

Dorota Ciechanowska

Student Responsibility In Deep Learning

Abstract: Universities are faced with the necessity of redefining their educational goals in relation to the newly-defined tasks posed to the academic education. The outcomes of university education defined in the language of competence will not be achieved, unless the university ceases to continue the transmission strategies of teaching. Activation of students in the process of education means a shift in emphasis from teaching to make students responsible for their learning process. Autonomy in learning leads one to self-directedness and deep learning, which involves critical analysis of new information and combining it with the existing memory concepts, building the personal knowledge of the student.

Key words: students' responsibility, deep learning, higher education

ODPOWIEDZIALNOŚĆ STUDENTÓW W UCZENIU SIĘ GŁĘBOKIM

Abstract: Uczelnie wyższe stają wobec konieczności redefinicji swoich celów kształcenia w związku z nowo definiowanymi zadaniami stawianymi kształceniu akademickiemu. Efekty kształcenia akademickiego definiowane w języku kompetencji nie zostaną osiągnięte jeśli uniwersytet nie zaprzestanie kontynuowania transmisyjnej strategii kształcenia. Aktywizacja studentów w procesie kształcenia oraz przesunięcie akcentów z nauczania na uczynienie studentów odpowiedzialnymi za swój proces kształcenia. Autonomia w uczeniu się prowadzi do nakierowania na własny rozwój oraz głębokiego uczenia się, które polega na krytycznej analizie nowych wiadomości oraz łączeniu ich z istniejącymi już w pamięci konceptami prowadząc do budowania wiedzy osobistej studenta.

Słowa kluczowe: odpowiedzialność studentów, uczenie się głębokie, edukacja akademicka

In recent years, there has been a debate on the condition of academic training, focusing on its servitude to the needs of civilization and its opposition to the idea of the Humboltean university. The ideals pursued by both streams are inflected in

various ways, despite the different perceptions of the academic tasks¹. Much less attention is given to the students, and in particular to their development, which takes place in the realm of personality development, as well as in the sphere of intellectual growth, increasing knowledge and gaining competence. “Of all the internal functions of higher, education, educational functions are the least recognized and least embedded in the consciousness of professional teachers. Even if these features are identified and accepted the otherness of education at this level is rarely understood in relation to the educational activity at lower levels of education. Hence many assertions about the uselessness of such influence justified by the legal adulthood of the students, their reaching full sense of personal growth, a strong sense of autonomy, etc.”² Supporting students in their development seems to be marginalized in recent years.³ Discourse is held from the perspective of the development of societies, the interests of national economies and technological development. It sees universities as a place to build economic capital. The intellectual capital of a nation as a value has become important only in the perspective of its usefulness and measurable financial and economic accountability.

The modern university, in the field of assisting in students' development⁴ sets itself the task of updating and adding dynamic to the individual development of students. In terms of the objectives of university education, the competence of learning and development of critical thinking in students - which manifests itself in the ability to ask questions and search for ways of answering them - are pointed out.⁵ Among the objectives of the university in supporting students in the development there is also encouraging them to exercising courage of expression, e.g. civil disobedience (the development of the person in all dimensions). Academic training has been, in recent years, focused on learning outcomes considered in the realm of knowledge, skills and social competence of learners. Learning outcomes result from

¹ H. Samsonowicz, *Spoleczna odpowiedzialność uczelni*, [w:] *Spoleczna odpowiedzialność uczelni*. (red), K. Leja, Gdańsk 2008.

² K. Jaskot, *Funkcje szkoły wyższej jako instytucji edukacyjnej*, [in:] „Edukacyjne dyskursy”.
<http://www.edukacyjne.dyskursy.univ.szczecin.pl/funkcje.htm>

³ D. Ciechanowska, *University teachers' readiness to foster students' competencies of self-directed learning*, [in:] K. Denek, A. Kamińska, W. Łaszczuk, P. Oleśniewicz (ed.), *Education for Tomorrow, From Nursery School to the Professional Activity*, Sosnowiec 2012.

⁴ K. Jaskot, *Funkcje szkoły wyższej*.... op. cit.

⁵ M. Czerepaniak-Walczak, *Uniwersytet: miejsce edukacji całościowej czy salon profesora Higginsa? Perspektywa pedagogiczna*, „Pedagogika Szkoły Wyższej”, 2001/1.

academic teachers' work, the involvement of students and the scientific potential of universities.

Very often, it is believed that the effectiveness of learning depends on how efficient a process of learning essentially is. The efficiency of the system consists in a commitment of the learners themselves⁶, the professionalism of their teachers, the appropriateness of the objectives of education, the means of teaching, the applied rules, forms and methods of training, the time at which the process takes place and other conditions that directly or indirectly influence the process. It can therefore be assumed that the effectiveness of training in terms of pedagogy is a measure of the educational process of higher education. Too often, the effectiveness of education in terms of teaching is regarded as the result of the functioning of components of the education process, which are solely treated in terms of organization. Thus, the effectiveness of education and the quality of its outcomes tend to be dependent, according to the analyses, to thrift in the economic sense. It happens, unfortunately, in schools of all levels and types that economic conditions necessitate some measures taken by university administrators towards saving. Thus, by increasing the number of students in lecture groups, also the size of the working groups increases, which limits the contact with teachers to a minimum, by moving part of the course to e-learning. Studying and academic education have become an inseparable part of life-long-learning. They are an expression of intentional changing oneself. Being always ready to grow and change requires consent to break stagnation and predictability, and it assumes openness to change. An important component of this openness is the intellectual independence of students. The basis of all independence assumes the development of cognitive processes and the ability to make mental operations. Self-reliance is a category inherently bound with activity, independence, initiative, autonomy and self-determination. Independence is regarded as the most important component of personality, arguing that independence is, above all, a kind of response of the personality to action, which is the result of relationships and dependencies between the individual and its environment. In Western literature, direction at one's growth, including independence of decision is expressed by the concept of self-directedness. The views of the authors dealing with independence are quite varied. For some, self-reliance is associated with the proper organization and development of

⁶ F. Bereźnicki, *Umiejętność uczenia się warunkiem efektywności procesu kształcenia*, [w:] K. Denek, F. Bereźnicki, J. Świrko-Pilipczuk (red.), *Proces kształcenia i jego uwarunkowania*, Szczecin 2002.

the personality. Others (Pieter, Tomaszewski) understand self-reliance as an adult behavior, providing a specific level of intellectual development, emotional and practical. Thus understood autonomy depends primarily on the degree of development of human mental abilities, emotional maturity and life experience, and also on specific motivations. There is also a group of psychologists who emphasize, in the structure of self-reliance, the presence of cognitive processes, which are an essential foundation for understanding of the issue and realizing what the individual does.⁷ These processes are needed both in the simplest works, requiring only an analysis and synthesis, as well as the most complex ones.

The autonomy of the individual, expressed in their personal responsibility for themselves and their development, along with accepting the consequences of intentional change, is a challenge that not everyone is able to cope with⁸. Students must demonstrate self-directedness. In the process of lifelong learning, it takes the form of self-directed learning.⁹ There are different contexts regarding self-directed learning. Some researchers focus their attention on the level of autonomy of the learner throughout the learning process¹⁰. Others see self-direction as a personality trait that relates to the development of individual autonomy in the moral, emotional and intellectual spheres. Self-direction in the field of learning is also analyzed in relation to the learning context¹¹. Its most important feature is the ability to make changes in one's own knowledge. Not obtaining new information, but building mind concepts that are specific only to the person who shapes them.

The responsibility for oneself is an expression of real social responsibility of the person. Responsibility is understood as readiness to account for oneself and one's interiorized social judgment, not only for one's own actions, but also and above all for what one is, and so for one's personal qualities and dispositions. It is expressed in a constant readiness of the person to bear the social consequences of their actions.

⁷ A.Kozerska, *Self-education of Students of Pedagogy and Their Social Roles*, [in:] "The New Educational Review", 2012 vol.27, No 1.

⁸ D.Ciechanowska, *Benefits of Student Autonomy and Independent Thought*, [in:] K.Denek, A.Kamińska, W.Kojs, P. Oleśniewicz, (ed.), *Education of Tomorrow. Contemporary Education and Its Contexts*, Sosnowiec 2011.

⁹ D.Ciechanowska, *Samokierowane uczenie się jako wartość kształcenia akademickiego*, [w:] D.Ciechanowska (red), *Studiowanie dla społeczeństwa wiedzy*, Toruń 2009.

¹⁰ D.Ciechanowska, *Zmieniający się uniwersytet a autonomia studentów*, „Edukacja Humanistyczna” 2011/1.

¹¹ L.M.Guglielmino, *The Case for Promoting Self-Directed Learning in Formal Educational*, "SA-eDUC JOURNAL", Volume 10, No 2, October 2013.

Responsibility was the subject of discussion in many scientific theories. This concept occurs in different areas of philosophy. From the perspective of personalism presented by K. Wojtyła, responsibility, associated with values, is the law and the obligation of man. In the neolinguistic approach by J. Huxley, it is a universal category relating to the socio-cultural processes and it is future oriented. The views of R. Ingarden and M. Scheller, matching the phenomenological approach, treat responsibility in terms of freedom. These authors rightly point out that a human individual wanting to be responsible for their actions must be free in their decisions and actions. Heidegger's considerations definitely complement such understanding of responsibility. According to them, a person can be responsible only for what they can affect. J. Tischner captured responsibility in an unusual way. He treated it as a peculiar phenomenon because defining the essence of humanity.

Responsibility is the ethical dimension of human action. It is one of the fundamental moral values, in addition to freedom, dignity and justice. It is a complex and multi-faceted category, depending on various aspects, situations and conditions. Assuming the relationship between an act and a consequence, responsibility is treated as a human disposition to a particular evaluation and action. Being a moral category, it relates primarily to individual experiences and relationships. Moral responsibility is an expression of self-control and sensitivity of conscience. In a world ordered by clear cause-effect relationships, situations of uncertainty and risk occur frequently. The consequences are doubts about the necessity or desire to redress harm. Conscience is a response to the reactions between the act conceived and its potential effect. A reference to one's conscience allows the individual to assess conduct according to accepted values. It is conscience, understood as the ability to evaluate human actions that governs responsibility. A limitation of responsibility is the lack of values, along with deterministic models of refusing an individual's right to basic moral values.

The notion of responsibility is of particular importance in education¹². It is a value which is an expression of moral development, psychological and intellectual autonomy of the individual, a sense of individual identity and the identity of one's *self*. It is a particularly human feature, an attribute of humanity, expressing conscious action of the individual, who is able to experience the freedom of thought and action.

¹² S.Palka, *Charakterystyka pedagogiki szkoły wyższej jako dyscypliny teoretycznej i praktycznej*, [w:] K.W.Jaskot (red.), *Wprowadzenie do Pedagogiki Szkoły Wyższej*, Szczecin 2006, s.26.

Responsibility being a value characteristic of the human being as a free and conscious creature shapes his or her inner life, prompting them to consider the limits of human freedom and moral behavior.

Responsibility is at the center of individual value hierarchy, referring to goals and objectives adopted the moral aspects of choice of methods for their implementation and to achieving results. It is therefore a testimony of moral development, expressed by a growing acceptance of moral norms, rejecting egocentric objectives in favor of responsibility for the development of another person, and for oneself as a person able to be driven by the altruistic values¹³. According to the neurotic conception of man defined by V. Frankl, responsibility has a subjective dimension underlying the valuation and making existentially meaningful choices and decisions, inspired by motivation resulting from the pursuit, by the individual, of meaning and value. Responsibility determines the dynamic development of the individual, mobilizes and releases its driving forces, inspires creativity and desire to succeed. A sense of responsibility also helps intentional involvement of the individual in the realization of their aspirations, making them a fully functional person, endowed with self-creating powers, able to push their intellectual and emotional limitations.¹⁴

The common element inherent in the model presented above is the meaning of responsibility, a sense of commitment to accept the consequences of one's actions, behaviors and attitudes. Responsibility is a category combining the conscious human action, as there are no acts for which one does not take any responsibility.

The attitude of responsibility is an organization of three main components; cognitive, emotional-motivational and practical. The cognitive component creates knowledge of complex expressions of responsible life, which can be attributed to people having an awareness of the motives of their conduct, who can explain them and are guided by a certain system of values. The person committing an act may be accompanied by various emotions such as regret, repentance, willingness to rectify or pride, denial, and desire to evade punishment or blaming others. When we say that someone takes intrinsic responsibility and we expect that it will be manifested as the

¹³ I.Urych, *Autorytet nauczyciela akademickiego a odpowiedzialność*, „Zeszyty Naukowe AON”, nr 1(86) 2012.

¹⁴ E. Wołodźko, *Rola nauczyciela akademickiego w kształtowaniu samoodpowiedzialności studentów*, „Pedagogika Szkoły Wyższej”, 2003, no. 21, p. 87-89.

abovementioned feelings we mean the emotional-motivational component. The attitude - besides the two above-mentioned components - includes more responsibilities and obligations accepted by adopting specified values and knowledge. They shall be the third component of the attitude - the practical one.

The student is an individual who is characterized by moral autonomy, considers the consequences of their actions, consistently seeks rationally planned activity and is ready to submit their reasons and ideas to the judgment of other people. The above description allows for the impression that the attitude of responsibility is shaped in people with a properly shaped self-esteem. The attitude of responsibility is also composed of several further dispositions.

The first one is the introspective-evaluative attitude. The student, in addition to the possessed proneness to establish a self-image, must be aware of whether or not the self-image delineated by them corresponds to their expectations relating to the role and tasks he or she appoints for them. The expectations must be accompanied by introversive feelings. These are associated with the disposition to experience states of emotional tension and dissatisfaction with oneself resulting from the awareness of the gap between aspirations and the effects of one's efforts. Motivations of self-development complement the above. They are associated with the desire to shape one's personality based on external expectations, which the individual refers to oneself and to account to oneself for one's social and ideological value. The student aiming to grow must control the direction and progress of self-development by doing it from the point of view adopted by the expectations of themselves. Knowledge and experience should help an individual understand how important for the social life it is to have appropriate personality dispositions and an awareness of the legitimacy of one's claims and social expectations represented relative to one's value. They are the foundation for operative dispositions that allow the individual to develop an ability to form self-expectations and be accountable to oneself for what one is and what one has achieved in the field of self-development.

Studying is completing knowledge and skills that students will use in their future careers. It is also building a high cultural competence and personality. Responsibility and self-reliance in studying provide a good basis for the formation of readiness for learning deep. We need a change of thinking about education, its purposes, and in particular, the place of the learner in the process of studying in

order to make a shift of focus from “teaching” to building personal knowledge. This is a step further than just “learning” understood as the acquisition or storage of new information. Acquisition often leads to superficial learning. Superficial learning is characterized by thoughtless accepting information and remembering it as isolated facts. The result is a body of knowledge that exists in the mind of the learner in an unrelated manner. No logical structure combines these elements, thus leaving them remain incomprehensible as a whole. In superficial learning, communication of information is unidirectional, i.e. it runs only from the teacher to learner. Cognitive activity and research are reduced to superficial curiosity manifested regarding information provided with the use of attractive forms of media. Hence the motivation to learn is determined only by the action of the teacher and the criteria posed regarding the evaluation of students' work. Each task is treated as imposed from the outside, and the learners do not reveal personal attitudes in the learning process. Students expect ready solutions and investigation into their own knowledge - study as an in-depth understanding - ceased to be a commonly cultivated culture of studying.

It is necessary to adopt a new model of functioning for educational stakeholders in the teaching and learning process. “The new learning partnerships at the heart of the new pedagogies also generate a strong foundation for both teachers and students to provide highly effective feedback in the learning process. To do this, teachers and students must develop a common understanding of what learning progress looks like and actively engage in evaluating that progress, adjusting and refining their work as they go. Such a model is very much like working practices in knowledge-based organizations, where individuals or teams come up with initial products or programs and then refine and improve them based on testing and feedback. Indeed, the feedback cycle is where ‘it all comes together.’ In the new pedagogies, feedback between and among teachers and students stands at the critical nexus between learning goals, the kinds of deep learning tasks we will describe below, and deep learning outcomes.”¹⁵

The study should above all be associated with an autonomous approach to creating one’s person, knowledge, skills, competence and social attitudes. Learning involves a deep critical analysis of new information and combining them with the already existing concepts. Thus created new information is used to solve problems

¹⁵ M.Fullan, M.Langworthy, *A Reach Seam. How New Pedagogies Find Deep Learning*, London 2014, p.16.

and explore unknown contexts. Deep learning requires constant support for students in their modes of action, positive thinking and motivation. It promotes effective memorization and the ability to apply the memorized effect for a lifetime. It depends on the personal importance the learner applies to content that she or he encounters. The deep learning process lies in the integration of new knowledge with the already existing in the mind of the learner. Deep learning comprises the features of the constructivist learning process. In fact, the constructivist approach leads to deep learning. Both the concepts of Vygotsky and J. Piaget contain exactly the same components of learning, engaging the learner, motivating them and most importantly, producing effects of this process. “Deep learning as an individual, conditional, and contextual influence on first-year student outcomes Deep cognitive processing, studying material with a focus on learning its significance and meaning (Marton & Saljo, 1976), has been shown to result in greater learning outcomes in college students (Nelson Laird, Shoup, Kuh, & Schwarz, 2008; Ramsden, 2003). Finding ways to encourage deep processing among college students has become an essential pursuit of higher educators, who believe that engagement in certain activities and environments likely encourage students to pursue deep processing.”¹⁶ The deep learning process lies in the integration of new knowledge with the already existing in the mind of the learner. Mental models are formed which ensure durability and further success in learning. The meanings of concepts and ways of understanding are not imposed by teachers. In practice, this refers to the problem or active learning, instead of assimilation learning of finished - often imaginatively foreign descriptions and definitions.

Novak (1998) states that the individual can learn meaningfully if the following conditions are met¹⁷

1. The learner’s relevant prior knowledge: the learner must know some information that relates to the new information to be learned (it is important to assess learners’ prior knowledge)
2. Meaningful material: the information to be learned must be relevant to other knowledge and must contain significant concepts and proposition

¹⁶ R. D. Reason; B. E. Cox; K. McIntosh; P.T. Terenzini, *Deep learning as an individual, conditional, and contextual influence on first-year student outcomes*, A paper presented at the Annual Forum of the Association for Institutional Research, Chicago, IL. May 31, 2010.

¹⁷ J.D. Novak, *Learning, Creating and Using Knowledge : Concept maps as Facilitative tools for schools and corporation*, Mahwah, N.J.,Lawrence Erlbaum & Assoc, 1998.

3. The learner's motivation to learn meaningfully: the learner must consciously and deliberately choose to relate new knowledge to knowledge s/he already knows in some non-trivial way.

The learner who builds their knowledge easily becomes interested in a problem. She or he looks for solutions, recognizes problems, draws conclusions and finds implications of observed phenomena. The acquisition of knowledge is a process of creating it for oneself. It is an active process of constructing a theatre for new and old messages. Redefining the roles of education – which is to lead to deep learning – implicates a need to define new tasks for teachers.

Deep learning tasks redesign learning activities to:¹⁸

1. Re-structure students' learning of curricular content (such as national curriculum goals or standards) in more challenging and engaging ways made possible by digital tools and resources.
2. Give students real experiences in creating and using new knowledge³⁷ in the world beyond the classroom.
3. Develop and assess key future skills, what Michael has called the 6 Cs:
 - Character education – honesty, self-regulation and responsibility, hard work, perseverance, empathy for contributing to the safety and benefit of others, self-confidence, personal health and well-being, career and life skills.
 - Citizenship – global knowledge, sensitivity to and respect for other cultures, active involvement in addressing issues of human and environmental sustainability.
 - Communication – communicate effectively orally, in writing and with a variety of digital tools; listening skills.
 - Critical thinking and problem solving – think critically to design and manage projects, solve problems, and make effective decisions using a variety of digital tools and resources.
 - Collaboration – work in teams, learn from and contribute to the learning of others, social networking skills, empathy in working with diverse others.
 - Creativity and imagination – economic and social entrepreneurialism, considering and pursuing novel ideas, and leadership for action

¹⁸ M.Fullan, M.Langworthy, *A Reach Seam. How New Pedagogies Find Deep Learning*, London 2014, p.22.

Deep learning is an approach where the learner uses higher-order cognitive skills such as the ability of analyzing, synthesizing, problem-solving and metacognitive abilities that contribute to long-term understanding. The learning involves deep critical analysis of new information and combining it with the concepts already existing in memory. Thus created new information is used to solve problems and explore unknown contexts.¹⁹ Deep learning requires constant support for students in their modes of action, positive thinking and motivation. It promotes effective memorizing and the ability to apply effects of memorization for a lifetime. It depends on the personal importance of the content for the learner. Making mistakes and correcting them is a natural part of learning²⁰. The learner is an active creator and derives a lot of satisfaction from the process. Learning is attractive and interesting.

The task of the teacher in deep learning is to interest the learner in the process of acquiring new information and solving problems which are an inspiring challenge. The teacher actively assists in building the knowledge of the learner. Both the learner and teacher are partners in the process.

The evolving university is changing its face²¹. Concerns about the quality of education and learning in contemporary and future universities are legitimate. Action taken to improve the quality of education is sometimes incidental and mutually unrelated²². Attempts to unify the functioning of universities in Europe in the name of raising their competitiveness in the international market may contribute to the loss of the essential values of the university as a place of formation of valuable reflective minds and scientific culture.

References:

1. Bereźnicki F., *Umiejętność uczenia się warunkiem efektywności procesu kształcenia*, [w:] K.Denek, F.Bereźnicki, J.Świrko-Pilipczuk (red.), *Proces kształcenia i jego uwarunkowania*, Szczecin 2002.
2. Ciechanowska D., *Zmieniający się uniwersytet a autonomia studentów*, „Edukacja Humanistyczna”, 2011/1.

¹⁹ D.Ciechanowska, *Uczenie się pogłębione jako efekt studiowania*, [w:] Uwarunkowania efektów kształcenia akademickiego, D.Ciechanowska (red), Szczecin 2012.

²⁰ E.L.Zirbel, *Teaching to Promote Deep Understanding and Instigate Conceptual Change*, [in:] Bulletin of the American Astronomical Society, 2007, 38, 1220.

²¹ D.Pauluk, *Uniwersytet w blasku ideałów i w cieniu codziennego życia. Kontekst historyczny i współczesny*, [w:] *Student na współczesnym uniwersytecie. Idealy i codzienność*, D.Pauluk (red.), Kraków 2011.

²² A.Sajdak, *Paradygmaty kształcenia studentów i wspierania rozwoju nauczycieli akademickich. Teoretyczne podstawy dydaktyki akademickiej*, Kraków 2013.

3. Ciechanowska D., *Benefits of Student Autonomy and Independent Thought*, [in:] K. Denek, A. Kamińska, W. Kojs, P. Oleśniewicz, (ed.), *Education of Tomorrow. Contemporary Education and Its Contexts*, Sosnowiec 2011.
4. Ciechanowska D., *Samokierowane uczenie się jako wartość kształcenia akademickiego*, [w:] D. Ciechanowska (red.), *Studiowanie dla społeczeństwa wiedzy*, Toruń 2009.
5. Ciechanowska D., *Uczenie się pogłębione jako efekt studiowania* [w:] *Uwarunkowania efektów kształcenia akademickiego*, D. Ciechanowska (red.), Szczecin 2012.
6. Ciechanowska D., *University teachers' readiness to foster students' competencies of self-directed learning*, [in:] K. Denek, A. Kamińska, [in:], Łaszczuk, P. Oleśniewicz (ed.), *Education for Tomorrow, From Nursery School to the Professional Activity*, Sosnowiec 2012.
7. Czerepaniak-Walczak M., *Uniwersytet: miejsce edukacji całonocnej czy salon profesora Higginsa? Perspektywa pedagogiczna*, „Pedagogika Szkoły Wyższej” 2001/1.
8. Fullan M., Langworthy M., *A Reach Seam. How New Pedagogies Find Deep Learning*, London 2014.
9. Guglielmino L.M., *The Case for Promoting Self-Directed Learning in Formal Educational*, “SA-eDUC JOURNAL”, Volume 10, No 2, October 2013.
10. Jaskot K., *Funkcje szkoły wyższej jako instytucji edukacyjnej*, [w:] „Edukacyjne dyskursy”, <http://www.edukacyjne.dyskursy.univ.szczecin.pl/funkcje.htm>
11. Kozerska A., *Self-education of Students of Pedagogy and Their Social Roles*, “The New Educational Review”, 2012 vol.27, No 1.
12. Novak J.D., *Learning, Creating and Using Knowledge : Concept maps as Facilitative tools for schools and corporation*, Mahwah, N.J., Lawrence Erlbaum & Assoc, 1998.
13. Palka S., *Charakterystyka pedagogiki szkoły wyższej jako dyscypliny teoretycznej i praktycznej*, [w:] K.W. Jaskot (red.), *Wprowadzenie do Pedagogiki Szkoły Wyższej*, Szczecin 2006.
14. Pauluk D., *Uniwersytet w blasku ideałów i w cieniu codziennego życia. Kontekst historyczny i współczesny*, [w:] *Student na współczesnym uniwersytecie. Ideały i codzienność*, D. Pauluk (red.), Kraków 2011.
15. Reason R. D., Cox B. E., McIntosh K., Terenzini P.T., *Deep learning as an individual, conditional, and contextual influence on first-year student outcomes*, A paper presented at the Annual Forum of the Association for Institutional Research, Chicago, IL. May 31, 2010.
16. Sajdak A., *Paradygmaty kształcenia studentów i wspierania rozwoju nauczycieli akademickich. Teoretyczne podstawy dydaktyki akademickiej*, Kraków 2013.
17. Samsonowicz H., *Spoleczna odpowiedzialność uczelni*, [w:] *Spoleczna odpowiedzialność uczelni*, (red.), K. Leja, Gdańsk 2008.
18. Urych I., *Autorytet nauczyciela akademickiego a odpowiedzialność*, [w:] „Zeszyty Naukowe AON”, nr 1(86) 2012.
19. Wołodźko E., *Rola nauczyciela akademickiego w kształtowaniu samoodpowiedzialności studentów*, „Pedagogika Szkoły Wyższej”, 2003, no. 21.
20. Zirbel E.L., *Teaching to Promote Deep Understanding and Instigate Conceptual Change*, [in:] *Bulletin of the American Astronomical Society*, 2007, 38, 1220.