

Learning and Teaching in Uncertain Times: A Nietzschean Approach in Professional Higher Education

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*Today professionals have to deal with more uncertainties in their field than before. We live in complex and rapidly changing environments. The British philosopher Ronald Barnett adds the term ‘supercomplexity’ to highlight the fact that ‘we can no longer be sure how even to describe the world that faces us’ (Barnett, 2004). Uncertainty is, nevertheless, not a highly appreciated notion. An obvious response to uncertainty is to reduce it– or even better, to wipe it away. The assumption of this approach is that uncertainty has no advantages. This assumption is, however, not correct as several contemporary authors have argued. Rather than problematising uncertainty, I will investigate the pros and cons of embedding uncertainty in educational practice of professional higher education. In order to thoroughly explore the probabilities and challenges that uncertainty poses in education, I will dwell on the radical ideas on uncertainty of the German philosopher Friedrich Nietzsche. In *The Birth of Tragedy* (1872) he recognizes two forces: the Apollinian, that is the pursuit of order and coherence, and the Dionysian, that is the human tendency to nullify all systematization and idealisation. Uncertainty is part of the Dionysian. I will argue that when educators take Nietzsche’s plea to make room for the Dionysian to heart, they can better prepare students for an uncertain world. If and only if students are encouraged to deploy both tendencies – the Apollinian and the Dionysian – they can become professionals who are able to stand their ground in an uncertain and changing (professional) world.*

In 2011 a special committee was formed in order to advise The Netherlands Association of Universities of Applied Sciences (HBO-raad) on developments in the engineering sector. In its report the committee stated that the profile of the engineer is outdated and should be re-evaluated (Sectorale Verkenningcommissie HBO Techniek, 2011). The reason for this is that developments in technology are taking place more rapidly than before and these changes affect the function, the sector and the place in which the engineer works. Furthermore, today’s engineer has to deal with other sectors, such as health care, logistics and the creative industries. The committee labels the new engineer a ‘connector’: ‘he [the new engineer] makes connections with other sectors and he brings people with different interests together in order to set an evidently common goal’ (p.5, translation HJ). As a connector, the engineer needs to be prepared for a task that is performed in an interdisciplinary and ever faster transforming environment.

The engineering sector in the Netherlands is not unique. Professionals in health care, law, information technology or management have to take into account the interests of other parties. They also function under harsh market pressures: they have to be accountable, while being pressed to be more flexible than before.

Scholars both in America and Europe are searching for ways to train professionals to become more capable of performing effectively in a complex and rapidly changing environment (Shapiro, Lauritzen and Irving, 2011). The British philosopher Ronald Barnett

argues that the changing world of the professional is not just *complex*, i.e. the professional has to deal with an overload of ‘competing claims on one’s attention’ while being unable to foresee the consequences of one’s actions, but also *supercomplex*. Professionals have a growing number of conflicting descriptions of the world at their disposal. Take the example of *universities*. They can be described as ‘consumers of resources, or even as producers of resources’. Universities can also be understood as ‘sites of open, critical and even transformatory engagement’ (Barnett, 2004, p. 249). Since these interpretations of universities cannot be reconciled, the chosen interpretation remains questionable. As readers of the world we become aware of the contingent status of our reading. Barnett argues that the supercomplexity of the present world generates a personal form of insecurity. Individuals are no longer able to describe their world satisfactorily. As a result, they stop acting confidently (p. 250).

Today professionals have to deal with more uncertainties in their field than before. Uncertainty is however not a highly appreciated notion. Scholars of education speak of ‘troubling times’. Exemplary is the 2012 conference, organised by the international network at the University of Stirling, promoting research and knowledge exchange in leading issues of professional education, practice and learning (ProPEL). The title of the conference was: *Professions and Professional Learning in Troubling Times: Emerging Practices and Transgressive Knowledges*.¹

An obvious response to uncertainty is to reduce it – or even better, to wipe it away. The assumption of this approach is that uncertainty has no advantages. That assumption is however not correct as several contemporary authors have argued. The sociologist and social commentator Frank Furedi emphasizes that contemporary education systems consider children (and students) to be at risk. Education systems overprotect their children (and students) out of fear that they are not able to handle the rapid transformations. Furedi argues that perceiving them as risk takers would allow teachers ‘to help people to make decisions about how to achieve desirable objectives, [rather than, HJ] to learn how to adapt to a force that is not of their making’ (2008). Barnett, in turn, reformulates learning as a *coming-into-active-doubt* (2011). Since one no longer knows what counts as learning (competing definitions of learning exist), one’s understanding of learning has to include some notion of ‘going on in a world in which there are no non-contestable rules for going on’ (p.13). Including this existential sense of uncertainty in the notion of what learning is, enables educators to better equip the students for a difficult (professional) world.

In line with these authors, this article explores the potential advantages of making uncertainty part of professional learning and teaching. Rather than problematising uncertainty and searching for ways to eliminate it, I will investigate the pros and cons of embedding uncertainty in the educational practice of institutes of applied sciences.

In order to thoroughly explore the probabilities and challenges that uncertainty poses in education, I will dwell on the ideas on uncertainty of the German philosopher Friedrich Nietzsche (1844-1900). In *The Birth of Tragedy* (1872/1967) he recognizes two forces: the Apollinian, that is the pursuit of order and coherence, and the Dionysian, that is the human tendency to nullify all systematization and idealisation. Uncertainty is part of the Dionysian. These two forces coexist and are dependent on each other. Both forces are continually striving to dominate. As a result, the Apollinian reigns at one moment, the Dionysian at the other. Nietzsche argues that in Western culture the Apollinian prevails and he pleads for more room to be created for the Dionysian, in order to restore the balance between the two forces.

Nietzsche explores uncertainty in its most radical form. In his writings, uncertainty has a metaphysical dimension: it is a fundamental notion, necessary to understand life. By starting with Nietzsche’s radical thoughts about uncertainty, this article aims to sincerely grasp the

probabilities and challenges of embedding uncertainty in the learning and teaching processes of professional education.

This paper consists of five parts. First, in line with the researcher Peter Gardner, I will argue that certainties in a professional field are usually taught in an authoritative manner. However, when dealing with uncertainties, teachers are inclined to encourage students to experiment and to decide for themselves how to relate to issues of uncertainty (1993). Though this so called *pedagogic dualism* is not an absolute description of educational reality, the dichotomy between an authoritative attitude towards certainties and a *laissez faire* attitude to uncertainties, is still common in higher education. Although wide spread, this pedagogic dualism seems to be an inadequate ground for preparing students for contemporary professional practice. Secondly, I will describe Nietzsche's concept of the Apollinian, as well as the advantages and shortcomings of this human tendency. In order to clarify Nietzsche's critique of the Apollinian, I will describe Socrates' way of examining issues, for Nietzsche considers Socrates to be an exponent of the Apollinian. In the third part, I will explore Nietzsche's concept of the Dionysian. The topic of the fourth section is Nietzsche's plea to restore the balance between the Apollinian and the Dionysian, thereby making more room for the Dionysian. The balance between these two forces offers the opportunity to engage in ways of thinking and acting one could never have imagined, pace Nietzsche. The final part deals with educational practice. I will elaborate on three educational models starting with a model on an Apollinian reading, namely pedagogic dualism. Then I describe a 'pure' Dionysian model, and finally I elucidate a model that combines the Apollinian and the Dionysian.

Pedagogic dualism

In 'Uncertainty, teaching and personal autonomy: An inquiry into a pedagogic dualism' (1993), Peter Gardner outlines two principles concerning how teachers deal with certainties and uncertainties in education. Teachers often teach students certainties in an authoritative way, 'geared to achieving acceptance'. However, when dealing with areas of disagreement and uncertainty, they encourage the professionals-to-be to explore these problematic issues themselves and to choose their own standpoint. As such, students are expected to develop their autonomy.

Gardner argues that, if educators want to develop the student's autonomy, the student has to be confronted with uncertainties of substance. Teachers should however prevent students from developing the idea that whenever they are assigned to finding out the truth for themselves, no correct answers exist or no clear distinction between right and wrong can be established. In order to prevent the devaluation of the student's search, one needs some degree of epistemic optimism – the belief that answers can be given with considerable degrees of certainty, now, or in the near future – and epistemic successes (Gardner, 1993). In addition, teachers have to prevent students from thinking they are entering unexplored areas. Although no conclusive evidence might be available, for example when students out in the field are confronted with different disciplines or complex issues, it does not mean that knowledge is not available at all or cannot be made available. Students should have a realistic idea of what it means to explore an uncertain world. Gardner approves of the pedagogic dualism that he recognizes in the educational practice, but warns teachers to handle it with care.

Gardner implicitly understands education as an epistemic enterprise. To what extent does this pedagogic model still hold today? In the last decades, a revolution has taken place in higher education: the student has become an acting, rather than a knowing person. '[N]ow what is at issue is a student's ability to gain information from the databases and much less the student's own mastery of a knowledge field' (Barnett, 2009, p.430). The student of the 21st century is trained to be an acting professional. And yet, Gardner's pedagogic dualism is still being used in today's educational practices. The authoritative teaching of certainties can be

recognised in the taken for granted idea that scientific knowledge is useful to solve clearly defined, more or less familiar problems in the day-to-day practice of the professional. The professional-to-be only has to learn how to apply this knowledge. The rise of transferable skills and general skills also underscores the certainty that proper ways of acting exist. An authoritative way of teaching seems appropriate in these areas. The *laissez faire* attitude towards uncertainty can be recognised in situations where professional life is uncertain. Whenever the student is unsure of how to act, since no proper ways of acting are available, he is encouraged to experiment in order to find his own way.

The philosopher Donald Schön (1930-1997) developed the idea that a prospected professional should learn, apart from applying scientific knowledge, to find his own way in unfamiliar, unique and complex situations (Schön, 1983, 1987). Professionals often act intelligently without being able to explicate the grounds on which they base their decisions. The professional shows his *know how* through his actions. Schön calls this *knowing-in-action*. However, when the practice of the professional is complex, unclear and unknown – according to Schön these adjectives are perceived as characterising a large part of practice of the professional – it is possible that the *body of knowledge* and his *knowing-in-action* do not offer any solution. Schön introduces the concept of *reflection-in-action* to describe the process that the professional partly consciously and partly unconsciously performs: he reflects on his *knowing-in-action* and at the same time he experiments with new actions in order to create new forms of action that work in practice. By perceiving the professional(-to-be) as a *reflective practitioner*, Schön focussed attention on the second principle of the pedagogic dualism.

Schön's ideas are still influential in today's professional education. A large number of papers on reflective practice and education are being published in peer-reviewed journals in different professional disciplines. A list of papers from different disciplines illustrates the ongoing popularity of Schön's thoughts: Nelson, 2012; Kinsella 2010 (nursing); Burton and McNamara, 2009 (law); Deacon and Harris, 2011 (business); Claris and Riley, 2012 (engineering); and Stambulova and Johnson, 2010 (applied sport psychology). These publications all show that pedagogic dualism still prevails in professional education systems.

And yet, the survival of this dualism is remarkable, since pedagogic dualism has a clear flaw. If contemporary higher education indeed wants students to become professionals who are able to function in a complex and rapidly changing professional environment, this model is no longer appropriate. The reason for this inappropriateness is that in the application of this pedagogic dualism the uncertainty is never on the side of the authority. The authoritative side is not uncertain about its certainties. To further develop this critique, I will elaborate on Nietzsche's radical concept of the Apollinian and the Dionysian. I start with the Apollinian.

The Apollinian tendency to order

In philosophy, broadly speaking, there are two ways of looking at life. On the one hand, one can understand life as a continuous *becoming*; i.e. everything is becoming, nothing remains as it is.² On the other hand, one can also understand life as a given order of *beings* (the way people, animals, plants and things are). Nietzsche describes as *Apollinian* our tendency to construct the world as an ordered reality. By using concepts and perspectives, we make reality transparent and manageable.

However, transforming the world into an ordered reality presumes that things exist. This is not the case, Nietzsche says, it is an illusion to suppose that the world is a given order of *beings*. The world, according to Nietzsche, is only *becoming*.

And yet, he considers the Apollinian to be an essential human condition. Due to the working of our brains and intellect, we cannot but perceive the world as a collection of

beings. Language reinforces the assumption that things exist: 'This is a tree', 'That is a bush'. With these fixating categories one is unable to grasp the essence of the world, that is *becoming*. We only make arbitrary distinctions with these notions. Even *becoming* becomes a fixed abstraction, when we make it a concept.

The Apollinian has its advantages. In *The Birth of Tragedy*, Nietzsche is clear: the human being needs the illusion of an understandable and coherent world in order to protect himself against the torments, inconceivability, paradox and futility of existence. We need order, any order, in order to be able to act. As Nietzsche writes:

(T)hat by means of it [the entire world of suffering, HJ] the individual may be impelled to realize the redeeming vision, and then, sunk in contemplation of it, sit quietly in his tossing bark, amid the waves (Nietzsche, 1967, p.45).

In educational settings full use is made of this advantageous aspect of the Apollinian. Teachers tell their professionals-to-be that the world is intelligible and they expect them to act accordingly. A student trained in collaborative processes between people will invariably take a problem in an organisation as an issue between people. However, a student skilled in building information systems will take the same problem as a shortage or lack of data exchange. Both students will act according to the image they have of the situation.

The Greek philosopher Socrates is, according to Nietzsche, an exponent of the Apollinian. He sees Socrates as the prototype of the theoretical man. This theoretical man lives with the unshakable confidence that the world can be made comprehensible and coherent. He lives (or wants to live) in a definite, rational and well-balanced order. He dedicates his life to the pursuit of truth. Nietzsche calls this the Socratic culture with its optimistic 'belief in the earthly happiness of all, [...] the belief in the possibility of such a general intellectual culture' (Nietzsche, 1967, p.111). The Apollinian rules: consistency, order and thoughtfulness characterise Socrates' approach. A striking example can be found in *The Republic*, one of the, probably, fictional dialogues of Socrates written down by Plato.

Socrates as exponent of the Apollinian

In *The Republic* (2000), Socrates and a group of men are having a conversation in the house of Polemarchus, a successful immigrant who was one of a number of men who were striving for democracy in Athens at the time. The central question of the dialogue is: what is justice? Are consequences the most important reason to follow the rules or is moral behaviour in itself valuable? Socrates is looking for a definition of 'the whole conduct of life – how each of us can live his life in the most profitable way' (Plato, 2000, p.23).

However, Socrates is not just interested in the right answer. Later in the discussion he proposes to the participants in the dialogue that they should judge themselves about the way they live and have been living. Rather than arguing with one another in order to prove themselves right, he wants them to critically examine their statements and to search for counter-arguments in order to test their statements. Socrates wants to persuade the interlocutors to put the testing of their lives in the centre of the attention in order to distinguish between right and wrong.

Don't you think it's a disgrace, and a sure sign of poor education, to be forced to rely on an extraneous justice – that of masters or judges – for want of a sense of justice of one's own? (Plato, 2000, p.96)

What does this testing mean? When his interlocutors account for their actions, Socrates examines to what extent they give a consistent and clear answer to the question of what just

behaviour is. Can their answers pass the critical test of reason? Do they overlook any possibilities? 'Or is it sometimes right to behave in these ways, and sometimes wrong?' (Plato, 2000, p.5). Socrates not only examines the individual statements, he also connects the statements and examines whether they fit together. If the reasoning is valid, if the statements form a consistent unity, if one follows the other, Socrates subjects the underlying assumptions to a critical examination; to what extent are they valid? Although he does not explicitly compare the statements to his interlocutors' way of living, Socrates values the way someone acts highly: '[a]nd judging by the evidence of your whole way of life, I believe you when you say you are really not convinced' (Plato, 2000, p.49).

Socrates' systematic approach is also manifest in the way he keeps the examination focussed on the goal of the conversation. He does so by regularly summarising the conversation and by summing up the main conclusions. And more than once Socrates wonders whether a chosen path or a path to be taken will contribute to the examination of the central problem.

In short, Socrates relates everything his interlocutors contribute to the discussion to each other. Whenever he thinks he is on to something inconsistent or unclear, he continues to examine it until his interlocutor gives an unambiguous, specific and 'as perfect as possible' answer to the question of accounting for one's way of living.

In addition to the critical and systematic examination of the answers, Socrates argues that a certain attitude of the interlocutors is necessary, if they want to learn to judge themselves the way they live and have lived so far. First of all they need to feel strongly about the issue at stake, or better to the problem at hand. However, although the dialogue is about concrete problems, the interlocutors need to maintain the necessary distance from the issue so as to avoid being carried away by emotion. Also, one should approach the other in an unprovoking way, calmly and with an open mind (Plato, 2000, p.205). The interlocutors should not be guided by their emotions because these emotions will lead them away from the search for the justification of their lives.

Another precondition is that every participant in the conversation should be open to whatever contribution is being made to the examination, including his own; 'No need for reluctance. Your audience is neither ignorant, nor sceptical, nor hostile' (Plato, 2000, p.146).

Both the description of the systematic and logical approach to the critical examination and the description of the required attitude of the interlocutors show that Socrates puts 'knowing' first and foremost. Knowing is the path along which the interlocutors search for the definition of a way of life that is valid for everyone. Whenever one is willing to search hard enough, it is possible to find the truth, which is the essence of reality. If one knows – or better: has found – the truth, the proper thing to do, follows automatically.

Nietzsche acknowledges that man needs the Apollinian. Since Socrates, mankind has focussed its massive strength and power on producing knowledge. This worldwide tendency has made 'knowing' prevail over 'the practical, i.e., egoistic aims of individuals and peoples' (Nietzsche, 1967, p.96). Nietzsche argues that this Socratic 'turning point' has prevented humanity from depositing itself in a self-destructive spiral of wars and migrations. The pleasure of Socratic insight, which Nietzsche considers to be part of human nature, kept the excesses of the warlike instincts in control.

The Apollinian approach makes the world an ordered and stable reality. By ordering the world we keep our emotions and instincts in control and create a comprehensible and meaningful reality in which we can act. Yet, despite these positive remarks, Nietzsche is also critical of Socrates' ordering approach. How does Nietzsche judge the theoretical man?

Shortcomings of an Apollinian approach

What shortcomings does an Apollinian approach have? A first disadvantage Nietzsche mentions, is that the Apollinian changes life into a rigid reality in which man is no longer open to renewal. A purely Apollinian approach makes man desperately cling to the ordered reality as he has learned to see it. He is not inclined to renew the existing order.

According to the American philosopher Alexander Nehamas, this is exactly what Nietzsche disapproves of in Socrates: he leaves no room for the possibility that his approach or perspective is 'only' one vision. In *Nietzsche, Life as Literature* (1985), Nehamas argues that Nietzsche is suspicious of Socrates because the former believes that the latter's approach is in essence dogmatic (p. 32). Socrates focuses his attention to the general issues in the dialogues by putting himself in the background and saying that he himself is of no importance in the dialogue. In this way, Socrates puts forward his ideas as 'the result of a discovery about the unalterable features of the world' rather than 'the product of a particular person or idiosyncrasy' (Nehamas, 1985, p.33). Socrates had every reason to hide the origins of his ideas. If something has a beginning, there is also the inherent possibility of an end. And that is what Socrates wanted to avoid. He wanted his ideas to be unconditionally and invariably accepted.

A second disadvantage of a one-sided emphasis on the Apollinian is the absence of the ability to adapt to new circumstances. If one learns to adhere to the known order, and no room is available for transcending this order, man can not adjust to new conditions. For a period of time a certain order or perspective can be the most appropriate, yet circumstances change. The existing order is no longer the best possible order. An Apollinian approach with its emphasis on a 'historical sense, which insists on strict psychological causality' does not allow for adaptation to new circumstances (Nietzsche, 1967, p.135).

A third disadvantage of a pure Apollinian approach is that it leads to one order or perspective rather than multiple perspectives. There is no room for deviant points of view, man is being caught in one perspective. 'All our educational methods originally have this ideal [of the theoretical man, HJ] in view: every other form of existence must struggle on laboriously beside it, as something tolerated, but not intended' (Nietzsche, p. 110).

The Apollinian does not stand on its own; the Apollinian and the Dionysian coexist and depend on each other. What would happen if the latter tendency, the Dionysian, would dominate? Would the Dionysian approach surpass the shortcomings or disadvantages of an Apollinian approach?

The Dionysian tendency to disorder

The Dionysian represents the human tendency or longing to abolish order and ideals. In a Dionysian state, man transcends the bounds and norms he once set upon the world. He gives up his self-made dreamworld, in which all things, animals, plants, and human beings, including himself, are the way they are. He recognizes that the idea that he as a separate individual exists, is an invention of his intellect. The Dionysian means giving up the individual and particular, and transcending into the wholeness of life. Nietzsche calls this mode of being '[a] state of mystical self-abnegation and oneness' (Nietzsche, 1967, p.50).

According to some interpreters, Nietzsche is using a particular metaphysics in *The Birth of Tragedy*: behind the continuous changing, or becoming phenomena, a universal will exists which drives the phenomena into being and into perishing. Several sections in *The Birth of Tragedy* give rise to such a metaphysical interpretation. For example, Nietzsche writes that this universal will cries out to man: 'I am the eternally creative primordial mother, eternally impelling to existence, eternally finding satisfaction in this change of phenomena!' (p.104). Man can hear this universal voice, or experience this primordial being itself, in Dionysian ecstasy. Nietzsche refers to the Dionysian as a state in which man experiences life as a continuous *becoming*.

For Nietzsche, the Dionysian is a fundamental notion, necessary to understand life. Rather than aiming at transposing his metaphysical view to today's educational circumstances, this article uses his radical thoughts to better grasp the probabilities and challenges of uncertainty, particular in the context of today's educational circumstances. This will be further elaborated in the final part of the article.

Back to the consoling aspect of the Dionysian state. Surrender to the Dionysian offers consolation. The individual, the self-invented order, purposes and things may be temporary, life is indestructible. 'We have become, as it were, one with the infinite primordial joy in existence' (Nietzsche, 1967, p. 105). For a few moments one breaks away from the normal and forgets the limitations of the prevalent order. In such a state, man experiences how life takes its own course and that everything is possible. Man experiences the force and fertility of life.

One comment should be made. Consolation is comforting. However, the Dionysian state is only a temporary state in which man briefly forgets who, what and where he is. When he returns to his senses, the existing order has not changed. And yet, everything has changed. He has experienced the eternal cycle of destruction and genesis. He now 'knows' that any universal claim to truth has to be rejected. 'A new form of insight ... [has broken] through, *tragic insight*' (Nietzsche, 1967, p.98).

Shortcomings of a Dionysian approach

A Dionysian approach has shortcomings. Firstly, life as *becoming* is a position that is hard to understand. The idea that life is continuously changing is not very attractive. 'We are to recognize that all that comes into being must be ready for a sorrowful end' (Nietzsche, 1967, p. 104). Why would one bother to act in such a state of being? Nietzsche writes: '[n]ot reflection, no – true knowledge, an insight into the horrible truth, outweighs any motive for action, [...] in the Dionysian man' (Nietzsche, 1967, p.60).

A second disadvantage is the danger that more primitive forms of the Dionysian prevail. In the second section of *The Birth of Tragedy* Nietzsche writes about 'the immense gap which separates the *Dionysian Greek* from the Dionysian barbarian' (Nietzsche, 1967, p.39). In the context of these Dionysian barbarians Nietzsche refers to '[t]he horrible "witches' brew" of sensuality and cruelty' (p.40). These primitive forms not only lead to *symbolic* annihilation of the individual ('the self-abnegation'), but result into physical self-destruction.

Interaction between the Apollinian and the Dionysian

Although Nietzsche, in his writings, consistently criticizes the late 19th century for being too Apollinian, he does not consider the Dionysian as an end in itself. However, he warns his readers that if man discards the Dionysian completely from life, life becomes rigid and fixed. If man clings to his truths and to how things and people are, he transforms the dynamic world into a static reality. In this way, he can escape the Dionysian truth that life is a meaningless undertaking and a continuous *becoming*. He does not have to jeopardise himself because everything stays the same. Simultaneously, however, he deprives himself of the opportunity to experience that everything is changing, that he can be different than he is, and that he can take up forms of thinking and acting that he could never have imagined.

Nietzsche wants to restore the interaction between the Apollinian and the Dionysian so that our Apollinian inclination can benefit from the Dionysian. It is possible, according to Nietzsche, to create order *without* denying the all too human tendency to transcend these orders. In this case, man deliberately chooses to honour the illusion of a comprehensible world. This is another manner of creating order than clinging to the known reality. He creates order out of a feeling of being connected to the force and fertility of life. Since he

acknowledges that his reality is an illusion, he does not have to anxiously adhere to that reality. There remains room to play, to think, to see and to act differently, room to adapt to changing circumstances and to create multiple perspectives.

One could say that his mission to renew the interaction between the two forces puts Nietzsche in a difficult position. He wants to convince his readers of the value of his vision and way of life and, in order to do so, he is fighting the philosophical tradition that can be traced to Socrates. Simultaneously, Nietzsche wants to emphasise that his vision is 'only' one vision. However, simply saying that his vision is a vision among others, would be detrimental to what he wants to convince his readers of. According to Nehamas, he resolved this dilemma with his particular style of writing. Nietzsche's style is unique, especially his use of the hyperbole and his variety of writing styles. When reading his work, it is clear that Nietzsche is the author. His unique style ensures that the reader never forgets that he is reading *Nietzsche's* vision. As such, Nietzsche does not have to emphasise that it is *his* vision. It is obvious without affecting the eloquence of his thoughts (Nehamas, 1985).

Professional learning and teaching in the 21st century

Nietzsche's radical argument offers educators the possibility of evaluating current professional education systems. Do institutes of applied sciences properly prepare their students to practice their future profession in a rapidly transforming, supercomplex and uncertain environment? On which model is their education system being based? Is it founded on an Apollinian approach (like the pedagogic dualism) or on a Dionysian model? Or does the educational setting offer room for the Apollinian *and* the Dionysian?

An educational model on an Apollinian basis

Pedagogic dualism is an example of an educational model that reflects an Apollinian approach. The principles of this model – that is, one teaches certainties in an authoritative manner and one encourages students to decide for themselves how they relate to issues of uncertainty – seem to offer the student room for the development of his autonomy. At first glance, pedagogic dualism enables the student to search for his own truth. At a closer look, however, while focusing the attention to the application of the two principles, a one-sided Apollinian approach becomes manifest.

First, pedagogic dualism is an expression of the human tendency to order the (educational) world. The model itself offers grip; it allows teachers to make the educational world transparent and manageable. The model provides guidance when teachers have to decide whether to teach in an authoritative way or to offer the student the opportunity to look for his own order.

Secondly, pedagogic dualism reveals a willingness to teach students an Apollinian approach to the professional world. This willingness becomes manifest when Gardner urges the teachers to use this dualistic model in an educational setting with care; he argues that there has to be some epistemic optimism and success when students are being encouraged to look for their own order. This means that, every time the student is confronted with an uncertain situation, he has the experience that answers can be found within a reasonable degree of certainty. The student learns that the professional world *can* be known. The professional-to-be develops a 'knowing' attitude: I know I can solve this problem, it is only a matter of finding the right knowledge or a matter of perfecting a skill.

Gardner's warning that the students must have a realistic notion of what it means to enter an uncertain world, emphasises as well the choice of the illusion of a coherent and intelligible reality.

In essence, the application of the dualistic model reveals a one-sided Apollinian way of approaching the world. The teacher passes on the certainties of the professional discipline

to the students in an authoritative way. In case of uncertain matters, the student learns to be confident that a proper solution will be found.

However, teaching students a one-sided approach to professional reality is not the appropriate way of preparing them for a supercomplex and ever changing practice. Education based on the model of the pedagogic dualism does not connect to the context of the professional practice. The principles of this dualism are not suitable if one wants to initiate the students in a professional discipline *and* to teach them to be open for renewal, adaptation or deviant perspectives.

What does a Dionysian model look like? Is it possible to develop a model that takes *becoming* as its ground, that teaches students to abandon the known order, rather than desperately hold to it?

“A Dionysian model of education”

Montessori education seems to be based on a Dionysian model of education. The Italian physician and educator Maria Montessori (1870-1952) calls for minimal intervention in the development of children so that they can freely develop themselves. She posits the child's natural will or drive to mature. By relying on the natural drive of the child, she argues that the teacher does not need a pre-determined plan to which a child should be made to comply (Tubbs, 2005, p.254). The task of the teacher is to respect the child and to create space for the free and natural development of the child.³

Despite the fact that Montessori has full confidence in the free and natural development of the child, she does not propose a pure Dionysian model of education. According to the Dutch historical educator H el ene Leenders, Montessori founded her belief in the self-education of the child on three assumptions: children are naturally inclined to the *right* development; the development of children is in principle the same; and the materials Montessori prescribes are the only appropriate materials for the classroom (Leenders, 2000). Whether these assumptions accurately reflect Montessori's principles, is not the issue. But it is clear that Montessori orders the educational practice in a particular way and imposes this order on teachers and children in a mandatory way.

A pure Dionysian model does not exist. It is hard to imagine an educational model that let go of all ordering in today's world of testing, accounting, inspections and surveys. On a more fundamental level, the Dionysian without the Apollinian implies the absence of language and order. It also implies the absence of any form of culture, including education. Our emotions and instincts freely rule. The potential destructive side of the Dionysian becomes actual.

Human beings need order. The Apollinian is an essential human condition. The Apollinian and the Dionysian coexist. What does an educational model look like that combines the Apollinian and the Dionysian?

The Apollinian and Dionysian in an educational context

Teachers initiate their students in what they consider to be the truths of a professional discipline and they do it in an authoritative way. However, teachers who recognize the Dionysian truth, 'know' that no absolute truth exists. Because of this insight, they 'teach' the students to doubt the certainties they have been teaching them by deliberately and actively confronting them with the supercomplex and changing professional practice. The students are given the opportunity to experience that clear and unambiguous answers or solutions to the questions of professional life are sometimes lacking.

This does not mean that teachers have to intentionally create uncertain situations for students. They probably undergo more uncertain situations than teachers (and students) are aware of. One can think of the tragic moral situations that students may encounter during their

studies – situations in which students are unable to fulfil two mutually exclusive but for the student equally important requirements or values. It could involve a choice between being loyal to one's family or to one's education, or between honesty and collegiality, or between openness and confidentiality. What is at stake is the ability of teachers to recognize these situations and, more importantly, the ability to retain in these situations their Apollinian inclination. Especially in the pragmatic ambiance of institutes of applied sciences, teachers are used to (and expected to) offer students good advice, tools or solutions to these kind of painful situations.

Experiencing uncertainty regarding the scope and validity of one's knowledge and doings, is not sufficient to prepare students for contemporary professional life. The risk of inactivity looms. In order to prevent students from being paralyzed, teachers should encourage them to manifest their truth in their actions, rather than eliminating the uncertainty and discomfort. Teachers should create space to play and try out new forms of thinking and acting in order to expand the area of the possible, even when these new forms turn out to be different truths than the teachers expect or could imagine. Creating and appreciating diversity and 'redundancy' are manners to make room for the development of the creativity and style of the students. It should be noted that these manners not only apply to issues of uncertainty. Recognizing that absolute ground to base certainties on does not exist, teachers also use these manners to challenge the 'certainties'. The key issue is that teachers take themselves and their curricula, sets of competences, criteria, methods and techniques with a pinch of salt in order to give the professional-to-be the chance to develop his own way in professional life.

To sum up, making room for the interaction between the Apollinian and the Dionysian in educational settings enables students to develop a willingness to be open for renewed or deviant orders, which are different from the ones they are familiar with. Students realize that what they have learned are, for now, the best possible answers to the questions of professional life. But these answers may change.

This attitude of being open for renewal offers possibilities for a joint quest for truth in classrooms. Close reading of scientific and professional literature, identifying truths that contradict each other, or actively looking for evidence that existing truths negate are manners in which a shared search – a search of students *and* teachers – can be performed. But unlike the Socratic quest for the essence of reality, this search is never completed. Part of the search is the critical analysis of the renewed truth. Every truth is a temporary truth. The special committee, advising the Netherlands Association of Universities of Applied Sciences, appears to refer this shared search for multiple and contradicting truths when it labels the new engineer as a 'connector'.

Finally

Uncertainty is not an end in itself. Continuously depriving students from their certainties and learning them to take a critical and suspicious stance to any professional truth is putting extreme emphasis on the Dionysian. In an educational setting where uncertainty is to be eliminated, however, students learn to understand professional life as a static reality without any room for renewal, adaptation or deviant perspectives.

If teachers and policy makers want to prepare students for uncertain professional times, they have to prevent the education system being based on a purely Apollinian approach. If and only if they are encouraged to deploy both tendencies – the tendency to order and the tendency to disorder – students can become professionals who are able to stand their ground in an uncertain and changing (professional) world.⁴

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NOTES

1. See: <http://www.propel.stir.ac.uk/conference2012/>. Retrieved 2012-11-23.
2. The concept of *becoming* is part of contemporary philosophical debates. For an overview of this concept in the work of Bergson, Nietzsche, Deleuze and Darwin see *The Nick of Time: Politics, Evolution, and the Untimely* (2004) of E. Grosz.
3. See: <http://www.montessori-namta.org/About-Montessori>. North American Montessori Teachers Association. Retrieved 2012-11-23.
4. I'm particularly indebted to Marli Huijter and two anonymous reviewers for their constructive and helpful comments.

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