.

The constructivist is partially correct in that a learner does bring something to the learning process and the specific knowledge gained, namely the active potencies for learning. Moreover, and here is a further point where the constructivist is right, there is the proposition that the new knowledge that is gained has to become part of the learner's general understanding of the world. In other words, the learner has to make room in his or her general theory of the world for the new knowledge. If we think of this general theory of the world as part of an interconnected set of relationships between particular individual items of knowledge, then new knowledge needs to be inserted into this set of relationships and interconnections. As each individual has different experiences, then such new knowledge as is gained will be situated differently amongst the various items of knowledge that the person already has. Hence, the construction is of a new web of relationships amongst the items of knowledge that the person already possesses. The understanding of the interconnectedness of things will be different for each person. Some will see these webs of relations more deeply than others and one dimension of wisdom is born of the depth of understanding of these interconnections. The items of knowledge, because knowledge is about what is true, are the same for everyone; and in teaching, the first task is to enable pupils to learn what is true. The second and more difficult task is to convey to pupils how things interconnect. Pupils begin by learning facts of various kinds, such as the temperature at which water freezes and boils, the standard temperature and pressure under which this occurs, and so on. From facts about other kinds of liquids, a generalised theory about the interrelationships between temperature, volume, and pressure can be constructed. For pupils to understand this kind of interconnectedness between various quantities and qualities is to begin to learn about the world. The kind of interconnections between such physical qualities such as volume, temperature and pressure, is scientific knowledge, which Aquinas calls created wisdom. Much such scientific knowledge is, however, part of the legacy of those human beings who have blazed a trail before us and made discoveries about these interconnections. There is no need for us to perform the laborious task of making all of these interconnections ourselves. Since knowledge is communal, we can share in the community's accumulated wisdom. Knowledge of facts and their interrelationships leads to a third stage of learning wherein pupils fit what has been learned into their general understanding of the nature of the world. It is this third stage which depends on the individual, and could be said to be the individual's own construction. It is also where misunderstandings can occur and where the depth of our understanding can vary. It is also in the third stage where the possibility of wisdom which reaches below the surface of things can arise and albeit dimly, through becoming aware of relationships between objects, we may also come to discern the activity of the Divine Logos within the world.

### 3 Conclusion

Central to Aquinas' conception of teaching and learning is his recognition that the source of all knowledge and understanding is ultimately God. It is God who teaches in the primary sense, since it is through God we have our being. The senses play a crucial role in Aquinas' account of teaching, since it is through signs, not in themselves, but as understood in this instance as standing for underlying principles and for knowledge already gained, that teachers are able to convey to their pupils new knowledge and understanding. Before this is possible, however, learners need to be ready to learn and be prepared to actively engage in discovering new connections among things. They need to be prepared in two senses. First, they have to be in a state of readiness to learn and be at the right stage of psychological development. Second, they need to be readied by their teachers by means of, among other things, appropriate teaching settings, teaching materials, and learning cues. As learners—and as teachers—we are striving to know the truth, and this is a constant search for an ultimate understanding of how things connect together. It is not enough in the Thomist understanding of teaching and learning to have gained skills if these are not accompanied by some deepened understanding of how the skills acquired lead us closer to truth and so ultimately to God.

In his methodology, Aquinas is alive to both the transmission and facilitation models of teaching and learning. He proposes a middle way. He affirms the existence of a real world and the possibility of having knowledge of it. Moreover, in having knowledge, we know truth, and this has the practical consequence of enabling us to understand the world and to make the right kinds of decisions about our activities in the world. Since knowledge is about what is true and teaching can help us learn what is already known, there is a transmission sense in Aquinas' conception of teaching. At the same time, the centrality of experience in the learning process, leads him to also embrace the facilitation model of teaching in his conception of teaching. He advocates the use of the senses to discover what the world is like and teaching should as far as possible employ the same kinds of methods that the individual uses to discover things. Aquinas urges us to use all our capabilities to learn, for the end result of our learning should be the truth, and that Truth is God.

### End Notes

1. For example, the Australian Catholic University (ACU) *Policy on Quality Teaching and Learning* (2006) states that its teaching and learning policy attends to “the spiritual, moral, values and ethical perspectives” (*sic*) and empowers staff and students to engage in teaching and learning that meets professional accreditation needs, is critical and well-informed, up-to-date with knowledge and research in the substantive disciplines, is innovative and makes appropriate use of information and communication technologies. It then lists 21 characteristics of effective teaching and 11 characteristics of learning promoted

by the “Learning Paradigm”. What is not provided is a clear statement of the underlying philosophy of teaching and learning which itself is drawn from an articulation of a philosophy and theology of education. This is not to be critical of ACU, since few universities have a clear articulation of how they understand teaching and learning or even an awareness of the controversial nature of questions about teaching and learning. At URL: [http://www.acu.edu.au/\\_data/assets/pdf\\_file/0003/98913/2009\\_Policy\\_on\\_Quality\\_Teaching\\_and\\_Learning.pdf](http://www.acu.edu.au/_data/assets/pdf_file/0003/98913/2009_Policy_on_Quality_Teaching_and_Learning.pdf), accessed 2 Sept 2009.

2. Peters quotes from the Faculty and TA Development Office at Ohio State University which proposes that a philosophy of teaching includes: (i) your conception of teaching and learning; (ii) a description of how you teach; (iii) justification of why you teach that way. See Peters (2009), 111–113.
3. Nola and Irzik describe the transmission model as the view that there is a fixed body of knowledge that has to be imparted to students. This model is widely criticised for assuming that there are objective propositions about the world and that these are what are to be taught and learnt. See Nola and Irzik (2005), 175. The facilitation model can be seen to have its roots in the Deweyan conception of learning by experience. See for example, Dewey (1938) and Kolb (1984). Aquinas proposes a middle way.
4. Sometimes so-called ‘progressivists’ use the term ‘traditionalists’ as a pejorative to describe teachers who employ teaching methods that stifle creativity and free expression in the classroom. For example, the curriculum that such traditionalists were said to have taught was highly structured according to the interests of the teacher (or school) and methods varied little, taking small account of the interests or the background knowledge and understanding that their pupils brought to the classroom. Progressivists, on the other hand, expressed an interest in the backgrounds of their pupils, seeking to engage them in learning by experience and as such are prepared to use a variety of methods, including allowing students freedom of expression. John Dewey, considered one of the founders of progressivism, was highly critical of some progressivists who saw progressivism as simply allowing pupils to do what they liked. For Dewey, freedom of expression as a pedagogical method did not mean lack of constraint. See Hirst (1974), 3–5 & 111–112. See also Dewey (1938), 1–11 and Dewey (1909), 24–25.
5. Aquinas 1955. *Summa Contra Gentiles* (hereafter SCG), 5 volumes, New York: Image Books, I, trans. A.C. Pegis, ch.1, #2. Aquinas says, “*Oportet igitur veritatem esse ultimum finem totius universi; et circa eius considerationem principaliter sapientiam insistere.*”
6. “*...ego in hoc natus sum, et ad hoc veni in mundum, ut testimonium perhibeam veritati.*” (“...for this I was born, and came into the world, that I might bear witness to the truth.”) (*Jn* 18:37).
7. On this point, Boland says that more attention should be paid to what Aquinas says in his Gospel commentaries. Boland (2006b), 299. See also Boland (2006a)
8. Aquinas says, “*...quia si homo nollet credere nisi ea quae cognosceret, certe non posset vivere in hoc mundo. Quomodo enim aliquis vivere posset nisi*

*crederet alicui? Quomodo etiam crederet quod talis esset pater suus? Et ideo est necesse quod homo credat alicui de iis quae perfecte non potest scire per se.*" ("...if a person was only willing to believe that which he knew himself, he would certainly not be able to live in this world. How can someone live without believing anyone? How would he even believe that this man was his father? It is necessary that a person believes someone about what he cannot by himself know perfectly.") See Aquinas (2006), *Proemium*, 3.

9. Aquinas, *Sermon Puer Iesus*, at URL:<http://www.op-stjoseph.org/Students/study/thomas/SermPuerIesus.htm>. Accessed: 31/7/09. See also Boland (2007b)
10. The letter, *De Modo Studendi*, attributed to Aquinas, but held to be of dubious authenticity, captures some of the right conditions. For example, some of the practical suggestions made are: try to reach difficult things by means of small steps, ready your mind through prayer, try to be friendly to everyone, and listen to good teachers. See Aquinas (1951). See also Torrell, who suggests that the text was not written by Aquinas: Torrell (2005, 360).
11. Ryle originally introduced the task/achievement distinction in reflecting that some verbs have a task sense, for example, "He ran the race" and "he won the race". In Ryle's sense the former is a task sense and the latter is the achievement sense. Teaching in its task sense can be understood as that which is required to be carried out in order for something to be considered under the concept of teaching. Hence, planning of lessons, delivering the lesson and so on can be understood as the task sense of teaching. The achievement sense of teaching is the satisfactory performance of the tasks. Another sense of the task of teaching, which we are considering here, is the idea that the task of teaching involves the instruction of learners in order that they learn. The achievement sense of teaching involves the idea not only that the tasks listed have been carried out, but that the learners have learned. See Ryle (1949) and Peters (1966), 36–27.
12. *Matt.* 23: 8, which is quoted in Aquinas' introduction to Question 11 in *De Veritate* (hereafter *DV*) 11, Art. 1, 77. This passage is also discussed by Augustine in *De Magistro* (*The Teacher*). It is perhaps the central lesson of the work. See Augustine (1955), 94 n. 1.
13. Aquinas argues against the view that human beings share a common passive intellect as several awkward conclusions follow from assuming a common passive intellect. For example, since the immortal part of each human being is common, there does not seem to be any reason for anyone to strive to be virtuous, nor would it be strictly true to say: 'This man knows'. Moreover, if humans did share a common passive intellect, then teaching would only need to activate what is already there. This would suggest that there could be a simple causal process that could unlock the knowledge that is common to all human beings. Instead, Aquinas defends the notion that each person has his or her own individual passive intellect. See Aquinas (1968).
14. Aquinas is well aware of this. The student needs to be receptive to learning and there is a developmental order according to which human beings mature. Following Aristotle, Aquinas recommends an order in which areas of knowledge should be

taught to students. These are outlined in his *Commentary on Causes*: “first logic which teaches the method of the sciences, then mathematics which even young people can learn, next natural philosophy which requires time in which people can gain experience, only then moral philosophy which is a subject to which a younger person cannot be properly receptive (*cuius iuvenis esse conveniens auditor non potest*) (of which a young person cannot be a suitable student), and finally divine science which considers the first causes of things.” Aquinas (1996), Preface.

15. See for example Highet (1989).
16. By effective cause is meant an efficient cause. Aquinas says that the teacher causes knowledge in the learner by reducing him from potentiality to act. *ST* I.117.1.
17. *DV* II, Q. 11, Art. 1, #2, 84. In asserting this, Aquinas draws on the discussion in Augustine’s *De Magistro* of whether words are signs. Signs do play a part in aiding us to learn, but not just by themselves. See Augustine (1995), 97–103.
18. Some progressivists might argue against this, but we shall not pursue the point here.
19. Here we should distinguish between constructivism as learning theory which emphasises the importance of individual differences in teaching children and constructivism which argues that each individual uniquely constructs his own knowledge. That is, in the latter case, knowledge generation is determined to a large extent by social factors and so stands in opposition to the idea of a mind-independent world that human beings can access through observation and the use of reason.
20. Stump’s account of Aquinas’ epistemology suggests that it is a form of externalism with reliabilist elements. Such an interpretation is supported by the account of teaching and learning in Aquinas presented here. See Stump (2003), 235. For an account of externalism and reliabilism in epistemology see Armstrong (1973).
21. Although we have said that it is possible that no learning takes place even though there was teaching, this does not entail that there is no causal relation between teaching and learning, just as it is possible that a kettle fails to boil at 100 °C. In both cases, we would look for other causes. Teaching is not a sufficient cause of learning.
22. Aquinas argues that humans do have free will. Otherwise, exhortations, punishments and rewards would have no point, and moreover, it is clear that humans are able to exercise some control over their desires and appetites. *ST*, I, 83, Art. 1; see also Aquinas (1962). *Peri Hermeneias: Aristotle on Interpretation Commentary by Thomas Aquinas finished by Cardinal Cajetan*, trans. J.T. Oesterle, Milwaukee: Marquette University Press (also known as *De Interpretatione*, hereafter *DI*), Book I, Lesson 14, para. 18.
23. Aquinas is a realist about knowledge. Through the intellect, we come to know things as they are. Knowledge, he says, pre-exists in the learner potentially in the sense of an active potency. We shall return to this below. *DV* 10, 4, 19–20 and *DV*, 11, 1, 83.

24. See Augustine (1976). *De Civitate Dei (The City of God)*, Harmondsworth: Penguin, Book X, Ch. 2.
25. Aquinas says, “the divine will must be understood as existing outside of the order of beings, as a cause producing the whole of being and all its differences.” *DII*, Lesson 14, para. 22.
26. It is a poor definition of cause that rules out existential dependency relations by definitional fiat because the Kantian definition is undermined.
27. *ST I-II.1. Arts. 1, 5 and 6*. See also McInerny (1993), 196–216.
28. Farrer is mainly thinking about theological problems here, but there are also philosophical problems, including the nature of free will. Farrer (1948), 28–33.
29. *DV 11*, art.1, 83.
30. *DV 11*, art.1, 83.
31. Boland remarks that this seems to indicate the influence of Augustine. Boland (2007a), 48.
32. Aquinas (1970), Book I, Lect. 1 (*Posterior Analytics*, I, 1, 71a,1).
33. *DV 11*, Art. 1, #5, 84–85.
34. Boland seems to suggest that Aquinas leans towards constructivism. See Boland (2007a), 46–47. See also n. 19 above for a brief definition of constructivism.
35. *DV 10*, Art.12, #3, 67.
36. He says (of those who would make an inferior cause the complete source of our knowledge):

Other proponents...said that the soul is the cause of its own knowledge. For it does not receive knowledge from sensible things as if likenesses of things somehow reached the soul because of the activity of sensible things, but the soul itself, in the presence of sensible things, constructs in itself the likenesses of sensible things. But this statement does not seem altogether reasonable. For no agent acts except insofar as it is in act. Thus, if the soul formed the likenesses of all things in itself, it would be necessary for the soul to have those likenesses of things actually within itself. This would return to the previous opinion [that knowledge is innate] which held that the knowledge of all things is naturally present in the human soul. (*DV 10*, Art. 6, 27–28)

As mentioned earlier, Aquinas rejects the Averroist view that human beings have a common agent intellect as well as a common possible intellect. This entails that individuals gain knowledge and understanding through their own individual agent intellect and possible intellect. (Aquinas, *De Unitate Intellectus Contra Averroistas*) Given that knowledge is public, we need a means of accounting for agreement amongst people about what it is that they are talking about. It was plain enough to Aquinas that people were able to communicate with one another. If the mind were to construct its own knowledge from sensory data it could only do so by using what it already knew, otherwise, we would have no basis for claiming that what we had constructed was knowledge. The mind does not construct knowledge in this way, though it is the case that knowledge is gained through the activity of the agent intellect.

37. “And in this way all knowledge is in a certain sense implanted in us from the beginning (since we have the light of the agent intellect) through the medium of universal conceptions which are immediately known by the light of the agent intellect. These serve as universal principles through which we judge about other things and in which we foreknow these others. In this respect, that opinion is true which holds that we previously had in our knowledge those things which we learn.” *DV* 10, Art.6, 28.
38. This is perhaps most clearly seen when Aquinas says that the mind has contact with singulars, that is, particular sense data, through the mediation of particular reason, a power of the sensitive part, that is, via the brain. Hence, knowledge is not caused directly by objects stimulating our senses. *DV* 10, Art.5, 23.
39. See for example: Rorty (1998), 167–185.
40. *DV* 11, Art.1, 82. Just as when a physician administers medicine to speed up the natural healing process. This is in fact a mixed or more complex situation than appears—a person may have sufficient power of his own to bring about healing, but needs assistance, so it is not entirely passive potency here. That is, the natural healing processes are capable on their own to restore health, but medicine in this case, speeds the process. In other cases, only medical assistance can restore health.
41. Aquinas considers and rejects the idea that someone can be his or her own teacher, but this does not mean that he or she cannot acquire knowledge for himself or herself. Aquinas agrees that one can learn things by discovery, but he says that only a teacher will have understanding of the entire subject or science and so can teach it more easily. *DV* 11, Art. 2, 89–91.
42. *DV* 11, Art. 1. 83–85.

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