

PERSONALITY DEVELOPMENT IN HIGHER EDUCATION IN THE ERA OF INDUSTRY 4.0: COMPARING EDUCATIONAL PRACTICES AND PHILOSOPHIES IN INDUSTRY 1.0 AND INDUSTRY 4.0

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ABSTRACT

Industry 4.0 or the Fourth Industrial Revolution is characterized by robotic process automation and machine-to-machine communications. Since computers, machines, and robots share information and knowledge more swiftly and effectively than humans, the question is what human beings' role could be in the era of the Internet-of-Thing. The answer would be beneficial to institutions for higher education to anticipate. The literature reveals a gap between the intended learning outcomes in higher education institutions and the needs of employers in Industry 4.0. Evidence is shown that higher education mainly focused on knowledge (know-what) and theory-based (know-why) intended learning outcomes. However, competent professionals require knowledge (know-what), understanding of the theory (know-why), professional (know-how) and interpersonal skills (know-how and know-who), and need intrapersonal traits such as creativeness, persistence, a result-driven attitude et cetera. Therefore, intended learning outcomes in higher education should also develop interpersonal skills and intrapersonal characteristics. Yet, personality development is a personal effort vital for contemporary challenges. The history of the preceding industrial revolutions showed the drawbacks of personality and character education; politicians have abused it to control societies in the 19th and 20th centuries. In the discussion section, the institutions for higher education

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are alerted that the societal challenges of the twenty-first century could lead to a form of personality education that is not in the student's interest and would violate Isaiah Berlin's philosophical concept of 'positive freedom'.

Keywords: Competencies; higher education; Industry 1.0 and 4.0; personal development; personal freedom; soft skills

INTRODUCTION – IS SOFT SKILLS EDUCATION IN THE FIRST INDUSTRIAL REVOLUTION A LESSON FOR THE FOURTH INDUSTRIAL REVOLUTION?

The Fourth Industrial Revolution or *Industry 4.0* is the subject of discourse on its implication on individuals and the requirements for their personal development. The term *Industry 4.0* (or *Industrie 4.0*) was first introduced at the *Hannover Messe* (Hannover Fair) in Germany in 2011 (Kagermann, Wahlster, & Helbig, 2013). The World Economic Forum (WEF), in cooperation with The Boston Consulting Group, combined the digital challenges of Industry 4.0 (Schwab, 2016) with future job environment requirements to shift towards Industry 4.0 (WEF, 2015).

WEF (2015) formulated a range of 16 crucial skills, which students should possess. This twenty-first century skill-set consists of six cognitive skills that WEF calls *Foundational Literacies* – *how students apply cores skills to everyday tasks: literacy/ability to read and write, numeracy, scientific literacy, ICT literacy, financial literacy, and cultural and civic literacy* (WEF, 2015, p. 3). WEF (2015) further proposes three interpersonal skills: *communication, collaboration and leadership* and seven character traits or virtues, which also can be defined as intrapersonal traits: *critical thinking/problem-solving, creativity, curiosity, initiative, persistence, adaptability, and social and cultural awareness* (WEF, 2015, p. 3). WEF groups these in slightly different compositions as *Competencies* – *how students approach complex challenges* and *Character Qualities* – *how students approach their changing environment* (WEF, 2015, p. 3).

WEF underlined that *To thrive in the twenty-first century, students need more than traditional academic learning. They must be adept at collaboration, communication and problem solving, which are some of the skills developed through social and emotional learning (SEL). Coupled with mastery of traditional skills, social and emotional proficiency will equip students to succeed in the swiftly evolving digital economy* (WEF, 2016, p. 4). In these ideas, the statement of the European education ministers resounds in which they issued in 2009.

In their statement, the European education ministers rejected the traditional, classical, frontal, teacher-centred learning where the lecturer has an active role in 'transferring' primarily cognitive skills with frontal education. Instead, they promoted a student-centred learning approach, where students take the active role in their learning: *Student-centred learning (...) will help students develop the competences they need in a changing labour market and will empower them to become active and responsible citizens in the future* (Leuven/Louvain-la-Neuve Declaration, 2009, p. 1). The European institutions for higher education have taken and received a crucial role: *Higher education should be based at all levels on the state of the art research and development thus fostering innovation and creativity in society* (Leuven/Louvain-la-Neuve Declaration, 2009, p. 4).

Moreover, academia and higher education promote and endorse the shift towards student-centred methods via the European Association of Institutions in Higher Education

(EURASHE) and the European University Association (EUA). EURASHE, EUA and the European ministers of education co-developed the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG Report, 2015). The ESG Report states that: *Institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process and that the assessment of students reflects this approach (...) Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process* (ESG Report, 2015, p. 12).

Most of the 16 twenty-first century skills proposed by WEF consist of interpersonal skills (three items) and intrapersonal characteristics (seven items). This chapter follows the definition of Delamare-Le Deist and Winterton (2005), who distinguished between, on the one hand, interpersonal skills and intrapersonal characteristics and, on the other hand, knowledge and professional skills; a competent professional possesses the right mix of both. These have an essential role in applying knowledge and cognitive skills in daily practice. Interpersonal skills and intrapersonal characteristics are referred to as 'soft skills' (Laker & Powell, 2011). Hence, 10 of the 16 twenty-first century skills can be seen as 'soft skills'.

Hence, soft skills are crucial. They are even more important than cognitive and professional skills or 'hard skills' for a professional (Ahmed, Fernando Capretz, Bouktif, & Campbell, 2012). The presence of soft skills is an excellent forecaster to success in life, and an absence appears to be causing the ending of a labour relationship rather than a lack of cognitive skills (Ahmed et al., 2012; Heckman & Kautz, 2012; Zunk & Sadei, 2015). Stek and Schiele (2021) provided quantitative evidence that soft skills are necessary conditions to carry out hard skills, meaning that the absence of soft skills is problematic for carrying out professional tasks.

WEF underlines that soft skills will become increasingly vital for the workforce and to *equip students to succeed in the swiftly evolving digital economy* (WEF, 2016, p. 4) and to *empower them to become active and responsible citizens in the future* (Leuven/Louvain-la-Neuve Declaration, 2009, p. 1). Lecturers in higher (business) education should formalize intended learning outcomes for soft skills and introduce learning objectives that cover the context of future requirements caused by the challenges of sustainability and the Internet of Things (e.g. Bals, Schulze, Kelly, & Stek, 2019; Stek, 2021a; Stek & Schiele, 2021).

Remarkably, academic courses and tracks have been evaluated for not or almost not learning and developing soft skills (Birou, Lutz, & Zsidisin, 2016; Hoidn, 2017; Wong, Grant, Allan, & Jasiuvian, 2014). Although institutions for higher education need to anticipate the challenges of the twenty-first century, Fawcett and Rutner (2014) have found that higher education is *not evolving at the pace and in the way expected by professionals* (Fawcett & Rutner, 2014, p. 181). In job advertisements, 50% of job requirements the employers demand are soft skills (Stek, Zunk, Koch, & Schiele, 2021). Employers notably value intrapersonal abilities, but they seldom explicitly emerge in academic curricula (Hoidn, 2017).

Thus, in higher education courses, a significant role is given to the transfer of knowledge and theory, and in parallel, these courses are not equipped or primarily focused on developing soft skills. Higher education failed to formalize soft skills learning objectives. Their challenge is to offer students soft skills to prepare them into another mode of citizenship, *active* and *responsible*.

Concluding, the logic that soft skills are necessary to carry out hard skills is confirmed in the literature (e.g. Stek & Schiele, 2021). The shift towards a new era demands a new type of citizenship. However, it is unclear whether soft skills development can create better,

more *active* or *responsible* citizens. Therefore this research deepens the following research question:

RQ1a: can soft skills development in education lead to improved citizenship?

RQ1b: if so, how must soft skills development be applied to improve citizenship?

The twenty-first century skills are associated with Industry 4.0, which challenges the workforce with further digitalization and, in parallel, sustainability issues. The question arises whether in modern history shifts have been detected in which competence requirements changed significantly and another form of citizenship was required. Currently, the Fourth Industrial Revolution takes place. In the early nineteenth century, during the First Industrial Revolution, a similar discourse took place. It was led by the Prussian educator Wilhelm von Humboldt (1767–1835), who promoted *Bildung*, the educational ideal of developing personal skills, traits and virtues for better citizenship, instead of preparing students for vocational purposes (Schaffar & Uljens, 2015).

This leads to the following research questions:

RQ2a: how did educators prepare their learners with soft skills education during the First Industrial Revolution?

RQ2b: which lessons can be drawn from educational insights and practices during the First Industrial Revolution?

Therefore, this chapter presents a study that focuses on the late-eighteenth and nineteenth century attention for soft skills development and describes the educational and philosophical insights in Western Europe. The recent call for improved citizenship resounds from that era, and the backgrounds, insights and lessons learned are described in the remainder of this chapter. This chapter alerts that soft skills education or personal skills development is prone to political points of view. Personal skills development should be a personal effort to develop according to the free will of the learner instead of being imposed on developing specific thoughts and attitudes that do not serve the individual learner but a political aim. Since imposed, constrained, political-induced ‘personal development’ obstructs conscious self-development, a paragraph deepens the concepts of liberty.

EDUCATIONAL INSIGHTS FROM THE FIRST INDUSTRIAL REVOLUTION

Von Humboldt and the Bildung Ideal – Inspired by the Ancient Greek Philosophy

Von Humboldt distinguishes between two philosophical education streams, referred to with the Germanic terms *Bildung* and *Ausbildung*, commonly used in Anglophone literature. *Bildung* refers to the personality development and self-cultivation ideal, and it has often been linked to the Humboldtian model of higher education (Bruford, 1975), meaning that this approach intends to create graduates with developed abilities to be formed for a career or life and not only for a particular (first) job (Schaffar & Uljens, 2015).

Ausbildung, in contrast, is related to acquiring the skills needed for a specific profession. It could thus be described as ‘vocational training’, that is *Ausbildung* takes a professional profile approach of teaching (cognitive) knowledge and (practical) skills and aims to create graduates ready to enter a specific job function at the labour market. The German physics Nobel price winner Werner Heisenberg (1901–1976) defined the difference between *Bildung* and *Ausbildung*: ‘*Bildung* ist das, was übrig bleibt, wenn man alles vergessen hat, was man gelernt hat’ or *Bildung* is that what is left over when all is forgotten what one has learned (own translation; Heisenberg, 1973, p. 105).

The changing timeframe of the early nineteenth century in which Von Humboldt conceptualized the *Bildung* idea is reflected in the letter he wrote in 1809 to the Prussian king: *People obviously cannot be good craftworkers, merchants, soldiers or businessmen unless, regardless of their occupation, they are good, upstanding and – according to their condition – well-informed human beings and citizens. If this basis is laid through schooling, vocational skills are easily acquired later on, and a person is always free to move from one occupation to another, as so often happens in life (Günther, 1988, p. 132).* Thus, citizens ‘often’ changed jobs two centuries ago and needed to be trained as good, upstanding, well-informed citizens.

Central to *Bildung* is that individuals develop personal skills and traits. The purpose of *Bildung* does not lie outside the individual: it is not about preparing to perform specific functions or tasks in society. *Bildung* is a process without a fixed end goal, a continuous development of capabilities. Therefore, *Bildung* is never completed: it presupposes lifelong, ongoing and interacting working with the outside world on one’s personal development, that is life-long learning (De Hert, Kinneging, & Colette, 2015).

In 1789, Von Humboldt advocated a reorientation of political thinking inspired by the French philosopher Jean-Jacques Rousseau (1712–1778): *When will man finally cease to regard the outward consequences of action with greater esteem than the inward spiritual flame of mind from which they flow; when will someone appear who will be for legislation what Rousseau was for education, who will withdraw the point of vantage from the outward physical results to the inward cultivation (Bildung) of men? (Sorkin, 1983, p. 58).* *Bildung* is here translated as *cultivation*.

Von Humboldt distinguished *civilization*, *culture*, and *Bildung* (or *cultivation*) as follows: *Civilization is the humanization of peoples in their outward institutions and customs and the inner attitude pertaining thereto. Culture adds science and art to this refinement of the social order. But when we speak in our language of cultivation (Bildung), we mean by this something at the same time higher and more inward, namely the disposition that, from the knowledge and feeling of the entire mental and moral endeavour, pours out harmoniously upon temperament and character (Von Humboldt, 1999, pp. 34–35).*

Inspired by Greek philosophy, Von Humboldt compared the ancient Greek city-state’s political constitution with the nineteenth century Prussian state. In the ancient Greek city-states, the direct influence on private lives was minimal. However, the influence was indirectly applied by expanding politics into personal life through education to generate loyal citizens (Sorkin, 1983). The ancient Greek education *sought to mold the individual in the hard and inflexible matrix of a dominant society (Meyer, 1939, p. 1).*

In line with Von Humboldt’s ideas, this political fashioning of private life must have had a harmful effect, because by manipulating human’s *inneres Dasein* (or: ‘inmost being’), it must have irrevocably distorted the inhabitants of the ancient Greek city-states (Sorkin, 1983, p. 60). Paradoxically, the opposite occurred, Von Humboldt notes, since the city-states endorsed happiness via the development of virtues, it promoted harmonious, individual development. In an attempt to in aiming to develop *kraftvolle* (i.e. temperate and energetic) citizens, the city-state gave *higher impulse to their whole spirit and character (Sorkin, 1983, p. 60).*

Von Humboldt states that the promotion of individual virtues in the ancient Greek city-states could be copied into the Prussian state *for the sake of since its aim is too eudaemonistic*, that is the ethical theory promoting happiness and personal well-being as highest goals (Sorkin, 1983). *By attending to man’s well-being and his property, his ease and comfort, the modern state suppresses man’s energies; it thwarts man’s personal growth in favor of obtaining a productive and obedient citizen. The modern state must, therefore, be*

restricted to a negative function, providing merely the outward conditions of freedom for individual development (Sorkin, 1983, p. 60).

Or as Von Humboldt noted: *The State must wholly refrain from every attempt to operate directly or indirectly on the morals and character of the nation otherwise than as such a policy may become inevitable as a natural consequence of its other absolutely necessary measures; and that everything calculated to promote such a design, and particularly all special supervision of education, religion, sumptuary laws, etc., lies wholly outside the limits of its legitimate activity (Von Humboldt, 1854, p. 113).*

Understanding German (i.e. Prussian) society and its development and response to the modernisation process in the eighteenth century is needed to grasp the *Bildung* ideal (Alves, 2019). Von Humboldt (1767–1835) lived in a ‘Germany’ that consisted of a *patchwork of small autonomous principalities, marked by a rigid social stratification and by the small despotism that left no room for individual initiative and stifled cultural creation (Alves, 2019, p. 7).*

However, after the Seven Years War (1756–1763), *Prussia emerged as a European power (Alves, 2019, p. 7). In this modernizing society, where the development of sciences and techniques and the increasing division of labour lead to an increasing specialization of knowledge, new forms of integration and social distinction were necessary (Alves, 2019, p. 7).*

From 1770 to 1815, *Bildung* was seen in Germany as a *cosmopolitan and universalist ideal that was associated with the ideas of individual autonomy and self-determination and with the image of an integral individual endowed with an aesthetically harmonious personality (Alves, 2019, p. 9).* This educational view reflected the ideals of genuine and objective understanding instead of external reasons and utilitarian purposes. After Napoleon defeated Prussia in 1807, the *Bildung* ideal found a favourable opportunity to realize a series of reforms (Alves, 2019).

Influenced by the liberalism ideal of civil equality, in Prussia, actions were taken. For instance, peasants were liberated from servitude. The Prussian government asked Von Humboldt and the neo-humanists to reform the Prussian educational system according to their ideal of humanity (Humanitätsideal). The pedagogy of the Swiss pedagogue Johan Heinrich Pestalozzi (1746–1827) was adopted at primary schools, which took into account the child’s needs and specificities. Gymnasias were instituted based on the ideal of harmonious individuality and the study of the Greek classics.

The current Von Humbolt University in Berlin was founded in 1810 based upon freedom of research and teaching. It served as an example for the re-organization of all the other German universities. The educational philosophy was not to adjust the student to the world and to train professional skills and knowledge, *but to awaken the inner forces, creativity, and critical judgment to transform the world and to realize within itself the ideal of humanity (Alves, 2019, p. 10).*

Blanqui, the Inventor of the Term ‘Industrial Revolution’

In nineteenth century Prussia, the *Bildung* approach developed students’ minds and character into cultivated and precisely ‘competent’ citizens. In parallel, in nineteenth century France, similar thoughts were expressed by the liberal economist Jérôme-Adolphe Blanqui (1798–1854) on ‘management’ education. He included the coverage of *the moral lesson of freedom, leaving room for the apparently useless (...) as well as the strictly utilitarian (Deslandes, 2019, p. 8).*

Blanqui was focused on the developments in British industry and education during the First Industrial Revolution. He spoke English, followed the British press and often

travelled in the United Kingdom. *He urged his audience not to shrink from debating and thinking about the big questions facing contemporary France* (Deslandes, 2019, p. 6). At his time, Blanqui lauded British education. Throughout Britain, political economy was lectured, while it was lectured almost nowhere in France. Additional, *the UK boasted a network of around 60 mechanics institutions offering evening classes, which aimed to explain the technical workings of industry to a wider audience* (Deslandes, 2019, p. 6).

The nineteenth century political economists studied the circumstances under which consumption or production was organized in nations, the relationships between public good and private interest, wealth production and human well-being, the proper distribution of the social product, and the state's role in intervening in the economy (Satz, 2012). Sally (1994, p. 166) underlines that nineteenth century enterprises had an 'atomistic' character, compared 'to a late twentieth century multinational', and urges that both cannot be easily compared. Moreover, the inception of the business administration discipline is often associated with Frederick Taylor's Scientific Management in the early twentieth century. Therefore, in the early nineteenth century, the business administration discipline as such is not *en vogue*. Production and the role of privately owned companies in nations were subject of political economy. The thoughts that were expressed by Blanqui on 'management' education have to be regarded in that context.

Interestingly, Blanqui (1837) is the inventor of the term 'Industrial Revolution' and praised the UK's inventions, the steam engine's invention and the spinning machine. These inventions overturned old trading systems by generating similarly material products and unprecedented social issues. *It looked like England had discovered new mines and had suddenly been enriched with unexpected treasures, while the French Revolution was doing its large social experiments on a volcano* (own translation; Blanqui, 1837, p. 166). And: However, barely hatched from the brains of these two men of genius, Watt and Arkwright, *the industrial revolution took possession of England*.^{1,2} At the end of the eighteenth century, a single piece of cotton was not consumed in Europe, which did not come to us from India, and 25 years later, England sent it to the very country from which it had so far pulled all similar products. The river, says J.-B. Say, went back up to its source (own translation; Blanqui, 1837, p. 167).³

Scotland – Mill Inspired by Von Humboldt

Whereas Von Humboldt in Prussia was inspired by the ideals of freedom of the French Revolution and Blanqui in France by the British Industrial Revolution, the Scottish, liberal economist, John Stuart Mill (1806–1873) was inspired by Von Humboldt's work *Ideen zu einem Versuch, die Gränzen der Wirksamkeit des Staates zu bestimmen* (Von Humboldt, 1851). Von Humboldt wrote this work already in 1791. Since of difficulties with the Berlin censorship, Von Humboldt decided to withdraw the manuscript. However, individual sections were published in 1792 in the 'Berlinische Monatsschrift' and Schiller's *Neuer Thalia*. Eventually, the book was published in full posthumously in 1851, shortly after the revolution year 1848. At that time, state power was on the rise in Europe (see: preface of Von Humboldt, 1854).

In his inaugural speech at the University of St. Andrews, Scotland, in February 1867, inspired by Von Humboldt, Mill expressed the Anglo-Saxon character-education ideal: *At least there is a tolerably general agreement about what an (sic!) University is not. It is not a place of professional education. Universities are not intended to teach the knowledge required to fit men for some special mode of gaining their livelihood. Their object is not to make skilful lawyers, or physicians, or engineers, but capable and cultivated human beings* (Mill, 1867, p. 4).

The Enlightenment inspired von Humboldt's thoughts. In the summer of 1789, when he visited Paris, Von Humboldt witnessed the French Revolution (see the preface of [Von Humboldt, 1999](#)). Inspired by the French revolutionary 'Liberté', Von Humboldt's message of freedom fitted the atmosphere after 1848 and was therefore not limited to Prussia. His book *Ideen zu einem Versuch, die Gränzen der Wirksamkeit des Staates zu bestimmen* ([Von Humboldt, 1851](#)) was translated in English, entitled *Sphere and Duties of Government* (The Limits of State Action) ([Von Humboldt, 1854](#)). Mill took up Von Humboldt's ideas and quoted Von Humboldt at the beginning of his book entitled *On Liberty: The grand, leading principle, towards which every argument unfolded in these pages directly converges, is the absolute and essential importance of human development in its richest diversity* ([Mill, 1859](#), p. 4).

Mill builds up his case for individual freedom from a development perspective. Freedom is crucial for civilization and development. Instruments for this development are free speech, experimenting with different life forms, and the clash of ideas to become better citizens and society. Mill reasons that freedom aims to serve development. Mill adds a subtle shift in meaning to the Humboldtian 'development concept' ([De Hert et al., 2015](#)).

This shift is best illustrated with Mill's metaphor of a tree: *Human nature is not a machine to be built after a model and set to do exactly the work prescribed for it, but a tree, which requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing* ([Mill, 1859](#), p. 107).

The comparison to a tree has two crucial implications. First, the development lies in humans' nature and slowing down that development would be unnatural. Second, Mill reasons further than Von Humboldt that individual development's objective is to realize human nature ([De Hert et al., 2015](#)).

Criticism on Governmental Misuse of the Bildung Ideal

As introduced in the Prussian nineteenth century school system by Von Humboldt, the *Bildung* education led to criticism in the second half of the nineteenth century, philosophically articulated by philosopher Friedrich Nietzsche (1844–1900) ([Sanderse, 2019](#)).

Von Humboldt's ideal of *Bildung* referred to personality development and self-cultivation ([Bruford, 1975](#)) and was initially *intended as a progressive and cosmopolitan project, but was used by German governments in the nineteenth century to fashion the nation-state* ([Sanderse, 2019](#), p. 399). Indeed, the *Bildung* underwent an important change in the semantic structure of the ideal of self-cultivation occurs after the Restoration period (1815–1848) ([Alves, 2019](#), p. 10). During the Restoration, Von Humboldt's measures were used to expand the state's influence on the school system to control society and curb political expression against the government ([Alves, 2019](#)).

[Alves \(2019\)](#) notes that in 1819, the so-called Carlsbad decrees constrained the press, association and expression freedoms in reaction to nationalist and socialist activism, particularly within student associations (Burschenschaften). As opposed to Von Humboldt, the Prussian reformers never gave up state dominance over the educational system, which controlled all its aspects: internal organization, curriculum, finance, examinations and teachers. It facilitated the school system to be moulded by later Prussian nationalism ([Alves, 2019](#)).

In the 1870s, Nietzsche led the criticism against *Bildung* philosophically; he *criticized the German system of public education for having relinquished the Bildung ideal, having replaced it with preparing students to serve the German nation station and war machine* ([Sanderse, 2019](#), p. 406).

Von Humboldt greatly influenced Nietzsche's thoughts regarding *Bildung* (Zauli, 2019): *It is clear from innumerable references in Nietzsche's works that the idea of 'Bildung' was one of his principal preoccupations at all stages in his life* (Bruford, 1975, p. 164). In Nietzsche's work, the word *Bildung* refers to the academic training of a particular individual. However, Humboldt's definition is closely linked to the question of language, which he considers as the organ of inner being or even this being itself (Zauli, 2019, p. 126).

The *Bildung* ideal of the early nineteenth century had, according to Nietzsche, alienated from the initial idea of experimenting with classical ideas to spur a people's cultural development and called people that pride themselves of their high German culture, *Bildungfilister* (Sanderse, 2019, p. 408). Here, the German word *Filister* or *Philister* should be translated or interpreted as a name for a narrow-minded *petite-bourgeoisie* member.

Nietzsche's criticism focused on education, being under the control of the national-economic dogma, meaning that schooling was aimed to increase knowledge and culture, leading to more production and consumption, more money, and subsequent happiness, and eventually an increased competitive advantage related to other nations (Sanderse, 2019).

According to Nietzsche, the *Bildung* ideal was falsely employed for 'utility' and 'gain' to turn students into 'currency' to let them 'circulate' in the national economy (Sanderse, 2019). Thus, Nietzsche's criticism of *Bildung* was that it was used as a vehicle to fashion the German nation-state and alerted that *Bildung* (or every other form of character education) is susceptible to governmental influence.

The Concept of Liberty and Personality Education

After Nietzsche launched his criticism in 1872, some examples of governmental misuse of the *Bildung* ideal or character education can be pointed out. Lansing (2010) explicitly describes the continuation of the *Bildung* activities under the twentieth century totalitarian regimes in Germany in his book entitled *From Nazism to Communism: German school-teachers under two dictatorships*.

These authoritarian and totalitarian regimes intended to influence and shape (young) people, violating the liberty concept Von Humboldt and Mill proposed. Von Humboldt argues that it is not a task for governments to promote citizens' development but maintain order and safety and guarantee the freedom of conscience. Imposed *Bildung* would obstruct conscious self-development. A government that aims to develop society will reap conformity and dependence if that society is not prepared to create, as illustrated with the abovementioned German examples by Lansing (2010). The government must, therefore, exercise restraint and allow citizens to develop as they like. Von Humboldt pleaded for a relatively small, neutral and tolerant government as a precondition to developing citizens and society (De Hert et al., 2015).

However, if, according to Mill, development is the goal of man and society, inevitably, the question arises whether forms of development are a task of the government to promote these actively. Indeed, Mill distinguishes higher and lower order activities and clarifies that pursuing higher forms is preferable, both for the individual and society. Unlike Von Humboldt, Mill is convinced that the government can at least support individuals' self-development process. In his work, the *Principles of Political Economy*, Mill states that the government can start through targeted policy. Mill has a more positive view of the state than Von Humboldt, who mainly pleaded to increase the individuals' free space. Mill sees

more room to manoeuvre for the public sector. However, Mill does not see a role for governments to provide education. It should be left for private initiatives (De Hert et al., 2015). Here, as Isaiah Berlin (1958) proposed, the issue of positive and negative freedom comes to the forefront. In the next section, the context of the two liberties is briefly described.

Liberalism and Two Conceptions of Liberty: Positive and Negative Freedom

The concept of liberalism first emerged in the early decades of the nineteenth century. The term then referred to those who, after the French Revolution, promoted the freedom ideal. In 1812, the term was first used to refer to a specific political group, the Spanish *Liberales*. In the same decade, the term became common parlance in France and Great Britain as a collective term for political movements defending rights to extend citizens' freedoms. Remarkably enough, the Swiss and French philosopher, politician and essayist Benjamin Constant (1767–1830) used the term *Liberalism* already in 1797, as a description from his middle position, between the extremes (De Hert et al., 2015; Vincent, 2000).

Freedom is the core value for Constant. He emphasized that a part of human existence is necessarily individual and independent, which needs to stay out of the government's reach. The government's power has to be delineated and limited based on a constitution and institutions established for that purpose, transparent laws and procedures, independent courts, the separation of powers, direct elections of authorities, and a responsive policy (De Hert et al., 2015).

In 1819, Constant distinguished two conceptions of freedom: the *ancients* and the *moderns*. Modern freedoms are mainly private: privacy and individual freedom are modern concepts. It concerns freedoms such as expression, property, choice of profession and residence, association, religion, right to vote and the right not to arbitrary deprivation of liberty or be subject to abuse. Ancient liberty was lying in the possibility of participation and representation in politics (De Hert et al., 2015).

With the distinction of the two liberties, Constant is the founder of modern freedom (De Hert et al., 2015) that inspired, amongst others, Mill (Lachs, 1992) and the British political philosopher Isaiah Berlin (1909–1997), who further developed the idea of two freedoms. In 1958, Berlin presented before the University of Oxford his inaugural lecture *Two Concepts of Liberty*, the negative and the positive concept. In the negative view, individuals are more unrestricted when the space in which an individual can act unhindered by others is larger:

'The negative concept: I am said to be free to the degree to which no human being interferes with my activity. This is the classical sense of liberty in which the great English philosophers, Hobbes, Locke, Bentham, Paine, and indeed Mill, used it' (Berlin, 1958, p. 14). 'Another characteristic of this "negative" conception of liberty is that it is compatible with autocracy, or at any rate the absence of self-government. Liberty, in this sense, is concerned with the area of control, not with its source'. (Berlin, 1958, pp. 9–10)

In the positive concept, the individual is free only when being the master of oneself. When the individual cannot use positive freedom because of poverty or ignorance and cannot master itself, there is no positive freedom and, consequently, no negative freedom. *The 'positive' sense of the word 'liberty' derives from the wish on the part of the individual to be his own master* (Berlin, 1958, p. 14). *For the positive sense of liberty is an answer to the question: By whom am I governed? Who is to say what I am and what I am not to be or do?* (Berlin, 1958, pp. 10–11).

Berlin warns that the positive concept can easily be misused by those who reason about what is right for others and dictate how to live. One could argue that those involved would

be misusing their negative freedom because of ignorance and social circumstances and would not be the master of themselves (i.e. positive freedom). Berlin concludes that, at best, the positive conception of freedom leads to paternalism and, in the worst case, to despotism (De Hert et al., 2015).

In conclusion, the concept of maximum negative freedom would conflict with the categorical imperatives of Kant and consequently with the negative freedom of other subjects. Nonetheless, Von Humboldt and Mill served as participants in the discourse on liberties and pleaded for maximum negative freedom. Von Humboldt warned that imposed *Bildung* would obstruct conscious self-development, and for Mill, negative freedom aims to serve the individuals' development. As elaborated, Rousseau, Von Humboldt and Mill, placed development and learning in the context of (negative) freedom.

CONCLUSION – FREEDOM IS CRUCIAL FOR PERSONAL DEVELOPMENT

In the above sections, links between the First and Fourth Industrial Revolution could be detected. In both era's employees or citizens increasingly require personal skills and traits that educators need to address. Differences are made apparent. The early nineteenth century differs from the current timeframe. First, business administration was not yet developed as a discipline two centuries ago. Moreover, the geopolitical, philosophical and societal landscapes are deviating.

Interestingly, in both era's the call for personal development, 'improved' citizenship and the role of higher education is heard, which regards the research question *RQ2a* (*how did educators prepare their learners with soft skills education during the First Industrial Revolution?*) The common ground of the described approaches of educators in Scotland, France and Prussia lies in the freedom of personal development.

Mill states that the universities' *object is not to make skilful lawyers, or physicians, or engineers, but capable and cultivated human beings* (Mill, 1867, p. 4). Von Humboldt adds: *(...) when we speak in our language of cultivation (Bildung), we mean by this something at the same time higher and more inward, namely the disposition that, from the knowledge and feeling of the entire mental and moral endeavour, pours out harmoniously upon temperament and character* (Von Humboldt, 1999, pp. 34–35). For Blanqui, *management studies could in no way be reduced to an accumulation of technical capacities, however necessary they may have been. In his view, proper management education was an exercise, which enabled future economic decision-makers to develop the crosscutting know-how and skills needed to reformulate problems and identify solutions in complex organisational situations* (Deslandes, 2019, p. 8).

In the early nineteenth century, the idea of freedom to develop as a person was promoted by Von Humboldt, inspired by Rousseau. Von Humboldt was in Paris on 14 July 1789, when the storming of the Bastille took place. Blanqui was Von Humboldt's contemporary and had similar ideas on the liberty of personal development. Constant provided the distinction of two concepts liberty, and as the founder of modern freedom (De Hert et al., 2015), he inspired Mill (Lachs, 1992). Moreover, Mill was inspired by Von Humboldt.

Therefore, the answer to research question *RQ2a* lies in leaving room for personal development. Crucial for Blanqui was to include the coverage of *the moral lesson of freedom, leaving room for the apparently useless* (...) (Deslandes, 2019, p. 8). In line with that, Mill adds that freedom is crucial for civilization and development, including free

speech, experiments with different life forms and opposing ideas to become better citizens and society. Mill reasons that freedom aims to serve development (De Hert et al., 2015). Or, as Von Humboldt noted: *The State must wholly refrain from every attempt to operate directly or indirectly on the morals and character of the nation* (Von Humboldt, 1854, p. 113).

The answer to the research question *RQ2b* (which lessons can be drawn from educational insights and practices during the First Industrial Revolution?) is addressed by Deslandes (2019), who points at the Fourth Industrial Revolution's challenges and sees comparisons with the First Industrial Revolution. Based upon the ideas that Adolphe Blanqui's formed during the First Industrial Revolution, Deslandes (2019) emphasizes that management schools currently should offer students the political, technical, artistic, philosophical and literary contemporary context to understand the future better: *The large proportion of top managers with a background in humanities serves as a reminder that certain intangible qualities cannot be understood strictly in terms of organisational utility: personal identity, interpersonal skills, shared cultural values, and even the 'economic' intelligence we carry more or less unconsciously* (Deslandes, 2019, p. 8). Hence, managers need a broad education.

The first two research questions, *RQ1a* (can soft skills development in education lead to improved citizenship?) and *RQ1b* (if so, how must soft skills development be applied to improve citizenship?), are difficult to answer based on the above historical overview. The Bildung experiment was abused to fashion the German nation-state in the nineteenth century and by dictatorial regimes that scourged Germany in the twentieth century, which is an answer to *RQ2b* and can be classified as negative 'lessons learned', although Von Humboldt had predicted the outcome before. Therefore on the first two research questions will be elaborated in the discussion section.

DISCUSSION ON PROMOTING PERSONAL DEVELOPMENT IN HIGHER EDUCATION

European politicians stated that higher education has to empower students *to become active and responsible citizens in the future* (Leuven/Louvain-la-Neuve Declaration, 2009, p. 1). The historical overview revealed the warnings that personal development requires freedom and showed examples that infringements obstruct development.

Berlin (1958) has defined the two concepts of liberty. The negative freedom is regarding the space than the source of freedom. Negative freedom is the personal freedom not to be obstructed by others. Positive freedom limits the negative freedom and is instead a source and gives the person the freedom to choose who can limit it.

When applying the two concepts of liberties, as explained by Berlin (1958), the Leuven/Louvain-la-Neuve Declaration (2009, p. 1) is an example of limiting positive freedom when stating that students need *to become active and responsible citizens in the future*, which leads in the best case to paternalism and the worst case to despotism (De Hert et al., 2015).

The question arises of what the European ministers meant with these wordings. What are active and responsible citizens in their eyes? Sanderse (2019, p. 411) warns that the *history of the Bildung idea offers an all too potent reminder of the fact that such ideals are vulnerable within a strong education system that focuses on turning young people into 'currency', to use Nietzsche's phrase*, although the Bildung ideal is often initiated with the best intentions.

Concluding, the role of the state of politicians in promoting personal development is suspect. Personal development does not belong to politics. Mill thinks that the government can foster personal development and has a more positive view on state interference than Von Humboldt, who defended the individuals' free space (De Hert et al., 2015).

The possible answer to the first research question might be found in the apparent discipline: pedagogy. Rousseau's philosophies are associated with the abovementioned Swiss pedagogue Pestalozzi, whose pedagogy was adopted by Von Humboldt to operationalize *Bildung* (Alves, 2019; Meyer, 1939). Moreover, Rousseau inspired many others such as the Italian pedagogue, medical doctor Maria Montessori (1870–1952), the German pedagogue Friedrich Fröbel (1782–1852), the Dutch teacher and educational innovator Jan Ligthart (1859–1916), the co-founder of the progressive education movement, the Swiss educator Adolphe Ferrière (1879–1960) and the influential US-educational philosopher John Dewey (1859–1952) (Meyer, 1939).

The Swiss psychologist Jean Piaget (1896–1980) and Russian psychologist Lev Vygotsky (1896–1934) have positively influenced the educational discourse in the twentieth century, and their respective constructivist and behaviourist approaches are compared multiple times in the literature (DeVries, 2000). Vygotsky focused on researching children's development; the child is a dependent individual who cannot live in isolation and cannot live without interaction with the social world (DeVries, 2000). Jean Piaget mainly emphasized the interaction of the child with the physical world. Vygotsky presented the behaviourist idea that *the pupil is a reacting apparatus and the whole composition of the instrumental act can, without exception, be reduced to a system of stimulus-response connections* (DeVries, 2000, p. 188). The similarities between Vygotsky and Piaget are that *social factors play a central role in child development; internalization is not a process of copying material from the environment but is a transformative process; and what develops is the individual* (DeVries, 2000, pp. 190–192).

In the 1990s, Biggs (1996, p. 347) introduced *Constructive alignment* in which two ways of thinking are combined: *the first derives from constructivist learning theory and the second from the instructional design literature*. Central in constructivism is creating the meaning of the learner's activities, impacting the teaching and assessment methods. The *Instruction design* underlines the alignment between a course's learning objectives and the student's performance assessment methods.

Biggs (1996, p. 347) combines both ways to *Constructive alignment*. Constructivism is applied as the instructional design framework to create curriculum objectives *in terms of performances that represent a suitably high cognitive level, in deciding teaching/learning activities judged to elicit those performances, and to assess and summatively report student performance* (Biggs, 1996, p. 347). De Houwer, Barnes-Holmes, and Moors (2013, p. 633) defined learning as *ontogenetic adaption*, that is *as changes in the behavior of an organism that are the result of regularities in the environment of that organism*.

In conclusion, the common ground in the individual educational theory is that learning is a unique reconstruction in each individual's mind within the (social) context. Through Berlin's (1958) lens, the philosophical explanation for individuals' educational development would ensure positive freedom to prevent governmental paternalism.

In the introduction, the construct of competence is defined. A distinction is made, which is here Delamare-Le Deist and Winterton (2005) and Campion et al. (2011) presented in the triangle (1) knowledge (and theory), (2) (professional and interpersonal) skills and (3) intrapersonal traits and attitudes. Biggs' (1996) Constructive alignment also represents a triangle and urges educators to align (1) intended learning outcomes, (2) didactical approaches and (3) assessment methods.

Since learning knowledge and theory, professional and interpersonal skills, and intra-personal traits differ in intended learning outcomes, so the didactics and assessments methods must be aligned. Personal development, as proposed by Von Humboldt, Blanqui and Mill, is here categorized as (3) *intrapersonal traits and attitudes*. Intrapersonal traits and attitudes have their origin in ways of thinking.

In the literature, there is a discourse on ‘thinking’-learning objectives, like ‘creative thinking’, ‘critical thinking’, ‘strategic thinking’, et cetera. Willingham (2008) leads the discourse and warns: *If you remind a student to ‘look at an issue from multiple perspectives’ often enough, he will learn that he ought to do so, but if he doesn’t know much about an issue, he can’t think about it from multiple perspectives* (Willingham, 2008, p. 21). The plea of Willingham (2008) for specific thinking is to provide it in a context, which would be in line with Delamare-Le Deist and Winterton’s (2005) definition that competent professionals possess a construct of three elements, knowledge, skills, abilities and other characteristics. It is also aligned with constructive alignment, as proposed by Biggs (2011).

In an experimental education project in a master course at a polytechnical university, Stek (2021b) illustrates formalizing intended learning outcomes regarding interpersonal traits and characteristics and the Constructive alignment with the didactics and assessment. Stek (2021b) introduced intended learning outcomes for knowledge, professional and interpersonal skills and intrapersonal traits.

In the challenge-based course, the students are confronted with a real-life case study provided by practitioners, who have to be interviewed. The students were provided (online) frontal instruction lectures and a Massive Open Online Course on knowledge and theory. Additionally, several workshops were provided, such as workshops on ethical behaviour and sound leadership, consultancy skills, creativity and inventiveness skills and negotiation skills. Thus, the students were immersed with knowledge, theory, experiences, stories and workshops of several practitioners to solve a case study.

The experimental setting of the course was in measuring the self-assessed levels of interpersonal skills and intrapersonal traits. Two-third of the 36 self-assessed soft skills levels could be improved by the course that is part of a business administration track. Notably, the intrapersonal trait ‘strategic thinking’ could be improved most significantly. The course offered a complex challenge-based case study that left room for the student’s personal development and fostered creativity and inventiveness, aligning with a modern interpretation of the described nineteenth century educators.

European ministers stated that ‘Student-centred learning (...) will help students develop the competences they need in a changing labour market and will empower them to become active and responsible citizens in the future’ (Leuven/Louvain-la-Neuve Declaration, 2009, p. 1). However, apart from the question what ‘active and responsible citizens’ are the research questions, RQ1a (can soft skills development in education lead to improved citizenship?) and RQ1b (if so, how must soft skills development be applied to improve citizenship?) are hard to answer. The answers to the second pair of research questions revealed that personal freedom is a prerequisite for personal development.

NOTES

1. James Watt (1736–1812) presented an improved version of Thomas Newcomen’s steam engine in 1776.
2. Sir Richard Arkwright (1732–1792) in 1769 patented a spinning frame that was initially water powered and later steam powered.

3. Jean-Baptiste Say (1767–1832) was a French liberal economist that is known of Say's law, that says that the production creates the demand and is the source of the demand. Moreover, Say was Blanqui's lecturer.

REFERENCES

- Ahmed, F., Fernando Capretz, L., Bouktif, S., & Campbell, P. (2012). Soft skills requirements in software development jobs: A cross-cultural empirical study. *Journal of Systems and Information Technology*, *14*(1), 58–81.
- Alves, A. (2019). A Tradição Alemã do Cultivo de si (Bildung) e sua Significação Histórica. *Educação & Realidade*, *44*. Retrieved from http://www.scielo.br/scielo.php?script=sci_arttext&pid=S2175-62362019000200606&nrm=iso
- Bals, L., Schulze, H., Kelly, S., & Stek, K. (2019). Purchasing and supply management (PSM) competencies: Current and future requirements. *Journal of Purchasing and Supply Management*, *25*(5), 100572.
- Berlin, I. (1958). In O. University (Ed.), *Two concepts of liberty*. Oxford: Oxford University Press.
- Biggs, J. B. (1996). Enhancing teaching through constructive alignment. *Higher Education*, *32*(3), 347–364.
- Biggs, J. B. (2011). *Teaching for quality learning at university: What the student does*. New York, NY: McGraw-Hill Education.
- Birou, L., Lutz, H., & Zsidisin, G. A. (2016). Current state of the art and science: A survey of purchasing and supply management courses and teaching approaches. *International Journal of Procurement Management*, *9*(1), 71–85.
- Blanqui, A.-J. (1837). *Histoire de l'économie politique en Europe, depuis les anciens jusqu'à nos jours*. Paris: Guillaumin Libraire.
- Bruford, W. H. (1975). *The German tradition of self-cultivation: 'Bildung' from Humboldt to Thomas Mann*. Cambridge: Cambridge University Press.
- Campion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, *64*(1), 225–262.
- De Hert, P., Kinneging, A., & Colette, M. (2015). *Benjamin Constant. Ontdekker van de moderne vrijheid*. Kalmthout: Pelckmans.
- De Houwer, J., Barnes-Holmes, D., & Moors, A. (2013). What is learning? On the nature and merits of a functional definition of learning. *Psychonomic Bulletin & Review*, *20*(4), 631–642.
- Delamare-Le Deist, F., & Winterton, J. (2005). What is competence? *Human Resource Development International*, *8*(1), 27–46.
- Deslandes, G. (2019). European management teaching and research: Reflections on the life and work of A. Blanqui. *European Management Journal*. doi:10.1016/j.emj.2019.10.005
- DeVries, R. (2000). Vygotsky, Piaget, and education: A reciprocal assimilation of theories and educational practices. *New Ideas in Psychology*, *18*(2), 187–213. doi:10.1016/S0732-118X(00)00008-8
- ESG Report. (2015). *Standards and Guidelines for quality assurance in the European higher education area (ESG)*. Retrieved from <http://www.enqa.eu/index.php/home/esg/>
- Fawcett, S. E., & Rutner, S. M. (2014). A longitudinal view of supply chain education: Assessing the challenge of retaining relevance in today's dynamic marketplace. *The International Journal of Logistics Management*, *25*(1), 180–201.
- Günther, K.-H. (1988). Profiles of educators: Wilhelm von Humboldt (1767–1835). *Prospects*, *18*(1), 127–136.
- Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. *Labour Economics*, *19*(4), 451–464.
- Heisenberg, W. (1973). Schritte über Grenzen, Rede zur 100-Jahrfeier des Max-Gymnasiums. In: (Piper).
- Hoidn, S. (2017). *Student-centered learning environments in higher education classrooms*. New York, NY: Palgrave Macmillan.
- Kagermann, H., Wahlster, W., & Helbig, J. (2013). Securing the future of German manufacturing industry: Recommendations for implementing the strategic initiative INDUSTRIE 4.0. In A. Hellinger & V. Stumpf (Eds.), *Final report of the Industrie*. Federal Ministry of Education and Research, Frankfurt/Main, p. 78.
- Lachs, J. (1992). Mill and constant: A neglected connection in the history of the idea of liberty. *History of Philosophy Quarterly*, *9*(1), 87–96. Retrieved from <http://www.jstor.org.ezproxy2.utwente.nl/stable/27744005>
- Laker, D. R., & Powell, J. L. (2011). The differences between hard and soft skills and their relative impact on training transfer. *Human Resource Development Quarterly*, *22*(1), 111–122.
- Lansing, C. B. (2010). *From Nazism to communism: German schoolteachers under two dictatorships* (Vol. 170). Cambridge, MA: Harvard University Press.
- Leuven/Louvain-la-Neuve Declaration. (2009). The Bologna process 2020: The European higher education area in the new decade. In Communiqué of the Conference of European Ministers Responsible for Higher Education, 28–29 April. Leuven and Louvain-la-Neuve.

- Meyer, A. E. (1939). *The development of education in the twentieth century*. New York, NY: Prentice-Hall.
- Mill, J. S. (1859). *On liberty*. London: John W. Parker and Son.
- Mill, J. S. (1867, February 1). *Inaugural address: Delivered to the university of St. Andrews*. London: Longmans, Green, Reader, and Dyer.
- Sally, R. (1994). Multinational enterprises, political economy and institutional theory: Domestic embeddedness in the context of internationalization. *Review of International Political Economy*, 1(1), 161–192. Retrieved from <http://www.jstor.org.ezproxy2.utwente.nl/stable/4177094>
- Sanderse, W. (2019). Does neo-Aristotelian character education maintain the educational status quo? Lessons from the nineteenth-century Bildung tradition. *Ethics and Education*, 14(4), 399–414. doi:10.1080/17449642.2019.1660456
- Satz, D. (2012). Nineteenth-century political economy. In A. W. Wood & S. S. Hahn (Eds.), *The Cambridge history of philosophy in the nineteenth century (1790–1870)* (pp. 676–698). Cambridge: Cambridge University Press.
- Schaffar, B., & Uljens, M. (2015). Paradoxical tensions between Bildung and Ausbildung in academia. In *On the facilitation of the academy* (pp. 1–15). Berlin: Springer.
- Schwab, K. (2016). *The 4th industrial revolution*. New York, NY: Crown Business.
- Sorkin, D. (1983). Wilhelm Von Humboldt: The theory and practice of self-formation (Bildung), 1791–1810. *Journal of the History of Ideas*, 44(1), 55–73. doi:10.2307/2709304
- Stek, K. (2021a). A soft skills experiment in an academic course – Developing interpersonal skills and intrapersonal traits purchasing & supply management course. In Paper presented at the IPSERA, online conference.
- Stek, K. (2021b). A soft skills experiment in an Industrial engineering and management academic course – A demonstration of how to develop soft skills. In A. Alves & N. van Hattum (Eds.), *Training engineering students for modern technological advancement* (p. 330). Hershey, PA: IGI Global.
- Stek, K., & Schiele, H. (2021). How to train supply managers – Necessary and sufficient purchasing skills leading to success. *Journal of Purchasing and Supply Management*, 100700. doi:10.1016/j.pursup.2021.100700
- Stek, K., Zunk, B. M., Koch, V., & Schiele, H. (2021). Culture's consequences for purchasing: Comparing purchasing job ad requirements from different European countries with cultural models. *International Journal of Procurement Management*.
- Vincent, K. S. (2000). Benjamin constant, the French revolution, and the origins of French romantic liberalism. *French Historical Studies*, 23(4), 607–637.
- Von Humboldt, W. (1851). *Ideen zu einem Versuch, die Gränzen der Wirksamkeit des Staats zu bestimmen*. Breslau: Verlag von Eduard Trewendt.
- Von Humboldt, W. (1854). *Sphere and duties of government (the limits of State action)* [J. Coulthard, Trans.] London: John Chapman.
- Von Humboldt, W. (1999). *On language: On the diversity of human language construction and its influence on the mental development of the human species*. Cambridge: Cambridge University Press.
- WEF. (2015). *Unlocking the potential of technology*. Geneva: World Economic Forum.
- WEF. (2016). *Fostering social and emotional learning through technology*. Retrieved from Geneva, CH: www.weforum.org
- Willingham, D. T. (2008). Critical thinking: Why is it so hard to teach? *Arts Education Policy Review*, 109(4), 21–32.
- Wong, C. Y., Grant, D. B., Allan, B., & Jasiuvian, I. (2014). Logistics and supply chain education and jobs: A study of UK markets. *The International Journal of Logistics Management*, 25(3), 537–552.
- Zauli, B. E. (2019). For a new Bildung: Nietzsche's critique between education and 'spirituality'. *Journal of the CIPH*, 1, 154–163.
- Zunk, B. M., & Sadei, C. (2015). Sharpening the industrial engineering and management qualification profile: Research findings from Austria. *International Journal of Industrial Engineering and Management*, 6(3), 109–120. Retrieved from <https://www.scopus.com/inward/record.uri?eid=2-s2.0-84947928261&partnerID=40&md5=b0f42724b97636d4a62c1bdbc4defdd2>