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Cognitive Science in Poland: Learning Outcomes and Literary Omission

Abstract. In the article I examine selected specifications of learning outcomes which can be achieved by students of cognitive science in Poland. The main objective is to find explicit connections between cognitive and literary studies on the levels of knowledge, skills and social competences. The decision to address such a subject stems from, on the one hand, the explicit absence of literary research in common descriptions of cognitive studies and, on the other hand, occurrence of cognitive-literary research and publications.

Key words: cognitive science; learning outcomes; National Qualifications Framework; literary studies; knowledge; skills; social competences.

The article is an attempt to review selected specifications of learning outcomes that students of cognitive science can achieve after successful completion of BA and MA programmes offered by Polish universities. The perspective of the review consists in the connection between cognitive and literary research on the level of learning outcomes. If, in its very assumption, as stated in such descriptions of teaching programmes as the one found on Studia. net, the discipline of cognitive science rests upon many related fields, for example brain studies, linguistics, and philosophy (www.studia.net/ kognitywistyka), then the question whether specific learning outcomes to be obtained via participation in a given cognitive science programme account for the possibility of combining cognitivism and literary studies is particularly

interesting. The main objective is thus to establish the link between cognitive science and literary studies on the level of learning outcomes, bearing in mind the fact that in general descriptions of cognitive science programmes such combination is missing (www.studia.net/kognitywistyka) as the list of "related fields" on which the principles of cognitivism relies does not explicitly refer to literary studies.

On www.studia.net/kognitywistyka, the website which gives access to information on fields of study offered by Polish universities, cognitive science is described as a "recent" development in the Polish tertiary system of education; it is based on various fields, including "cognition, studies in logic, linguistics, semantics, semiotics, medicine, biology, neurology, research into Artificial intelligence, mathematics, physics, and information technology" (http://www.studia.net/kognitywistyka). Such a combination of fields was definitely a challenge in the process of creating learning outcomes and formulating the means of their assessment after the introduction of the National Qualifications Framework in Poland – a result of changes in educational systems stimulated by the European Union (see Kraśniewski 2011: 7). The sources quoted prove that cognitive science should belong to cross-area programmes – apparently constituted differently in various universities – bearing in mind universities' autonomy in the process of preparing study programmes and conducting them on both BA, MA and PhD levels. Such autonomy and cross-disciplinary specificity of cognitive science should open up the path along which students can combine, develop and explore their cognitive-literary interests. Yet an analysis of the learning outcomes will prove that their might by some obstacles across such a path.

Studia.net lists the universities and faculties which offer cognitive science programmes, and the first observation is that such courses are conducted by frequently area-combined university basic units – for example the Department of Philosophy and Sociology at the University of Warsaw – or more extensive faculties, for example, The Faculty of Social Sciences at Adam Mickiewicz University (http://www.studia.net/kognitywistyka). Such an observation proves the interdisciplinary nature of cognitive studies. The list of universities and their units specified on Studia.net is crucial to the present essay, in which I will analyse selected learning outcomes specifications and the definitions of such learning outcomes as regards knowledge, skills and social competences, the three categories in which they are organised and which reflect the idea of comprehension and understanding (knowledge), ability and aptitude (skills), and awareness, attitude and appreciation (social competences) (see Kraśniewski 2011: 59). The overriding step is to determine and establish the cognitive-literary connections on the levels of learning

outcomes. The Studia.net website gives a very general description of cognitive science and perhaps blurs the differences between programmes offered by particular universities in Poland. I would argue that such differences, if they do exist, can be foregrounded in detailed descriptions of selected learning outcomes, the basis of cognitive science study programmes, which will constitute the essential research material of the present study. The Studia.net website does not provide complete information concerning Polish universities which offer programmes in cognitive science (cf. https://en.wikipedia.org/wiki/List_of_institutions_granting_degrees_in_cognitive_science#Poland); nevertheless, I consider it sufficient to fulfil the objectives set at the beginning of the article.

Although the most representative results could be achieved by means of analysing the learning outcomes in cognitive science programmes offered by each Polish university which conducts such studies, and then perhaps extending the research scope onto other universities in Europe, I decided to limit the basis of my comparative analyses to a selection of a few cases. The reason behind choosing some and omitting other units lies in the clarity and availability of the learning outcomes as part of teaching-related documents. First, priority will be given to programmes available in English – such courses are available to both Polish and non-Polish students of cognitive science, and hence their scope of target recipients is larger. Second, I will discuss learning outcomes which can be accessed via websites in a logical and clear manner, and thus available to those who are not professionally related to the given university and are neither students nor teachers there. Availability of teaching-related documents online is one of priorities within the National Qualifications Framework (Kraśniewski 2011: 25); thus, my intention is not to conduct detective-like webquest to reach out for the required matrix or tabular descriptions containing learning outcomes. Even if most of the learning outcomes specifications can be accessed by candidates, the scope of the research will be limited. Third, my procedure would be to start an analysis on the basis of BA level studies, and, then, to continue onto the MA level if the programme is still available for Master's degrees.

The limitation imposed upon the selection of research material and described in the previous paragraph is required, by way of illustration, in the following case. John Paul II Lublin Catholic University is listed on Studia. net, alphabetically, as the first unit which conducts the cognitive science studies. However, the learning outcomes cannot be directly approached via the regular website, which gives access only to the basic study plan and cannot be used in the present comparative analysis (http://www.kul.pl/

studia-i-stopnia,art_55043.html). Even the link devoted to the cognitive studies programme in English, which can be followed from the English version of the Faculty of Philosophy website (http://www.philosophy.kul. pl/), does not contain a detailed description of the learning outcomes and leaves the prospective student with the following information on cognitive science: "[i]t paves the way to exploring mind, brain and conscience, as well as it creates a golden opportunity to acquire and develop skills of building advanced knowledge and database models, and using several IT languages" (http://www.philosophy.kul.pl/cognitive-science/).

In terms of the interdisciplinary nature of the study programme, one can read that the student of cognitive science

> will benefit from extensive experience from the fields of psychology, biology, philosophy, neurosciences and IT. At the same time, [he or she] will gain skills and competencies that allow for understanding cognitive processes, applying memorization techniques, understanding and accelerating foreign language acquisition, and – finally – analyzing and integrating data from various sciences and scientific disciplines. (http://www.philosophy.kul.pl/cognitive-science/)

In the description above some general awareness of the typology of learning outcomes – knowledge, skills, and competences – transpires; however, it is too general to yield noteworthy comparative results. At least, it points to the variety of disciplines involved and, although linguistic aspects are mentioned, which reflects a general understanding of cognitive science (http://www.studia.net/kognitywistyka), it does not indicate literary connections on the level of "skills" and "competences" addressed in the passage quoted. On the one hand, similar to the information found on Studia. net, the description proves that there is no direct connection between literary studies and cognitive science within the interdisciplinary character of the latter; on the other hand, the text misses adequate data concerning the specific learning outcomes to take it into consideration as a convincing source of supporting information.

Marie Curie-Skłodowska University in Lublin, listed on Studia.net, also conducts cognitive science studies on BA level in English, and the learning outcomes can be easily accessed. The description of learning outcomes is preceded by an intelligible discussion of the very idea of learning outcomes in the context of the National Qualifications Framework: "[l]earning outcomes describe what a student should know, understand, be able to do and what personal and social attitudes would a student take at the end of cognitive

science BA programme" (http://cognitivescience.umcs.lublin.pl/learning-outcomes). The definition is comprised of an explanation of knowledge, skills and social competences – the three categories of learning outcomes. However, in detailed descriptions some modifications are added: the first group is called "Knowledge and understanding," the second one is referred to as "Intellectual skills," and the third one is called "Personal and social attitudes" (http://cognitivescience.umcs.lublin.pl/learning-outcomes).

Learning outcomes which belong to the category of "Knowledge and understanding" include the largest number. All the knowledge outcomes confirm the interdisciplinary nature of cognitive science, which proves the point concerning its reliance on various fields (http://www.studia.net/kognitywistyka) and which is expressed in K_W01:

> [s]tudents identify the place of cognitive science among other sciences; they list and characterize – at the basic – level – the key disciplines which make up cognitive science (philosophy of mind, cognitive psychology, cognitive neuroscience, cognitive linguistics, cognitive anthropology and computer science. (http://cognitivescience.umcs.lublin.pl/learning-outcomes)

What should be noted in the definition of this learning outcome is the repetition of the adjective "cognitive" added to different disciplines, which suggests orientation of more general fields of knowledge towards the specificity of cognitivism. Such fields – with their adjectival pre-modification – are used in other learning outcomes within the category of knowledge and with "computational" aspects added. Linguistic and semiotic studies appear quite frequently, as, for example in K_W12: "Students describe in detail cognitive systems within selected approach in cognitive science: philosophical, linguistic, semiotic, psychological-neuroscientific or computational" (http://cognitivescience.umcs.lublin.pl/learning-outcomes). Again, the learning outcome covers the fields listed on Studia.net; yet, it treats the cognitive aspect as the overriding category. In terms of the main objective of the essay, I would argue that any direct reference to literary studies is completely absent, which, nevertheless, on the level of learning outcomes, does not mean that the connection between cognitive science and literary studies is not possible: some kind of a loophole can be exploited through an analysis of the learning outcome listed as K_W16: "Students characterize basic principles of formulating and justifying hypotheses – within the humanities and natural sciences" (http://cognitivescience.umcs.lublin.pl/learning-outcomes). Literary research is predominantly within Humanities;

thus, the learning outcomes makes the interdisciplinary connection between those two areas attainable.

What is more, semiotics, which features in the learning outcomes within the "Knowledge and understanding" and which is also enumerated in the basic description of cognitive science (http://www.studia.net/ kognitywistyka) is frequently included as part of the theoretical framework in literary research. Again, my direct example would be the MA thesis by Natalia Sabiniarz. In "The role of the clown. A contrastive semiotic approach to the figure of Shakespeare's clown in comedies and tragedies" semiotics is the major theoretical basis of discussion (https://apd.umk.pl/ diplomas/63472/). The learning outcome specified as K_W19, which reads that "[s]tudents discuss the role of signs and language in creating of a world-view; they underline also the influence of signs and language on perception and understanding of reality" (http://cognitivescience.umcs.lublin.pl/ learning-outcomes)and which explicitly relates to semiotics, if moved out of empirically-experienced reality and into the representation of it in literary works, can also be used to harbour literary research in cognitive science. Yet in this respect the potential link between cognitivism and literary research, as visible on the level of learning outcomes, is as well possible according to more general descriptions of cognitive science which specify semiotics as one of related fields (http://www.studia.net/kognitywistyka).

The extensive list of learning outcomes within the category of knowledge apparently demonstrates the theoretical nature of the cognitive science programme; yet, the list of learning outcomes which relate to skills includes as many as nineteen elements (and there are twenty-three learning outcomes in terms of knowledge) (http://cognitivescience.umcs.lublin.pl/ learning-outcomes). What is noteworthy is that, if learning outcomes within the category of knowledge from the very beginning are quite specific in terms of fields, areas and disciplines, the list of skills also includes more general learning outcomes, which do not necessarily refer to cognitive science and its interdisciplinary approaches and bases. By way of illustration, as defined and specified in K_U03, "students will be able to […] search for, analyse and select information using different sources and methods," in K_U05, which reads that students should "formulate a research problem, indicate example solutions, elaborate and present outcomes," or in K_U06, according to which students can "formulate hypotheses, justify them – in the fields of humanities and natural sciences" (http://cognitivescience.umcs.lublin. pl/learning-outcomes). The aforementioned examples, even if they do not explicitly mention literary disciplines, enable – yet do not promote – such interdisciplinary research with inclusion of literature and literary research –

treated, as a matter of fact, as a constituent within the humanistic academic disciplines. Most learning outcomes within the skills category nevertheless relate to the cognitive field specificity, as noticeable in the definition of K_U19: on completion of the programme students will be able to "design a simple computational model of a cognitive process (or its aspect) using existing, available cognitive architectures or programming languages of artificial intelligence" (http://cognitivescience.umcs.lublin.pl/learning-outcomes).

Learning outcomes within the category of "Personal and social attitudes" constitute only ten entries, the least extensive list in comparison to the knowledge and skills groups, which, in general, is a common practice in general-academic kinds of studies (http://cognitivescience.umcs.lublin.pl/learning-outcomes). The learning outcomes within the social competences category are formulated and defined in a very broad manner and most entries are quite distant from cognitive science as such. For example, the learning outcome K_K02 reads that "students actively communicate with others: transfer their knowledge, acquire new knowledge, take part in a scientific debate" (http://cognitivescience.umcs.lublin.pl/learning-outcomes). However, two learning outcomes refer specifically, explicitly or implicitly, to cognitive science – in accordance with K_K04, "students understand the need to transfer [communicate] information concerning the achievements of cognitive science and its disciplines to the society (e.g. via mass media)"; and with K_K05, which reads that "students realize the differences in value of popular knowledge concerning mind and a brain" (http://cognitivescience.umcs.lublin.pl/learning-outcomes). In none of the learning outcomes the connection between cognitive and literary research is implied and even the inter-area character of cognitive science, perhaps with the exception of K_K04, is not mentioned either. Thus, there is no explicit invitation to connect cognitive science and literature on the level of the learning outcomes within the category of social competences which can be achieved after completion of the BA programme. Some implicit connection between the two areas may be deduced from the learning outcomes within the category of knowledge, for example in K_W04 (http://cognitivescience.umcs.lublin.pl/learning-outcomes); nevertheless, the same conclusion can be drawn in more general descriptions of such studies, as in the one available on Studia.net (http://www.studia.net/kognitywistyka).

The same university offers a cognitive science programme on the MA level; yet, the learning outcomes are only available in Polish. A frequently discernible observation concerning the same programme offered on two levels is that the learning outcomes on the MA level are advanced redefinitions

of those found in the undergraduate-level specification of outcomes. As regards the MA programme prepared by Marie Curie-Skłodowska University in Lublin, the relation between the BA and MA levels looks quite different. By way of illustration, in accordance with general descriptions of cognitive studies (http://www.studia.net/kognitywistyka), some learning outcomes – within the category of knowledge – refer to cognitive terminology, cognitive fields and systems, developments of cognitivism, application of semiotic and linguistic systems (http://kognitywistyka.umcs.lublin.pl/efekty-ksztalcenia-2). The MA outcomes provide for more than just advanced versions of their BA equivalents: they are specified in a different manner with even less relevance to the interdisciplinary features of cognitive research and the fields specified in general descriptions of cognitive studies (http://www. studia.net/kognitywistyka). The prospect of cognitive and literary studies construction is not even implied, perhaps only hinted at in K2_W20, which, among other aspects, deals with "use of languages for […] shaping convictions and opinions" (http://kognitywistyka.umcs.lublin.pl/efekty-ksztalcenia-2). This learning outcome, if combined with an analysis of literary texts created for didactic purposes, enables exploration of such literature from a cognitive perspective.

An analysis of the learning outcomes within the category of skills yields similar results: the skills to be acquired through participation in the MA courses are not only more advanced skills than those offered on the BA level: these are written in a more general manner. However, there is one learning outcome which perhaps implies the connection between cognitive science and literary studies. The learning outcome K2_U07 reads that students "can profoundly and logically analyse selected messages and texts from the perspective of linguistics and semiotics; the student uses such analyses in descriptions of modelling of selected cognitive processes" (http://kognitywistyka.umcs. lublin.pl/efekty-ksztalcenia-2). Literary works are specific kinds of texts and messages; thus, they can be subject to such analyses as the ones postulated in K2_U07. Other possibilities of such cognitive-literary combination relate to "the perspectives of linguistics and semiotics;" yet, these are also discernible on the level beyond the learning outcomes (http://www.studia. net/kognitywistyka). Disappointingly, it is the only learning outcome which makes the connection between cognitive science and literary research clearly possible. Searching for a similar possibility is in vain within the category of social competences, which, in contrast to the knowledge- and skills-related learning outcomes, are extensively constructed upon their BA equivalents. Still, they do not unequivocally account for the possibility of linking cognitive and literary research.

In the BA Cognitive Studies programme offered by Marie Curie-Skłodowska University, the knowledge category contains the largest number of learning outcomes, which gives the programme a rather theoretical orientation. The study programme conducted by the Jagiellonian University targets skills, which represent the largest number of outcomes (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf). On the BA level, there are twelve knowledge learning outcomes, sixteen skills learning outcomes and thirteen social-competences learning outcomes. The number of social competences is impressive as the programme assumes completion of more such competences than aspects of knowledge. (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf)

In the specification of the learning outcomes, the knowledge acquired in the educational process is predominantly related to the status and origins of cognitive science in the context of other fields of studies (K_W01 and K_W04), as visible on more general descriptive levels of cognitive studies (http://www.studia.net/kognitywistyka), to "basic terminologies and methodologies within cognitive science" (K_W02, K_W03 and K_W03) and to the application of cognitive studies in other spheres (K_W07) (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf). Some learning outcomes within the category of knowledge do not concern cognitive science at all (K_W11 and K_W12) (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalacz niki_do_uchwaly_nr34_efekty_ksztalcenia.pdf). In none of the learning outcomes the student is directly invited to combine cognitive and literary research, although K_W08 – "the student has basic knowledge on the presence of interdisciplinary of cognitive ideas in the spheres of science, culture and economy – implicitly enables such combination (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf). Comparing the knowledge included in the learning outcomes specification of Marie Curie-Skłodowska University and of the Jagiellonian University, I would argue that the former includes more specific learning outcomes with an emphasis on definite fields upon which cognitive science rests – the latter mentions such areas as "philosophy, logic, psychology, neurophysiology, linguistics and Artificial Intelligence sciences," for example, K_W05 (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf; http://www.studia.net/kognitywistyka), yet such areas appear in single learning outcomes.

In terms of skills, the graduate will be able to "identify and solve cognitive problems by means of appropriate cognitive tools […]," as read in the description of the learning outcome K_U03 (http://www.dn.uj.edu.pl/ documents/1333504/5504504/28.03.2012_zalaczniki_do_   uchwaly_nr34_ efekty_ksztalcenia.pdf). And most of other skills-developing learning outcomes revolve around cognitive studies. None of them, I would argue, makes it possible for the student to use cognitive frameworks in literary analysis and the learning outcome K_U16 unambiguously addresses "integration of knowledge from various cognitive sciences" (http://www.dn.uj.edu.pl/ documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_ efekty_ksztalcenia.pdf). In the social competences category, there is one learning outcome which encourages the student to extend his or her research beyond cognitive science. K_K05 reads in the following way: "the student is open to new theories, arguments, counter-arguments, ideas and attitudes which he or she seeks to approach and understand, and which can make the student consider changing his or her own stance" http://www.dn.uj.edu. pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_nr34_ efekty_ksztalcenia.pdf). Nevertheless, literary research does not entertain a unique status within the "new theories." In general, there is little possibility that the course subjects which are supposed to develop the students' knowledge, skills and social competences in the direction of the outcomes specified in the Jagiellonian University documentation would offer encouragement to combine cognitive and literary research.

The Jagiellonian University also conducts the cognitive science studies on the MA level (http://www.dn.uj.edu.pl/documents/1333504/5504504/28.03.2012_ zalaczniki_do_uchwaly_nr34_efekty_ksztalcenia.pdf). The student will work towards completion of more advanced-level outcomes, yet, in terms of their content, they are largely linked to the knowledge, skills and competences obtained in the course of the cognitive science BA programme (http://www.dn.uj. edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_ nr34_efekty_ksztalcenia.pdf). Along the same lines, if linguistics is mentioned in some of the learning outcomes (K_W06) in accordance with general descriptions of cognitive studies (http://www.studia.net/kognitywistyka), aspects of literary research are absent. It is noteworthy that the learning outcome K_K05 reads the same as the social competence on the BA level, and thus can be treated as an implicit invitation to exploration of the combination of cognitivism and literature; yet, to make matters complicated, the learning outcome K_U09 states that "the student applies knowledge drawn from cognitive sciences to critically analyse phenomena, activities and programmes within education, economy, art, medicine, laws and politics" http://www.dn.uj.

edu.pl/documents/1333504/5504504/28.03.2012_zalaczniki_do_uchwaly_
nr34_efekty_ksztalcenia.pdf). Unfortunately, literature is not included in none
of the areas mentioned and, surprisingly, there is no reference to culture; instead,
the possibility of research combining cognitive science and art is provided for.

Adam Mickiewicz University in Poznań gives a description of the learning
outcomes in Polish in the link (https://rejestracja.amu.edu.pl/Strona/Pliki/
Wydzialy/Wydzial-Nauk-Spolecznych/Efekty-ksztalcenia/Zalacznik-nr-
1-WNS-kognitywistyka-I-stopien.pdf) directed from the section for its
candidates (https://rejestracja.amu.edu.pl/Strona/Kierunki/Szczegoly/Kogni
tywistyka-(DLx-Kog)). The university conducts the cognitive science
studies programme on the BA level (https://rejestracja.amu.edu.pl/Strona/
Kierunki/Szczegoly/Kognitywistyka-(DLx-Kog)), similar to the University
of Warsaw (https://irk.uw.edu.pl/katalog.php?op=info&id=S1-KOG),
whereas Nicolaus Copernicus University in Toruń offers a Cognitive
Science study programme on both levels of tertiary education (https://irk.
umk.pl/2014/katalog.php?op=info&id=09510271&kategoria=studia_1 and
https://irk.umk.pl/2014/katalog.php?op=info&id=09510371&kategoria=
studia_2). The specifications of learning outcomes can be easily accessed
in the case of each of the universities enumerated. An analysis of the learning
outcomes (see, for example, http://portal.umk.pl/c/document_library/get_
file?uuid=2371fce8-e49a-49e2-a94a-43acadda093a&groupId=13040/#659
and http://portal.umk.pl/c/document_library/get_file?uuid=73fa40bb-a5c8-
45b6-8e10-d1c7647ddeb2&groupId=13040#659).supports my observations
on the lack of direct relation between cognitive and literary studies
illustrated on the basis of the learning outcomes specifications previously
analysed in detail, and confirms the presence of interdisciplinary research
within such fields as philosophy, semiotics and linguistics, as stated on www.
studia.net/kognitywistyka. On the level of learning outcomes descriptions,
none of the universities have moved cognitive science towards teaching
explicit application of cognitivism in literary research. In terms of more
indirect possibilities for such combinations, I did not notice more extensive
options than those implied in some of the previously discussed learning
outcomes – the most conspicuous exception is inclusion of the humanities
in which students are invited to explore selected problems (K_U06 – one
of the learning outcomes in the cognitive science programme offered by
Marie Curie-Skłodowska University) (http://cognitivescience.umcs.lublin.
pl/learning-outcomes).

I would like to refer to the description of the cognitive science study
programme made available by the University of Szczecin. The learning
outcomes to be achieved by the student as the result of his or her participation

in the cognitive science studies offered by the University of Szczecin cannot be easily accessed; nevertheless, the university launched a promotional and informational website which, at least briefly, presents a profile of the programme. The profile stresses the "interdisciplinary" character of cognitive science (http://kognitywistykanaus.pl/), similar to cognitive learning outcomes specified by other universities and to a general description of cognitive science (http://www.studia.net/kognitywistyka). However, I would argue that the most crucial bit of information concerns inclusion of "culture studies" in the group of areas "integrated" within cognitive science (http://kognitywistykanaus.pl/). This, at least, opens up a more achievable possibility for combining cognitive and literary studies, closely related to culture studies or, in some respects, for example research into adaptation, part of such studies.

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