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Can Skills Replace Competencies

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Abstract

The paper addresses the issue of whether competencies can replace knowledge in the preparation for a profession. Our claim is that knowledge takes precedence over competencies. In this context, we seek to falsify the misunderstanding of the concept of the knowledge society, which puts competencies above knowledge. In the paper, I partly use new literature on competencies and lifelong education, as well as literature related to the issue of scientific progress. The studied issue is the relationship of skills and knowledge to one's preparation for a future profession. The method of the work is theoretical argumentation; the paper is of a theoretical nature. We use the method of theoretical proof indirectly by dispute. We argue with the anti-cumulativist picture of the development of science, stating that such an image of science is not cumulativistic, though this does not mean that competencies are particularly important. We also argue that skills will help us apply ourselves outside our profession. Our claim is that lifelong learning is mainly vocational training, and serious knowledge is the basis for this training. Skills follow only after the need for serious knowledge. The result of the paper is that the superiority of skills over knowledge is not justified. The paper is important because of the current proliferation of views in this context, which misinterpret the notion of the knowledge society. These views sometimes appear in university management and politics.

Keywords: *skills, knowledge, knowledge society, anti-cumulativism, education*

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Introduction

In some circles, an idea has become established that perceives, evaluates and misunderstands the knowledge society. It does not see it as a society based on real knowledge and understanding, but as a society based on having competencies and a desire to learn. But nothing new would happen in such a case, and in the end it would be a repetition of the old and well-known principle, which was already stated by Vladimir I. Lenin – to learn, to learn, to learn. The constant readiness to learn was declared expresses verbs by Lenin, and if the idea of a knowledge-based society were based solely on it, there would be no choice but a state of déjà vu. Competencies are not an invention of the last third of the 20th century; Plato spoke about what the guards are supposed to control; what skills they should have, and he also described the way to acquire these competencies. True, the constant world of ideas is different from the changing world of their reflection. Although this is changing dynamically, this change produces the need to create new knowledge and to learn it. New knowledge, which is created relatively quickly, creates the need for it to be adopted by scientists, practitioners and teachers. In the need to follow new knowledge and acquire it and not be satisfied with the state of knowledge at the time of graduation lies the feature of the knowledge society that speaks of the accumulation of new knowledge. However, this does not mean that the desire to learn and the acquisition of competencies, how to receive knowledge, how to use information resources, are more important than knowledge itself. After all, their goal is to acquire new knowledge.

Method

The research method is a theoretical argument. First, we turn to the problem of cumulative science in connection with the need to update knowledge. Later we try to object indirectly with a dispute. We seek to deduce the consequences that arise from the preference for competencies over knowledge. The reduction of knowledge to increase the level of competence is unacceptable. Thus, the initial assumption is that competencies cannot be formed at the expense of knowledge.

The issue of cumulativism and knowledge

The issue of scientific progress is clearly not resolved theoretically. Cumulativist theories are in opposition to anti-cumulative ideas. The classical packaging theory of science, which means increasing knowledge through its quantitative increase and assuming a linear dependence of the disciplines of knowledge, has already been introduced by the founders of positivism. Auguste Comte introduced the system in which mathematics is based. It was apparently inspired by the late Plato (wisdom is the knowledge of numbers) and Galileo (the book of nature is written in the language of mathematics). Mathematics is followed by celestial physics (astronomy), the knowledge of which is, in turn, a basic prerequisite for the knowledge of terrestrial physics. Comte does not find a place for chemistry in this classification, but terrestrial physics is followed by biology. Self-knowledge of biology is a condition sine qua non for knowledge of social physics – sociology – of which Comte was the founder. This concept is like a jigsaw puzzle; the higher level of science is obviously conditioned by the knowledge of the lower level. The idea of scientific development is essentially cumulativistic in the representative of the second phase of positivism, Henri Poincaré, who talks about supplementing the conditions in theory. In a particular scientific theory, a new discovery is made that adds a new condition to the existing theory. An example is the special theory of relativity, by which Einstein's two postulates changed the classical perception of speed folding, introducing time dilation and length contraction.

Comte's now classical theory of science is opposed to anti-cumulativist views on the creation of scientific knowledge. The theory of scientific revolutions developed by Thomas S. Kuhn is well known. This philosopher "distinguishes in the history of the development of science the period of the so-called 'normal science' and 'scientific revolution', these periods not only being quantitatively different stages of scientific development but representing different qualities" (Karaba, 2012a, p. 69). A period of a scientific revolution marks the advent of a new scientific paradigm that will change the basic approach to the original findings of a scientific discipline and to what has hitherto been considered to be scientifically proven. Kuhn tries to present the approach on the example of individual scientific disciplines. For example, chemistry replaced the subordinate stage of alchemy, the iatrochemical stage, as well as phlogiston theory - Smik (1988). In some areas of theory, the explanatory power that is growing in other areas is being lost. It is the crisis of normal science and the shift towards a new paradigm that is interesting for its development.

The anti-cumulative approach is also significant for Laudan's reticular model of scientific progress. Laudan follows Kuhn and Lakatos. He seeks to exclude cumulativism from the theoretical grasp of the development of science and considers problem solving to be the basic goal of science. There are empirical and conceptual problems. "Empirical problems are questions concerning the structure and interrelationships between individual objects of a particular scientific field" (Karaba, 2012b, p. 520). Laudan considers conceptual problems to be more serious. They are those that introduce theories into science that are unacceptable or incompatible with others. There can also be a discrepancy between theory and methodological assumptions. At present, we can cite as an example string theory, which is not compatible with the standard model. "String theory in its current form is not definitive and we don't really know what to imagine under it" (Dubnička, 2008, p. 700). Nevertheless, considerable funds are being spent on string theory research projects. The goal of this theory is to find a new consistent physical theory that should describe all levels of physical reality.

For these reasons, it is necessary to react flexibly in the field of knowledge acquisition. Some findings may become obsolete, and a change in paradigm may even necessitate a radical correction of some of the knowledge thus far gained. The change in approach to the sources of Gnostic literature after the discovery of the texts in Nag Hammadi makes the discovery of the iconic views of the performers Irenaeus and Hippolytus almost useless. New discoveries of context in the interpretation of the pre-Socratics also greatly falsify the approach of older interpreters, based on references from the Peripatetics. It is therefore extremely important to innovate knowledge, not only in terms of accepting new sets of information in context, but also in rewriting and updating them. Non-cumulative theories are relatively realistic in that they have brought the knowledge that not all theories and knowledge are permanent and sometimes need to be changed to new knowledge contexts. Therefore, lifelong learning is clearly needed in dynamically evolving theories, the better reflection of which is non-cumulative methodological theories, not only in the form of accumulating new knowledge, but also updating the theories and paradigms used. Laudan, Lakatos and Kuhn have contributed to a better understanding with their vision of the development of science. At the same time, this means in many cases the need to reconstruct the knowledge system in some segments of science.

Knowledge and skills in the context of education

Perhaps there is no need to repeat the familiar context of the importance of knowledge as a factor in the production of the economy in terms of competitiveness and gaining a competitive advantage. The importance of knowledge for business security is crucial. Kassay (2014) considers learning and growth to be a company's investment in the future. He notes that many companies persist in traditional management methods, even though it is possible to measure exactly the achievement of strategic objectives. Kassay considers intellectual capital to be the starting point for value creation. An educated person not only accepts the information itself but absorbs the higher degree associated with cognition. The key indicator is the acceptance of knowledge and skills. Human capital is subordinated to the term intellectual capital, Kassay points out. Human intellectual abilities should also be used in the work process, primarily with the knowledge and skills at one's disposal. The importance of education is not exclusively in the labour market, says Kassay. Knowledge must not be reduced to computable human capital, says Drucker. Kassay draws attention to some specific facts, a parallel of which can be found, for example, in Heidegger's lecture The Age of the World Picture (1938). The authors Sedliačiková et al. (2020) also deal with this issue.

The anti-cumulativist view of the development of science seems to have defeated its cumulative counterpart. This means that science sometimes changes its paradigm, at least in selected segments. It is seemingly a shift of previous knowledge as invalid towards the history of science. Even previous, development-surpassed knowledge and paradigms, even in the non-cumulative picture, are important for comparison, for a holistic notion of the development of knowledge. More importantly, however, lifelong learning does not keep the worker in the old paradigm with outdated interpretations and does not consider knowledge that is already supplemented by new conditions, or even replaced by new ones, to be still persistent. This can only be achieved by the fact that many years after graduation, his knowledge is several times greater than at the time of graduation. If this is not the case, or if there is even a detriment of knowledge several years after graduation, such a worker will find it very difficult to join the work process, which uses current knowledge, or will have problems staying in the process.

The modern picture of the development of science, together with the acceleration of human knowledge, forces a person whose path is intellectual activity to continue his education and lifelong learning. Being educated means not only knowing where to find information and knowledge. Searching for and using information sources is, of course, extremely important. Without a way to access information, it is impossible to use what does not directly contain the

knowledge of a particular individual. Information in itself is not of great value unless we accept it in specific contexts. An understanding is needed to understand it. Hans Georg Gadamer in particular talks about information in his own way. Pre-understanding (Vorurteil) plays a key role in gaining knowledge. Preconception, or pre-understanding, is a basic condition for the possibility of any understanding. Understanding cannot be freed from assumptions. We must somehow understand each other before we want to begin to understand - Diez (2021). This preconception requires a certain amount of knowledge. Naturally, acquisition of knowledge is also conditioned by some skills, such as the classic search of information sources through libraries, an electronic search of information sources, etc. Knowledge is the alpha and omega for preconceptions.

Pre-understanding is only the first prerequisite for grasping information in context, so that it becomes knowledge and, in use, know-how. Another prerequisite is a very solid overview in a context that is based on general knowledge. Excellent general knowledge of truth has not been able to produce a polymath for centuries. What they can still do is give a good overview. Drucker talks about understanding science in this regard. A general overview is therefore one of the basic conditions for perceiving information in context and thus for transforming it into knowledge and understanding. On the one hand, this is a general overview within the conglomerate of the sciences. On the other hand, this is an overview within an individual science. Ensuring a good overview and knowledge at the level of the overall system of sciences needs to be addressed from primary school onwards. At a higher level, this trend should continue, especially in secondary schools of a general educational nature, but also in part in vocationally oriented secondary schools. Colleges and universities can participate in general education only to a limited extent. A general overview within one dominant science, a scientific department, is provided in part by a secondary school of a general educational nature. To a greater extent, this is the role of the secondary vocational school. At the highest level, this type of knowledge acquisition is the task of the college and university.

Of course, competencies play a role in gaining an overview. Practical skills as well as social competencies belong, for example, to the competencies of an employee - Kurhajcová (2009). These will also help in the lifelong learning process. The competencies that future university-educated people acquire in the process of higher education are most necessary for the educational process, and it is primarily learning competencies that are key in this process. Secondly, these are information competencies, as today it is very difficult to focus only on traditional sources of information. Information competencies provide us with: the ability to determine the nature and

scope of necessary information, to access information effectively and efficiently, to critically evaluate the information obtained and the validity of its sources, to implement important information in the knowledge database, to purposefully use the information and to have a knowledge of ethics and the legality of the information acquisition (Hrdináková 2014). Today's world works on the principle of information, the basic goal of which is to first obtain important information and then gain the benefits from doing so (Mokrišová 2020, p. 30). A survey on the competencies of university students in the Slovak Republic revealed interesting results. "There are some limitations which could threaten the results: the higher proportion of female students in the sample, as well as the unequal representation of students as concerning their area of study specialization" (Mesárošová et al., 2012).

Despite their importance and significance, the role of acquired competencies are particularly supportive, even in the acquisition of additional knowledge. Skills would be useless in this case if they were not linked to the necessary knowledge allowance. As we have mentioned, this is knowledge that gives us an overview at a general level as well as at the level of a specific scientific field. Above all, a beginning or advanced university graduate should have a relatively high level of knowledge. These are the basis for further knowledge acquisition. If this knowledge is absent, despite the student's skills, it will not be possible to gain much, as there would be no foundation. The information that such an individual would have access would be useless to him, because he would not know the context for it.

The argument used by proponents that university and higher education should primarily impart competencies to the graduate and that knowledge plays a secondary role is based mainly on propositions about quantities of knowledge as well as on rapidly growing knowledge. The propositions are true, but the argument is false. We will try to attack it indirectly with a dispute.

What follows from the view that colleges and universities should first and foremost, transfer competencies, with knowledge being much less important? This means that a graduate, as well as an intelligent person, for a long time after graduation, should rely rather on different competencies and should ad hoc seek relevant information and turn it into knowledge. It would probably work in a dream reality, similar to the well-known film Short Circuit (1986), where an animated robot quickly searches for information that turns into knowledge. Skills would have to be extremely miraculous in nature and, in particular, they would have to orientate people quickly. The graduate of our experiment would find information about the necessary problem very quickly; he would

have IT competencies. He would also know how to study based on his learning competencies. But without the necessary knowledge base, in our opinion, he would literally drown in the information network. He would not be able to discern the nature of information in terms of topicality, nor would he know how to distinguish the intertwining of different alternative scientific directions from mainstream science. Using only skills, he would not be able to transform information on a higher level into a form of knowledge and understanding. This puts us in a situation where the view that the primary goal of the university is to hand over competencies to the graduate leads us to an absurd conclusion. We have thus proved that the original assumption cannot be accepted.

The claim that higher education is to put skills first also has a higher degree of development. Competencies are important, and more important than knowledge, so that the graduate can take up other professions than the ones he/she graduated from. Such development is possible in the event of a job emergency. However, it is usually either a lower-skilled job or a job for which retraining does not take a long time. These are deviations from normal; they are definitely not a desirable condition. The basic purpose is to provide a university graduate with the necessary knowledge foundation. This is the alpha and omega of university education. In any case, the graduate also needs competencies - Basilotta-Goméz-Pablos (2022). This is mainly about finding information. The university must teach a graduate how to learn. However, competencies must not take precedence over knowledge. With a lack of knowledge that is unworthy of a university graduate and not sufficient for a full-fledged profession, the graduate simply cannot cope with any skills.

Discussion

The claim that competencies should be the overriding goal, which is superior to knowledge, is linked to the idea that, in fact, it is not even important for the graduate to work in his field as a matter of priority. Of course, there are some graduates who have a passive source of income or other work, and their study is only for their own knowledge enrichment, and they do not intend to use it in practice. Likewise, the situation on the labour market does not allow everyone interested in a job to fill it quickly. Some graduates of various levels of education are forced to fill other positions on a temporary basis. However, it should not be a highly qualified job, nor a phenomenon that would be welcomed or even planned. The primary goal is to provide qualified jobs for graduates who, of course, have lifelong learning. This should cover the need to have those graduates who are needed by the state.

The objection may be based on the argument that it is not possible to predict the needs of the state. Perhaps this objection would stand up in countries that are governed by a pure market economy. A pure market economy has occurred in history, specifically in the 19th century in the United States and some South American countries. At present, however, there is no such market economy anywhere - Misaki (2018). In some socialist states there is a planned economy, or a mixed economy with a dominance of planned elements. In most countries, there is a mixed economy. Here it is possible to predict with a certain accuracy. These are not exact numbers, but it is possible to acquire approximate numbers. It is possible to predict the approximate number of doctors, IT specialists, mechanical engineers, and so on. who will be needed. It is necessary to take into account a certain reserve. These roughly expected numbers can guide us for some planning in education. The result should be an estimated number of graduates who would primarily have the necessary knowledge as well as competencies. In the case of graduates of the first, second, or even third degree of higher education, this is about genuine knowledge in the required amount and quality, to which competencies are associated.

Even if these arguments are accepted, another objection may arise. Every citizen has the right to an education and also to the free choice of profession, and the state must not deny it to a citizen. How to deal with this argument, which refers to the second generation of human rights? It is possible to present a proposal according to which, in the amount needed for the state's economy, including a certain reserve, students would be educated free of charge. Entrance examinations would decide who will be admitted under such conditions. Those applicants who, on the basis of the results, do not get into the planned number of admissions, would have to study in a paid form. A solution in the form of a state loan would certainly be found for the insolvent.

The idea of a knowledge society in the sense that having a good knowledge base is not as important as having competencies is combined with another premise that higher education should produce universal scholars. Competencies and the desire to learn should essentially predetermine them for universal use. The university should teach them especially how to process information on knowledge and skills. Their degree and knowledge are much less important than their competencies. Such an interpretation of the knowledge society must be rejected as misguided and incorrect.

The knowledge society means the production of knowledge from information and knowledge, the basis of coexistence becomes individual and collective knowledge and the organization and

management of this knowledge. Graduates of different levels of education, especially higher education, should be oriented in this way. Knowledge becomes the dominant mode of production. Associated with this is the need for lifelong learning, because the knowledge acquired during study is not enough for one's whole life - Gouthro (2022). Combining these principles is possible with the growing demands for education, knowledge and competencies. The production of knowledge thus becomes more systematized and organized. Combining these phenomena with a decrease in the orientation of graduates on information and knowledge basically means a decrease in the level of the graduate. If we accept that the focus on competencies is superior to the acquisition of information and knowledge, and that graduates may not have the knowledge they needed years ago, because it is more important to know how to learn, then this will be a tragic misunderstanding and misinterpretation of the concept of knowledge society. On the contrary, knowledge is increasingly valued, it is increasingly necessary for full-fledged employment not only to be able to learn and search for knowledge quickly, but especially to be able to handle it and have its automated use. A knowledge society does not mean universal graduates, a kind of semi-finished product that can be modified regardless of their professional focus. Such a misinterpretation would in fact mean the birth of a pseudo-intellectual layer and a real underestimating of the level and importance of education, especially in the area of colleges and universities.

Conclusion

In our study, we addressed the misinterpretation of the term knowledge society. Its real concept means in-depth knowledge, grasping the essence, focusing on knowledge and converting it into knowledge, as well as organizing these processes at a scientific level. These contexts need to increase the quality of graduate education. This means, above all, the production of such a graduate who will have significantly higher knowledge than has been the case so far. John Amos Comenius's idea of teaching everyone everything is, of course, unattainable and naive. The idol of the tribe and the idol of the cave, described by Francis Bacon, determines man for a certain partial circular section from the slide of knowledge. Within this determination, there are reserves and untapped opportunities from which it is necessary to draw and increase the level of knowledge according to the respective type and level of education. In another sense, this means that graduation is essentially the beginning and not the end of lifelong learning. Unfortunately, some individuals, sometimes at the level of rectors of well-known universities, promote a misunderstanding of the

knowledge society: that competencies are much more important than knowledge. According to this view, the school, including the university, has to mainly pass on skills to the graduate. Serious knowledge is much less important. This nonsense also takes a higher form: the priority of skills is justified by the fact that the graduate is not primarily intended for only one profession but should be modifiable for a diverse range of professions. More important than serious knowledge is having to learn how to learn in this interpretation. At the same time, with these skills, the graduate can change professions, as they will learn quickly. Such a perception of the knowledge society would only bring chaos. The idea of a modifiable graduate is curious; it certainly does not mean a deepening of knowledge, but only increasing dilettantism, semi-education and superficiality in education. Such a distorted notion of the realization of the knowledge society would lead to a state in which, ultimately, the level of education would fall, not increase. We just have to believe that such an interpretation of the term knowledge society will disappear, or that it will have only a very marginalized group of adherents.

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Bibliography

Basilotta-Goméz-Pablos, V. et al. (2022). Teachers' digital competencies in higher education: a systematic literature review, International Journal of Educational Technology in Higher Education 19 (1), 2022 Article number 8

Diez, F. (2021). Universality and limits of language in Hans-Georg Gadamer. Another approach to hermeneutical touch | [Universalidad y Límites del lenguaje en Hans-Georg Gadamer. Otra aproximación al tacto hermenéutico], Contrastes, 26(3), pp. 7-24

Dubnička, J. (2008). Teória strún a fyzikálny obraz sveta. Filozofia 63 (8), pp. 813-824

Gouthro, P. A. (2022). Lifelong learning in a globalized world: The need for critical social theory in adult and lifelong education, International Journal of Lifelong Education 41 (1), pp. 107 – 121

Hrdináková, L. (2014). Informačné kompetencie, In: https://midas.uniba.sk/wp-content/uploads/2016/02/midas-informacna-gramotnost.pdf

Karaba, M. (2012a). Vedecký pokrok ako filozofický problém. (Warszawa: Rhetos), 176 p.

Karaba, M. (2012b). Laudanov retikulárny model vedeckého pokroku. Filosofický časopis 60 (4), pp. 519-535.

Kassay, Š. (Podnik a podnikanie V. Učenie a rast. (Bratislava: Veda, 2014), 645 p.

Kurhajcová, L. (2009). Kľúčové kompetencie manažéra. Economics and management 1, pp. 31-35.

Mesárošová, M., Mesároš, F., & Mesároš, P. (2012). Kľúčové kompetencie vysokoškolských študentov: učebná kompetencia a jej vzťah k verbálnej a matematickej kompetencii. Československá Psychologie 56 (2), pp. 106-118.

Mokrišová, V. (2020) Marketingový informačný systém. In: Hvizdová Eva. a kol.; (Prešov: VŠMP ISM Slovakia v Prešove, 2020), p. 30

Misaki, K. (2018). The concept of labor market in léon walras' pure, social, and applied economics, OEconomia 8 (2), pp. 419 – 428

Sedliačiková, M., Klementová, J., Šatanová, A., & Moresová, M. (2020). Impacts of behavioral aspects on financial decision-making of owners of woodworking and furniture manufacturing and trading enterprises. Acta Facultatis Xylologiae 62 (1), pp. 165-176.

Smik, L. (1988). Dejiny prírodných vied so zameraním na chémiu. (Košice: UPJŠ), 151 p.