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The Teaching of Logic in Finnish School Philosophy: A Historical Perspective

MIKA PERÄLÄ & EERO SALMENKIVI

The provision of Philosophy at schools is determined by the nature of the discipline, its relationship with other school subjects, and the role assigned to it within the prevailing ideals of education. According to the current *National Core Curriculum for General Upper Secondary Education* (NCC2019), Philosophy aims to provide the conceptual basis for understanding and reviewing different conceptions of the world, society, and human being. Philosophy should also teach general thinking and argumentation skills as well as help understand the similarities and differences between other school subjects. A study of the history of the discipline in Finland suggests that within Philosophy, logic has provided not only technical thinking skills but also the methodology required for integrating the different fields of knowledge and inquiry. Additionally, logic has offered a fitting introduction to Philosophy itself.

In this article, we focus on the history of the teaching of logic in Finnish schools. Logic has been a significant part of Philosophy since the Turku Cathedral School (1630) and beyond. Logic was understood in the broad Aristotelian and Scholastic sense, i.e., including epistemology and methodology, until the early 20th century when professional philosophers in Finland started promoting the more narrowly conceived modern formal logic. Since formal logic, thus understood, was not an easy subject to teach, it was overshadowed by psychology that became the core of gymnasium philosophy for much of the 20th century. During the 2010's, logic returned to school philosophy with an informal approach, as one of the primary objectives of Philosophy became and even today is to provide the general argumentation skills essential for fostering critical thinking.

In what follows, we explore the content of introductory philosophy courses from medieval times to the present day and substantiate the foregoing claims about the history of the teaching of logic in Finnish schools. We do not consider ethics education, which since the mid-19th century primarily fell under the responsibility of religious instructors until it returned to Philosophy in 2014 (Hanho 1955; NCC2015; Tomperi 2017). In referring to what is currently called General upper secondary school in English (*lukio* in Finnish), we shall apply the term 'gymnasium', which even today remains the official term in Swedish.

Logic Instruction in Trivial Schools before the Establishment of Gymnasium in the 17th Century

To contextualize the situation in Finland, we begin by outlining a brief history about Philosophy education. The study of logic held a significant place in philosophy education since at least the commentators of Plato and Aristotle during the Roman Imperial era. In philosophical schools representing Platonic philosophy at that time, studies commenced with Aristotle's logical works, which were deemed to provide necessary tools for more advanced studies—these works were even referred to by the Greek term *Organon*. Progressing from logic, studies moved on to Aristotle's natural philosophy, the goal of the studies being a profound understanding of Plato's dialogues, especially the *Timaeus* and *Parmenides* (Sorabji, 1990; Falcon, 2016).

The progression of philosophical studies from Aristotelian to Platonic philosophy was also evident in the medieval university system. Aristotle's works were primarily studied in the lower philosophical faculty, which aimed to prepare students for theology, law, and medical studies. Basic philosophy studies in medieval universities included a thorough introduction to logic, which prominently featured dialectic, or the art of argumentation, as discussed in Aristotle's *Topics*. The importance of argumentation cannot be overstated. It was not only practised for sharpening philosophical thinking skills but was also demonstrated in public debates, disputations, as a display of scholarship even in the higher faculties of a university. (Grant, 1996; Himanka 2015; Weijers, 2010.)

In the area that currently constitutes Finland and which at the time was a part of Sweden, there were no universities during the medieval period. The most significant educational institution at the Medieval times was the Turku Cathedral School that was responsible for the education of priests. The school operated in conjunction with the Turku Cathedral Chapter, possibly since its establishment in 1276 (Iisalo, 1987, 11). The curriculum of the Cathedral School followed the traditional trivium, comprising grammar, rhetoric, and dialectic. Studies began with grammar, that is, the study of Latin, followed by an introduction to Latin literature and the basics of rhetoric. Dialectic was studied in the upper, fourth class. Teachers likely used Peter of Spain's *Summulae logicales* as a logic textbook, later the rhetorically oriented work *De inventione dialectica* by the German Rudolf Agricola. In Sweden's cathedral schools, quadrivium, comprising arithmetic, geometry, astronomy, and music, was taught only briefly, mainly for ecclesiastical purposes such as calculating feast days (Hanho, 1947, 3–4).

The Reformation did not bring significant changes to the initial philosophy studies. The curriculum outlined in Sweden's first school ordinance from 1571 emphasized moral guidelines. Suitable textbooks mentioned included Cicero's *De officiis*, Aesop's fables, Erasmus's *De civilitate morum*, and *Colloquia familiaria* (Hanho, 1947, 16). The philosophical and humanistic tradition thus provided foundations for ethics education, which, however, remained subservient to theological ethics.

From Logic to Natural Philosophy – Philosophy Education in Gymnasium in the 17th Century

In the 17th century, at the proposal of King Gustavus II Adolphus, German-style gymnasia were established in Sweden, typically offering instruction in at least Latin, Greek, theology, philosophy, physics, and mathematics. Finland's first gymnasium was founded in Turku (Åbo in Swedish) in 1630, followed by another in Vyborg in 1641 (Hanho 1947, 50, 55). When the Turku gymnasium expanded into the Turku Academy encompassing all four faculties in 1640, students no longer needed to travel abroad for academic studies. The core course of study in gymnasium and university philosophy was logic, which according to the 1611 school ordinance, were to be based on Petrus Ramus's logic, i.e., *Dialecticae libri duo* (Frankfurt 1581), although Aristotle's works were also recommended for more advanced students. According to the 1649 school ordinance, the textbook should continue to be Ramus's logic, or alternatively, Johannes Scharpius's *Elementa Logices* or Conrad Dietericus's *Epitome praeceptorum dialecticae*. (Hanho 1947, 275)

In the late 17th and early 18th century, Petrus Aurivillius' *Elementa logicae peripateticae*, published in 1672, with the eighth renewed edition by Jacob Boëtius in 1744, and Anders Rydelius's *Nödiga förnuftsövningar att lära känna det sundas vägar och det osundas felsteg*, published in 1718, were the required textbooks (Hanho 1947, 275–276). As the title indicates, the latter book discussed not only valid reasoning but also informal fallacies that were identified no less than eleven (see also Lagerlund 2020, 238–239). Later in the 18th century, Johannes Plenning's textbook *Logica usui Juniorum in Epitomen redacta* (Västerås 1739), its abridgement *Rudimenta logicae in usum tironum contracta* (Västerås 1778) and Petrus Arosenius's Swedish version *Första bokstäfverna af förnuftsläran eller Slutkonsten* (Västerås 1756) proved to be enduring, as they were still used in schools in the Turku diocese in the early 19th century—although not without criticism. In a speech delivered in 1748, the rector of Pori trivial school, Johan Kraftman, criticized logic

textbooks for being filled with complex and content-poor rules that confused students and did not promote the development of judgment. In Porvoo gymnasium, Plenning's logic was replaced in the 1770s by the textbook *Compendium Logicae* (1754) by Nils Wallerius, Professor at Uppsala University, which was subsequently used not only in Porvoo gymnasium but also in trivial schools in the Porvoo diocese. (Hanho 1947, 275)

How were these textbooks used in teaching? Sources do not provide a direct answer to this question, but even a cursory examination reveals what aspects the authors considered important. For example, the approximately one-hundred-page overview of logic contained in Johannes Gezelius the Elder's *Encyclopaedia synoptica* (1672), reissued by Simon Tolpo as *Joh. Gezelii Synopsis logica* (Turku 1695) defines logic as the art of debating well *(ars bene disserendi*). Gezelius does not disclose his sources, but the definition appears, among other places, in Ramus's logic (Lounela, 1979, 48). Gezelius (1672, 6) presents this definition as the internal goal of logic, while he mentions knowledge of truth (*veritatis cognitio*) as its external goal. Gezelius (1672, 20) divides logic into two dimensions: *inventio*, the invention of arguments, and *judicium*, the evaluation of arguments. An argument is understood broadly as a topic (*thema*) that is being argued for. Argumentation itself is broadly interpreted as it includes as many as eight dimensions: observation (*respicere*), demonstration (*ostendere*), assertion (*declarare*), clarification (*explicare*), illumination (*illustrare*), confirmation (*confirmare*), testing (*probare*), and refutation (*refutare*). Thus understood, logic encompasses not only formally valid logical reasoning but also all thinking and investigation aimed at truth. In other words, logic also includes epistemology.

In the main, Gezelius's overview consists of definitions of key terms, the principles (*canones*) related to them, and examples from which the teacher presumably selected those suitable for teaching purposes. However, the overview is heavy and dictionary-like. A better fit for teaching purposes would for instance be the abridged version of Plenning's logic, *Rudimenta Logicae*, which is presented in a clear question-and-answer format. It is a small-sized, 60-page booklet, where logic is divided into a theoretical and a practical part. The theoretical part comprises of four chapters: ideas and terms, definition and classification, judgment and proposition, and reasoning and syllogism. The practical part consists of three chapters, the first of which concerns the nature of truth, the second certainty of truth and probability, and the third different ways to find truth. This work also introduces the basic concepts and principles as well as illuminates them with examples. Although the booklet is concise, it among other things covers conditional, disjunctive, and conjunctive propositions and syllogisms that Aristotle did not address in his logic. An example concerning disjunctive syllogism is as follows: 'The world is either eternal or created in time. But

the world is created in time. Therefore, it is not eternal.' (Plenning 1778, 39; the authors' translation)

The 1724 school regulations stipulated that in larger gymnasia, theoretical philosophy should also consider the different branches of philosophy, schools of thought, and their differences. Gezelius's overview mentions Logic, Metaphysics, Pneumatology (or the study of the soul), and physics as the different branches of Philosophy. The fact that Gezelius only names the fields of theoretical philosophy reflects the emphasis of the works he used as sources, which apparently also reflected the emphasis of philosophy in school education. When the same school regulations mandated that the logic lecturer should also teach the basics of metaphysics (Hanho, 1947, 276), it can be inferred that other fields of philosophy were not within his responsibility. Physics had already been assigned a separate lecturer position in gymnasia as part of Gustavus II Adolphus's reform efforts.

Although physics as a general natural science or natural history included, among other things, botany and physiology, its approach was highly theoretical and still based on Aristotle's physics and medieval astronomy (Hanho 1947, 53–55). After 1626, the textbook for physics was Johannes Magirus's *Physiologiae peripateticae libri sex cum commentariis*, which was based on the writings of Aristotle, Albertus Magnus, Jacobus Zabarella, and others. The 1649 school regulations prescribed Johann Scharphius's *Manuale Physicum ordine consueto Aristotelico conscriptum* as the physics textbook, while the 1693 regulations recommended Johannes Franckenius's *Speculum botanicum* for botany. In the 1724 regulations, it was required that the logic lecturer also teach physics. (Hanho, 1947, 280–281) The reason why physics was quite theoretical in nature can be explained by the fact that gymnasium education in these regulations was primarily intended as a foundation for clergy.

However, the surrounding society was changing, and there were increasing pressures to reform the school system for a larger societal benefit. One of the most notable critics of contemporary educational aims was Johan Browallius, who served as the Professor of Physics at the Turku Academy from 1737 and as the Bishop of the Diocese of Turku from 1749. He had been a student of Carl von Linné in Uppsala and had possibly familiarized himself with John Locke's work, *Some Thoughts concerning Education* (1693), which was translated into Swedish in 1709. Locke advocated for moral education as well as for the practical and societal benefits of general knowledge rather than solely for the pure academic scholarship. Browallius presented his criticism and new proposals in a manuscript titled *Oförgripeliga tankar om underwisningswärket wid gymnasier och scholarne i riket*, which he anonymously submitted to the Chancellery Board responsible for censorship in late 1749. According to him, 'natural history promotes teaching itself,

as nothing is easier for children to learn' (Hanho 1947, 79; the authors' translation). Furthermore, he considered natural history essential for all areas of life and beneficial even for those aspiring to become priests. He argued that by learning natural history, a priest 'acquires clear concepts that lead to true, useful philosophy, whereas what has been taught under the name of philosophy so far is something that benefits more in speech and lecture halls than in life and profession' (ibid.). The Parliamentary Board of Education considered the proposal and incorporated many of the aspects presented in it in the draft school regulations of 1760. For example, it was proposed that the teaching of logic and Hebrew should be transferred from trivial school to gymnasium, and to introduce natural history as a new subject in both levels. However, the proposal was not approved due to the prevailing political situation in the parliament (Hanho 1947, 86–88).

Psychology Is to Be Taught alongside Logic in the 19th Century

Finland became an autonomous Grand Dutchess under Russia in 1809. In the early decades of the 19th century, parliamentary committees as well as some dioceses of the Lutheran Church made several proposals for the reform of the school system. The proposals primarily concerned the poor pay of teachers, the establishment of new educational institutions, and the establishment of schooling to serve the educational needs of those aspiring for government positions or seeking careers in business. From the perspective of philosophy education, the most significant reform was the proposal made by the Second School Commission in 1826 to teach psychology alongside logic in gymnasium. The Senate approved the suggestion in the school regulations of 1843. This was a substantial reform of the entire education system, as it also mandated the establishment of girls' schools, where philosophy was not taught. Upper trivium schools and gymnasia were divided into two tracks: the A-track aimed at those aspiring for the clergy and the B-track aimed at those pursuing government positions and other professions. The tracks differed in that only A-track students studied Greek and Hebrew as well as theology in gymnasium, while only B-track students studied French, natural history, drawing, and essay writing in gymnasium. A-track students studied more Latin, while B-track students studied Russian. In both tracks, psychology and logic were studied for two hours per week in the second year of gymnasium. Latin remained central, as philosophy teachers were required to use Cicero's philosophical writings in their teaching of psychology and logic (Hanho 1955, 58–61).

With the addition of new subjects such as modern languages, as well as statistics, algebra, and chemistry, something had to be cut, among other things, metaphysics and debating sessions. Since

there were so few hours allocated to philosophy, a further development in the school regulations of 1856 was that the position of gymnasium philosophy teacher was abolished, and the teaching of logic was assigned to the theology teacher. Psychology and logic were studied in both general gymnasia and in gymnasia intended for civil servants (Hanho 1955, 120–124). However, in the school regulations of 1872, only logic is mentioned, which was taught only in gymnasia teaching Latin for two hours per week. Logic was entirely absent from the new realia schools teaching modern languages. (Hanho 1955, 343.)

In the realm of logic, the textbooks initially comprised Plenning's logic, followed by F.G. Afzelius's *Utkast till lärobok i logiken för elementar-undervisningen* (Uppsala 1839, Helsinki 1856). Afzelius was a lecturer in Uppsala gymnasium. In terms of his philosophical orientation, he was a Hegelian, but this shows only occasionally in his elementary textbook, which was traditionally divided into four parts—concepts, judgement, inference, and method—and included some Kantian additions that were typical at the time, such as the distinction between content and form as well as the idea that logic differs from psychology in that it does not tell how we think but rather how we should think, i.e., logic considers general and necessary laws of thought. Afzelius presents four laws of thought: the law of identity, the law of non-contradiction, the law of sufficient reason, and the law of the excluded middle. In these respects, Afzelius's textbook can be compared to Alexis Lindholm's more extensive, academic textbook *Lörobok i logiken* that was published three years before (Lagerlund 2020, 240–241). However, the two books differ with respect to their approach. As Afzelius tells in his introduction, he was compelled to compose the textbook because he had found that Lindholm's treatise does not serve the needs of gymnasium teaching. The publication of introductory textbooks thus concurred with the advancement of the academic study of logic in Kantian and Hegelian footsteps. In 1840, a Finnish Hegelian Johan Vilhelm Snellman published his *Lärobok i logiken* which is included in his *Philosophisk elementar-curs*. The next notable academic textbook and the first in Finnish was Thiodolf Rein's *Oppikirja muodollisessa logiikassa*, first published, also in Swedish, in 1882 with a fifth edition as late as in 1933 (with the revised title *Muodollisen logiikan oppikirja*). Even if by that time the study of formal logic had taken several new steps in Germany and England, the later editions of the book showed no sign of these developments. (Vilkko 1999)

As regards the teaching of psychology, the textbook authored by L.M. Enberg, the rector of Stockholm Gymnasium, *Försök till lärobok i psykologien* (Stockholm 1824), was used until it was superseded by Z.J. Cleve's work *Försök till lärobok i psykologi* upon its publication in Helsinki in 1854 (2nd ed. 1858). Cleve was a significant educational theorist in Finland, serving as a professor of education and pedagogy at the University of Helsinki from 1862 to 1882. He was a Hegelian and

neohumanist. Cleve's Hegelianism was reflected in his divergence from Kant's tripartite division of the soul into faculties of knowledge (*kunskapsförmåga*), feeling (*känsloförmåga*), and desire (*begärinsförmåga*). Instead, Cleve adopted a dualistic approach distinguishing between reason (*förnuft*) and will (*vilja*). Johan Vilhelm Snellman also adopted this dualistic view in his work *Philosofisk elementar-curs: Psychologi* (Stockholm 1837). However, Cleve and Snellman differed in their understanding of emotion, with Cleve suggesting it related to both reason and will, while Snellman linked it solely to the will. (Rydberg 2008, 34.)

In school education of psychology, there were thus two distinct views on the faculties of the soul. The tripartite division was based on Kant's delineation in his work *Anthropologie in pragmatischer Hinsicht* (1792), while Hegel, followed by Snellman, settled for a dualistic approach, understanding emotion as a kind of obscure cognition, or thought. Thiodolf Rein elucidates this divergence in his textbook on psychology, *Sielutieteen oppikirja* (1884). Rein himself adhered to the Kantian perspective and criticized Johann Friedrich Herbart, whom Rein accused of considering cognition as the sole genuine function of the soul and regarding both emotion and will as its manifestations. This critique is noteworthy as, within the field of educational science, the Herbartianism advocated by Mikael Soininen displaced Hegelianism, represented by Snellman and Cleve, in the late 19th century Finland. However, both Soininen, in his work *Yleinen kasvatusoppi* (1900, 13–14), and Paavo Virkkunen, the principal of Helsinki Finnish Normal Lyceum, in his draft of educational science *Kasvatusopin luonnos* (1906), adhered to Rein's tripartite division. This division was central in Virkkunen's textbook *Filosofian alkeiden oppikirja* (1915), of which two-thirds were dedicated to psychology. In the preface to the textbook, Virkkunen articulates a lucid explanation as to why, in his interpretation, psychology holds such a central position in philosophy education:

> I have not the slightest doubt that the cornerstone of this curriculum is the introductory course in psychology. Only on this basis can the fundamental questions of philosophy be taught in schools. Without possessing any knowledge of the main aspects of mental life, it is impossible for students to understand the actual problems of philosophy. If these are directly addressed, then I can conceive of nothing but the entire teaching becoming scarcely anything other than floundering in thin air. On the other hand, a suitably formed introductory course in psychology renders the best services both to young learners themselves and to the teaching subject of the fundamentals of philosophy. (Virkkunen 1915, Preface, the authors' translation)

According to Virkkunen, then, psychology can provide students with such knowledge of the mind and its activities that is helpful not only for their study of philosophy but also for their life outside the academia.

The State of Disarray in Gymnasium Philosophy Education in the 20th Century

Virkkunen's textbook appeared just before Finland gained independence in 1917, at which time the subject covering both psychology and logic was renamed as the fundamentals of philosophy. The curriculum approved by the Senate defined the subject as follows: 'A brief course in psychology focusing on questions of mental development and self-education. Main points of knowledge criticism illuminated historically' (quoted and translated from Tomperi 2017, 120). Virkkunen (1915, 2) characterizes philosophy as essentially 'a worldview and life outlook study'. Here, worldview study refers to an educational approach that synthesizes various subjects and provides general knowledge. As was pointed out by Zachris Castrén, the director of the Helsinki Finnish Workers' Institute, providing such education is a demanding task because the sciences and philosophy themselves do not offer it as such (Tomperi 2017, 216).

Synthetic teaching seems to have been based on a certain conception of human beings, reality, and philosophy. Based on Kant's transcendental idealism and Mill's psychologically interpreted logic, the foundation of logic and human knowledge was often thought to lie in the structures of the mind in the 19th century (Kusch 2024). Thus, psychology offers a scientifically justified approach to philosophy. According to the faculty psychology of the 19th century, which divided human mental activity into cognition, emotion, and will, this structured functioning of the human mind is also a part of gymnasium students' experiential world, providing a basis for teaching philosophical questions with relative ease. From this perspective, Virkkunen's view is easy to understand.

From the perspective of Finnish gymnasium philosophy, the problem was that the philosophical and scientific thinking underlying education was breaking down at the turn of the 19th and 20th centuries, at the same time as independent Finland's philosophy education was being established. For example, the criticisms of psychologism by Gottlob Frege and Edmund Husserl undermined the credibility of such a conception in academic philosophy. (Vilkko 2002; Kusch 2024.) In philosophy, the developments of logic, logical positivism, and phenomenology were significant novel approaches. Similarly, psychology as an empirical science quickly evolved and became independent from philosophy. (Tomperi 2017, 126–134.)

The development of philosophy and psychology in Finland was rapid. Above all, Eino Kaila, who was a significant figure in Finnish science in the early 20th century, strongly advocated for

empirical psychology. He also introduced ideas of logical positivism from the Vienna Circle to Finland, which rendered the contemporary gymnasium philosophy largely outdated (e.g., Kaila 1939). Finnish academic philosophers, such as Kaila and the international luminary G. H. von Wright, harshly criticized philosophy education in schools throughout the 20th century (Tomperi 2017, 143–157). von Wright wrote: 'one might even take such a strong stance regarding the teaching of philosophy in schools as to propose its complete or partial abolition. Such a measure would in fact be a step forward in many respects compared to the hopeless situation in which philosophy education in our schools currently finds itself' (von Wright 1943, 269; the authors' translation).

By the mid-20th century, gymnasium philosophy had become a divided subject. While the new empirical psychology was a promising and popular topic for teaching, it no longer served as a link to other areas of philosophy. Additionally, in the early 20th century, logic evolved into an independent field resembling mathematics, and teachers who also taught religion as their first subject rarely had good prerequisites for teaching it. Thus, what should be taught in philosophy besides psychology was becoming unclear and controversial. Even if logic together with psychology was still considered to be a propaedeutic subject to philosophy (e.g., Jerusalem 1899; Ora 1925), formal logic did not properly establish itself as part of the core curriculum. Anders Wedberg published his academic introduction to formal logic *Den nya logiken* in 1945. It took more than twenty years before the first gymnasium textbook with a chapter on formal logic was published in Finnish, Erkka Maula's *Filosofian aapinen* (1968), but this book was not extensively used. It seems that instead of formal logic, gymnasium teachers, drawing from history and religion, taught some form of history of philosophy. As early as the report of the school committee in 1932, in addition to teaching psychology, the goal was to 'to some extent introduce students to the great philosophers and the most important philosophical trends of different eras and at the same time provide them with role models who, due to their great qualities, are suitable as their ideals' (quoted in Tomperi 2017, 149; the authors' translation). Urpo Harva's *Suuria ajattelijoita* ('*Great Thinkers*') from 1955 became the basic textbook for this peripheral part of the subject (Tomperi 2017, 158).

Philosophy and psychology were separated into independent subjects in the gymnasium curriculum reform of the early 1980s. At that time, psychology was a popular and established subject in the sciences track, while philosophy became a marginalized optional subject at the school level (Tomperi 2017, 126–134). In the matriculation examination, philosophy and psychology remained together until 1996 when philosophy became a compulsory nationwide subject again (Kaarninen & Kaarninen 2002).

The Resurgence of the Teaching of Logic and Argumentation in Gymnasium Philosophy

In this concluding section, we approach the current state of the teaching of logic and argumentation in gymnasium philosophy by considering the core curricula from 1994, 2003, 2015, and 2019. A consideration of these documents suggests that in general, there has been a notable pedagogical change from a content-centric approach to a skills-centric approach. As a result, there is currently more room than in the past century for the teaching of logic as a skill of argumentation and debating. According to our interpretation, this means that philosophy teaching has returned to its traditional roots after a transitory affair with modern formal logic that did not manage to find a proper place in gymnasium.

We begin by noting that the skills of philosophy are varied, but they certainly include general thinking and argumentation skills in one form or another. In practice, giving room for these skills in the teaching of philosophy means compromises in the general educational requirements concerning the vast tradition of philosophy (Salmenkivi 2008b, 122; cf. Elo 1999, 13–14). At the curriculum level, the challenge of teaching argumentation, let alone logic, was not addressed in FCS1994 or NCC2003. There were no specific course objectives related to argumentation which was only mentioned as the last of six contents in an unpopular optional course on theoretical philosophy of the latter curriculum. (NCC2003, 178).

A wide requirement for providing both academic and general educational knowledge was emphasised in both FCS1994 and NCC2003. It culminated in the objective which in NCC2003 was formulated as ‘command basic general knowledge of both the history of philosophy and its current trends and be able to relate these to social and cultural phenomena’ (NCC2003, 176). This objective was abandoned in NCC2015 to make room for thinking and argumentation skills. Philosophy thus surrendered most of its general educational aims concerning the history of philosophy to emphasise non-formal thinking and argumentation skills.

By 2015 it had become evident that in most schools the content-centric approach in Philosophy instruction was superficial and did not engender interest in Philosophy. At least the optional courses were not taught in many schools because of a lack of students, and the popularity of taking the Philosophy test in Matriculation Examination sank quickly (Salmenkivi 2013; Perälä & Salmenkivi 2020, 93). There is nothing surprising in these developments, because most of the teachers of Philosophy had some other subject, like Religious Education or History, as their primary

subject and they had taken no pedagogical courses on how to teach philosophy. The motive for the changes in the Philosophy NCC2015 was to pressurise all teachers into prioritising philosophical thinking and avoiding lecturing about the history of philosophy.

In NCC2015, familiarity with the philosophical tradition is still present but in a significantly narrower form, according to which students are 'able to identify philosophical problems and alternative solutions to these in the tradition of philosophy and in relation to current issues' (NCC2015, 200). Other objectives include the ability to conceptually analyse various claims and their justifications, basic skills in coherent argumentation, and the ability to conceptually structure complex issues. Developing students' thinking skills was also prioritised in the educational objectives, with efforts made to make room for it by scaling back on overly ambitious content objectives.

In NCC2019, the fundamental nature of the educational objectives of NCC2015 remained unchanged. By that time, it had become obvious that the popularity of Philosophy in upper secondary school was increasing remarkably, and the new skills-centric approach chosen in 2015 was one of the reasons for this increase together with the return of Ethics to Philosophy and the digitalisation of the Matriculation Examination. Thus, thinking and argumentation skills became a new entry point into Philosophy. The traditional notion of logic as the starting point of the study of philosophy was reinterpreted less formally. Furthermore, one might suggest that logic also returned to Philosophy from Mathematics. In both FCS1994 (p. 88) and NCC2003 (p. 127), Advanced Mathematics had an optional course titled 'Number theory and logic', while in NCC2015 (p. 169) it was changed to 'Number theory and mathematical proofs'.

It should be noted that the skills-centric approach, like its predecessors before the 20th century, requires that students be introduced to philosophical thinking, not just to any kind of critical thinking. It is worth emphasising that Philosophy's role in providing general education has not been abandoned in NCC2015 and NCC2019, but it is understood in terms of skills. Thus understood, the aim of teaching is not to focus on memorising the names of philosophical classics and obscure doctrines (Salmenkivi 2008b). Instead, the goal is to initiate students to philosophising, implying that they grasp philosophical problems and solutions in meaningful contexts. This is a demanding objective for both teachers and students. To facilitate the adoption of the skills-centric approach, the National Agency for Education has published two booklets, one regarding logic and argumentation (Hakala et al. 2022a) and the other regarding ethics (Hakala et al. 2022b). Recent research on the matriculation exam results suggests that an average student has not yet achieved the objective described above (Perälä & Salmenkivi 2022). Nevertheless, the identity of gymnasium philosophy

recognisably consists of practising philosophy rather than solely critical thinking, which should permeate all other subjects, too.

Critical thinking skills have been at the forefront of desired general skills by both educators and employers throughout the 21st century (see, e.g., the World Economic Forum 2023). However, combining the teaching methods for critical thinking with those aiming for subject-specific knowledge has proved to be a great challenge. A UNESCO report (Goucha 2007) recognises this challenge as an international one which clearly persists in the 21st century despite remarkable new insights, like those motivating Matthew Lipman's Philosophy for Children (Lipman 2003, Juuso & Tomperi 2008).

As we see it, the teaching of logic within Philosophy can play a significant role in addressing the challenge described above. Even if the way in which Philosophy has been taught for the past century and even longer has disregarded general thinking and argumentation skills, these skills had been in the kernel of gymnasium philosophy before the 20th century. The problem was that the formal logic that the Finnish academic philosophers advocated in the 20th century appeared more like Mathematics than Philosophy in the school curriculum. To teach formal logic in upper secondary education requires a considerable number of lesson hours and prestige that Mathematics is assigned in the Finnish school system, whereas Philosophy is not, at least since the early 19th century.

The unique role of Philosophy in teaching thinking and argumentation skills is related in many ways to the nature of philosophy itself. For the first, the logic of thought and good argumentation are key areas of philosophy. Additionally, the conceptual character of philosophical inquiry and its lively but contradictory tradition challenge and engender students' thinking skills. Philosophy teaches independent thinking because philosophical questions typically have multiple well argued, but incompatible answers. Therefore, Philosophy teaches open-mindedness and humility in the pursuit of truth differently than any other school subject.

We conclude with a citation from F.G. Afzelius. In justifying his style of writing in between verbosity and terseness, he expresses what the teaching of philosophy at school should be:

> For it is only in this way that a teacher can become what they ought to be, not an examiner but a genuine doctor in a genuine Socratic sense who helps a student to develop and consider their thoughts. And it is only in this way that introductory teaching of philosophy can become what it truly must be, not solely empty reading out of memory, but a proper exercise in thinking so that a student, drawing on what is concisely expressed in the textbook, must advance on their

own and, under the guidance of the teacher, think for themselves as for the rest. (Afzelius, 1839, Preface; the authors' translation)

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