MANAGEMENT OF MANAGEMENT OF MANAGEMENT... AND HOW TO DEVELOP MANAGEMENT CURRICULUM

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ABSTRACT

Some schools of management and institutions with long-standing experience in managerial education have recently started questioning and changing approaches and contents of their curricula, prompted by intensified globalisation processes and the necessity for integrating and specialising managerial knowledge on the one hand as well as disastrous results of managerial practice. Booming of schools of management in the world, as well as in the Republic of Croatia was the reason for investigating management curricula on some world class school of management as well as those in Republic of Croatia. Creation of management curriculum was proposed by using of ontology.

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Key words: management, curriculum, ontology

INTRODUCTION

Schools of management in the world, as well as in the Republic of Croatia, are booming. They are being developed on several levels: vocational studies, undergraduate, graduate and postgraduate studies and life-long education. Education is received in terms of "pure" studies of management (schools and study programmes) and, especially in the Republic of Croatia, within study programmes of business economics as separate courses of study (management), as courses of study of management disciplines (managerial economics, management, or managerial courses of study of other disciplines within the studies of business economics and other studies).

Some schools of management and institutions with long-standing experience in managerial education (Yale School of Management, MIT Sloan School of Management, Academy of Management, Institute of Management Science, Academy of Service Management etc.) have recently started questioning and changing approaches and contents of their curricula, prompted by intensified globalisation processes and the necessity for integrating and specialising managerial knowledge on the one hand as well as disastrous results of managerial practice with far-reaching social implications on the other hand. The question is if socially unacceptable behaviour of managers that has brought us to the "gloomy vision of economy" is the result or the implication of inappropriate managerial education and if higher education institutions where managers are educated are responsible for this situation.

Several scholars have recently voiced their concerns about the current state of management research and pedagogy (Pfeffer, J., Fong, C.T.;2002,78-85), (Mintzberg, H., Gosling, J.;2002,64-76), (Donaldson, L.;2002,96-106).

Ghosal (Ghoshal;2005,76) pointed: "In the main, their arguments have focused on the lack of impact of management research on management practice and the lack of effectiveness of management education for business performance students".

On the other hand, Ghoshal (Ghoshal;2005,76) raises a different concern. He argues "that academic research related to the conduct of business and management has had some very significant and negative influences on the practice of management" More specifically, he suggests "that by propagating ideologically inspired amoral theories, business schools have actively freed their students from any sense of moral responsibility".

Ghoshal explains his arguments in the following way:

a) the development process of schools of management and their attempts to adopt the "scientific" models, which Hayek described as "pretence of knowledge", underlining that management "theories" are based on partialization of analysis, the exclusion of any role for human intentionality or choice, and the use of sharp assumption and deductive reasoning." The result of pretence of knowledge is the fact that most managerial knowledge is of paradigmatic
b) Ideology-based gloomy vision – described by Milton Friedman as (neo) liberalism which is grounded in a set of pessimistic assumptions about both individuals and institutions whose primary purpose is solving "negative prob-

lems". The result of this ideology is that managers more frequently rely on adapting and solving problems and not on creating new values.

c) Combined together, (a) and (b) has led management research increasingly in direction of making excessive truth-claims based on partial analysis and unbalanced assumptions. Since the theories influence practice, and managers adopt theorists' worldview, the consequence is :

d) Negative assumptions became real through the process of double hermeneutics.

This double hermeneutics has lead to both diverse interpretations of "management theories" in practice and different interpretations of validity of underlying theories in "scientific management" within academic circles.

The leading schools of management, with their good intentions but also with deeply rooted pretence-of-knowledge philosophy, have introduced the scholarship of discovery, decreasing the importance of other kinds of scholarships (scholarship of practice, scholarship of integration (synthesis) and scholarship of teaching - pedagogy). The majority of other schools, who are followers (especially in the economies that did not have a tradition in managerial education) have become (bad) interpreters of acquired paradigms[1].

On the other hand, "obsessed as they are with "real world" and sceptical as most of them are of all theories, managers are no exception to the intellectual slavery of "practical men"." (Keynes;1953,309), cited by (Ghoshal;2005,75). Knowledge, mostly paradigmatic and not deeply analytic (cause-and-effect type of knowledge), have given "practical managers" an occasional footing when looking for practical solutions or, on the contrary, when justifying failures.

Torch bearers of academic management will readily ask questions if the catastrophic results in practice are to be blamed on the managers educated through managerial studies or if they are the work of some other, self-proclaimed managers with no, insufficient or partial academic management background.

[1] When creating curricula of our study programmes, based on the ideas of the Bologna declaration, we were given instructions to include at least five European or world known universities that have a list of courses offered in our curricula. Since management in our economy was still in its puberty at that time, one could ask whether the creators of management curricula (or, more precisely, of syllabuses as lists of courses!) in higher education institutions had the opportunity, the possibility and most of all knowledge, experience and ability to evaluate the validity of contents that were "the argument" to initiate study programmes, courses of study and courses, whose image we have offered as a model for development.

The hierarchical nature of management and unclear borders between levels, from the operational, tactical, strategic (in more or less complex business systems), to governance which is a transformational kind of management over another kind of "object of management" as well as frequent role changes, leave failure "suspects", including those with academic management background, with little room for hiding.

What are the domains of knowledge that a manager (general type of manager) should possess and what kinds of knowledge are offered today in academic management education? The answer to this question does not seem complicated when it comes to relatively narrow areas of human practice and academic education. Nevertheless, management is a broad term by nature and its complexity is increased due to unclear borders it shares with other social and natural sciences.

The aim of this paper is to define the curriculum of general management by analyzing the syllabuses of management studies ("body of knowledge"), and the purpose would be knowledge sharing, its continuous usage, upgrading and updating by developing management ontology.

MANAGEMENT STUDY PROGRAMMES IN THE REPUBLIC OF CROATIA

The overview of registered study programmes that cover management of all kinds and are provided at different levels (vocational, undergraduate, graduate, postgraduate, doctoral) can be found at MOZVAG, web portal of Information system of Agency of science and higher education of Ministry of education, science and sports of Republic of Croatia. According to the data from the cited source, the number of study programmes of different kinds of management is 61.

Those programmes that include in its name Management and that are taught as courses of study within business economics at undergraduate and graduate levels have been chosen to be analysed as management curricula. The following are included:

The course of study Management within the study of Business Economics in Dubrovnik (undergraduate)

The course of study Management within the study of Business Economics at the Faculty of Economics in Osijek (undergraduate and graduate studies)

The course of study Management within the study of Business Economics in Pula (undergraduate and graduate studies)

The course of study Management within the study of Business Economics in Zadar (undergraduate and graduate studies)

The course of study Management within the study of Business Economics in Zagreb (undergraduate and graduate studies)

The similarities of management programmes in Croatia lie in the relatively high number of courses providing supportive managerial knowledge (common fundamental courses). All undergraduate studies have the 'managerial' course entitled Management, and in five cases there is also Human Resources Management. Other (core and elective) courses differ from one programme to the other, encompassing a range of methodological disciplines of management, managerial business functions, types of business systems and levels of management. Graduate studies continue the "specializations" commenced at undergraduate level. In this context, the prospective manager can gain a desirable framework of managerial knowledge, but these competencies are fragmented in uncoordinated islands of knowledge which are difficult to integrate. In addition, graduates are not provided with the competence to carry out such integration (Mesarić; 2007,218)) The key competence of a manager raised on fragmented managerial knowledge is adaptability rather than creativity and leadership. Together with the accompanying pedagogy, the latter concepts are at the heart of curriculum "reengineering" described in the introduction.

General management curricula in the Republic of Croatia have yet to show results. One may wonder about the reasons for the doubts expressed here if verification is still ahead of us. Given that in creating our syllabuses (not curricula) there was frequently indiscriminate acceptance of role models which are now undergoing changes, it is justified to propose an overhaul of management curricula, as well as of other curricula belonging to business economics studies.

WHAT IS A CURRICULUM AND HOW IS IT DEVELOPED?

In a broad sense, a curriculum can be understood as a course of (trans)formative experience that can include experiences gathered in formal education as well as directed and undirected and take place outside of school (Whitson, J.A.;2006). In formal education or schooling (cf. education), a curriculum is simply understood as

a set of courses, course work, and content offered at a school or university. According to, (Smith M. K.;1996,2000) the current curriculum theories can be seen:

- as a body of knowledge (syllabus) to be transmitted
- as an attempt to achieve certain ends in students – product
- as process
- as praxis

An approach to curriculum theory and practice which focuses on syllabus is only really concerned with content. Curriculum is a body of knowledge - content and/or subjects. Education in this sense is the process by which these are transmitted or 'delivered' to students by the most effective methods that can be devised (Blenkin et al;1992,23).

A curriculum should be productive in a sense of achieving set objectives. In this case, there have to be criteria for measuring "productivity", and the outcomes are usually broken down into smaller units. The issues that exist in this approach is who sets the goals, if they can be anticipated during the implementation period and who, what and by what criteria is being measured when it comes to the productivity of knowledge that is transferred.

To see curriculum as a particular type of process means to observe a multitude of elements in the constant interaction of teachers (that have "an ability to think critically, in-action, an understanding of their role and the expectations others have of them, and a proposal for action which sets out essential principles and features of the educational encounter. With all positive aspects of this approach, certain issues arise and they deal with the quality of a teacher and classroom pedagogy.

In the curriculum as praxis approach, curriculum itself develops through the dynamic interaction of action and reflection. That is, the curriculum is not simply a set of plans to be implemented, but rather is constituted through an active process in which planning, acting and evaluating are all reciprocally related and integrated into the process" (Grundy;1987,115). At its centre is praxis: informed, committed action. When creating a curriculum of a certain discipline, the first step is usually the formulation of desired/required body of knowledge. Curriculum analyses are conducted by confronting course contents and underlying pedagogy with the suggested body of knowledge.

AN APPROACH TO CREATING MANAGEMENT CURRICULUM

The creation of a curriculum in an increasing number of schools of management is based on:

- basic functions of management (planning, organizing, leading, coordinating, controlling, staffing, motivating)
- formation of business policy
- implementations of policies and strategies
- multidivisional management hierarchy
- general and specific knowledge of certain areas
- methodological foundations and related pedagogy etc.

At the same time, these curricula are expanding into more and more areas and encompassing a higher number of implementation categories.

The body of knowledge of general management (seen as a number of courses in a syllabus) has increased in this way and offers a number of possibilities for its utilization in a chosen context.

Generally speaking, new approaches to revising management curricula are being carried out in some of the following contexts:

- linear growth of acquired management paradigms into new areas of management without changes in philosophical and sociological context of management (expanding the horizons into an increasing number of "whats")
- placing managers into central organizational context - (manager in the position of a competitor, organizer of funds sourcing, investor, innovator, state and society connector, employee, "operation engine" of global macro economy, customer and negotiator (Yale School of Management; New management curriculum) in which the answer to the questions "who" and "how" have to be found, in the new socio-economic context after which managerial skills are implemented into specific areas. The approach from integration towards specialisations (at first a small number of orientational disciplines, followed by integrated management perspectives and specialisation)
- expanding the acquired management paradigms to new theories and new methodological concepts from different management disciplines (a high number of more or less relevant disciplines, and only after this follows the integration and/or specialisation)

In the following text we shall propose curriculum development by means of management ontology. Through class and attribute hierarchies and their instances

ontologies make it possible for concepts to be simultaneously fragmented and integrated, which will provide for better understanding of the complex management domain.

DEVELOPMENT OF A CURRICULUM BY USING ONTOLOGY

There are a number of related works and curricula that have been developed by using ontologies. To mention only a few: (Kincheloe;2003,47-64), (Yu-Liang Chi;2009, 136-140), (Dicheva et al;2005), (Ronchetti, Sant;2007), (Lovrenčić, Čubrilo; 2007,35-41) (Milam;2003), (Song; 2005). The development of ontology is a complex task that demands the knowledge of classes and relations within a specific domain. The development of ontologies is currently facilitated by the use of software solutions which enable a relatively fast development and evaluation of an ontology (ontological editors, in which classes, attributes and relations are defined, questions are raised and graphic solutions of project ontologies are created). The problem with the development of ontologies is that they are never fully developed. Moreover, before even starting an ontology development, the ontology creators have to define objectives and ask questions that the ontology should provide answers for.

In computer science and information science, ontology is a formal representation of the knowledge by a set of concepts within a domain and the relationships between those concepts. It is used to reason about the properties of that domain, and may be used to describe the domain. In theory connected to the information science, an ontology is a "formal, explicit specification of a shared conceptualisation". (Gruber; 1993,1). „An ontology provides a shared vocabulary, which can be used to model a domain — that is, the type of objects and/or concepts that exist, and their properties and relations" (http://en.wikipedia.org/wiki/Ontology_(computer_science))

Common components of ontologies include:

- Individuals: instances or objects (the basic or "ground level" objects)
- Classes: sets, collections, concepts, classes in programming, types of objects, or kinds of things.
- Attributes: aspects, properties, features, characteristics, or parameters that objects (and classes) can have
- Relations: ways in which classes and individuals can be related to one another

- Function terms: complex structures formed from certain relations that can be used in place of an individual term in a statement
- Restrictions: formally stated descriptions of what must be true in order for some assertion to be accepted as input
- Rules: statements in the form of an if-then (antecedent-consequent) sentence that describe the logical inferences that can be drawn from an assertion in a particular form
- Axioms: assertions (including rules) in a logical form that together comprise the overall theory that the ontology describes in its domain of application.
- Events: the changing of attributes or relations

If an ontological domain is precisely defined, concepts, classes, attributes and relations are created by means of ontological tools. On the other hand, if a domain, as in the case of general management, is broadly defined, one has to understand how such domain relates to the so-called upper ontologies. SUMO ontology (Suggested Upper Merged Ontology) is the upper ontology that was used to investigate concepts on which usable domain ontologies can be developed. Each research domain has its own unique thesaurus which represents a basis for the creation of an ontology. Some available thesauruses (economics-related thesauruses) and ontologies developed from them can partly be used to develop a management thesaurus and ontology based on it. (Management Thesaurus, http://libraryds.grenoble- em.com/en/services_missions/Pages/Thesaurus_ Management.aspx) , and (Thesaurus of Economic, Social and Cultural Rights, http://shr.aaas.org/thesaurus/) STW Thesaurus for Economics, http://zbw.eu/stw/versions/latest/about)

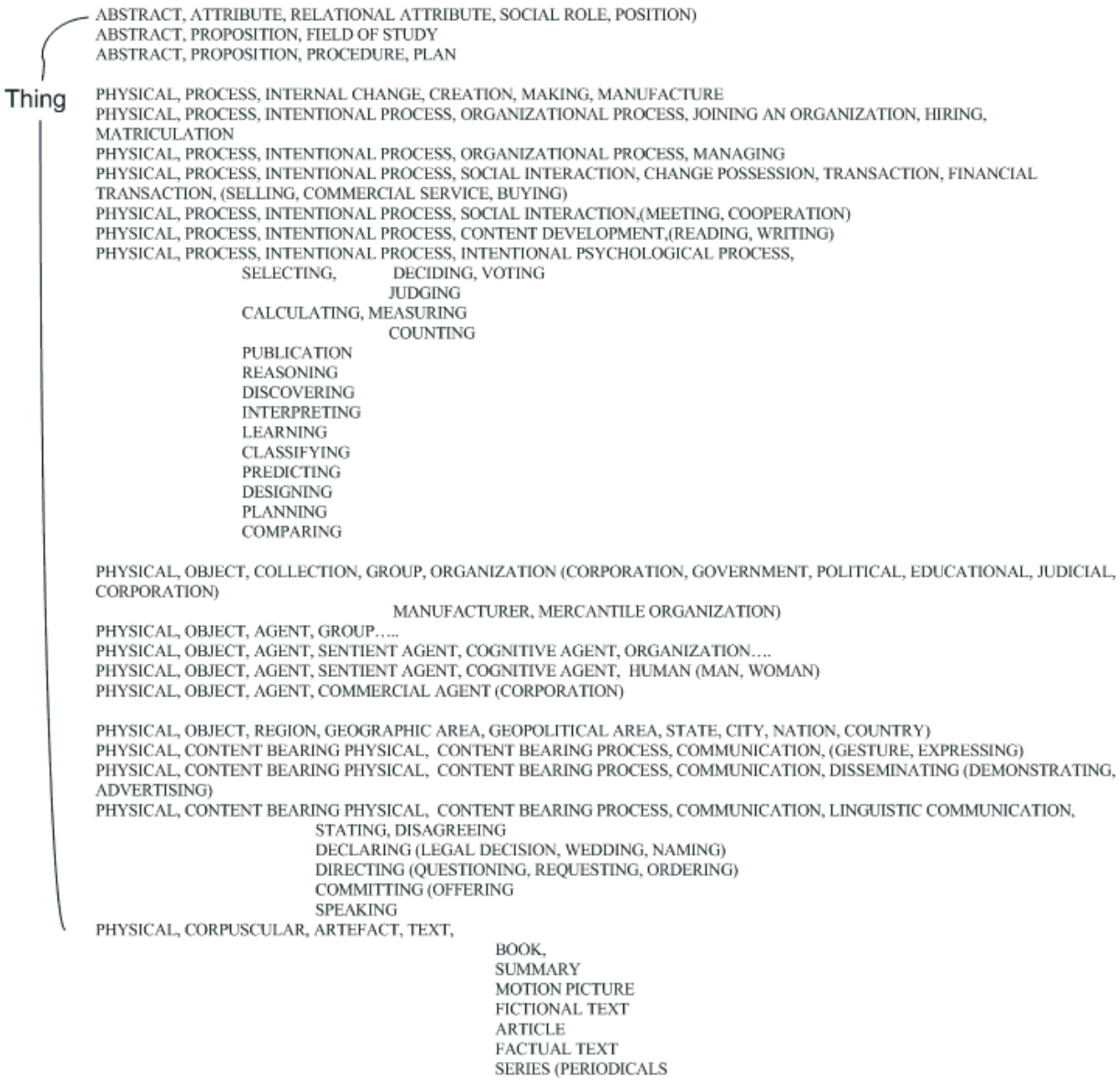
WHAT IS MANAGEMENT AND WHAT ARE THE FUNDAMENTAL CONCEPTS OF MANAGEMENT EDUCATION?

Beginning with the management practice and management curricula, the following meanings of the noun management can be noticed:

- The practice of management
- A study discipline
- Organisational structure in a firm, among a group of people
- A university course
- A university course of study (programme)
- Methodology...

By placing management in the context of upper ontology (in this case SUMO ontology), management belongs to the following classes (Figure 1):

Figure 1. Management as a part of SUMO ontology classes



DEVELOPMENT OF THE DOMAIN ONTOLOGY OF MANAGEMENT

The purpose of creating domain ontology (Noy, McGuinness; 2001,1) might be:

- To share common understanding of the structure of information among people or software agents
- To enable reuse of domain knowledge

- To make domain assumptions explicit
- To separate domain knowledge from the operational knowledge
- To analyze domain knowledge

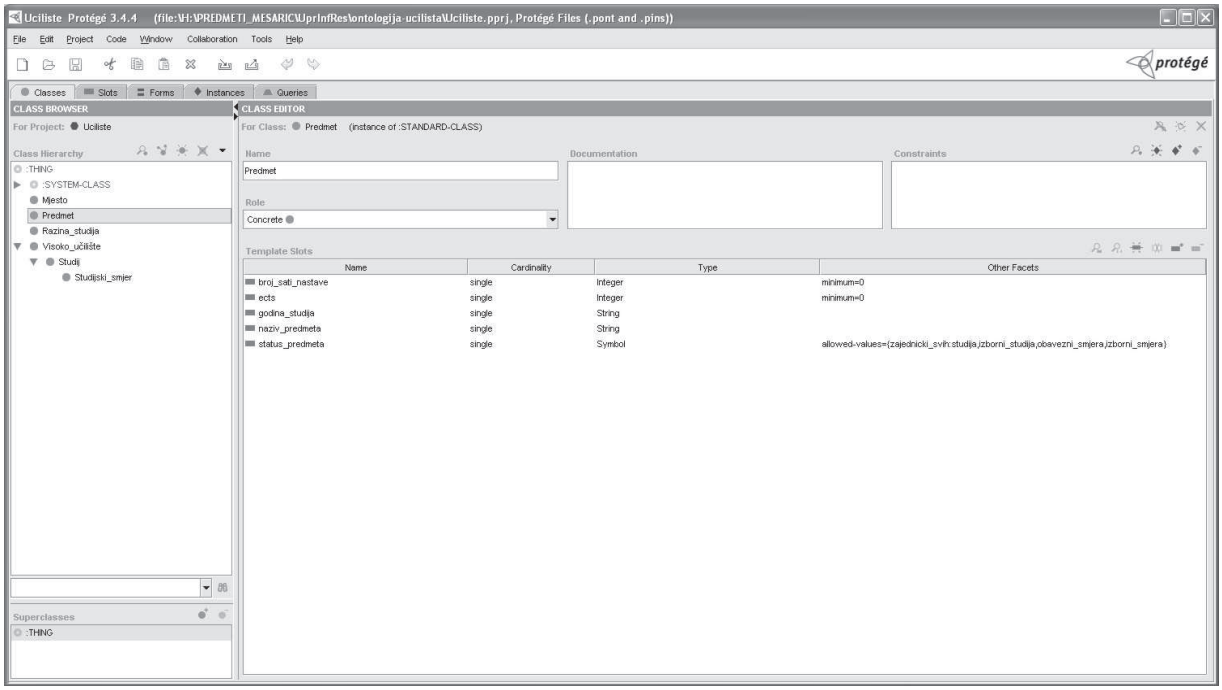
Also according to (Ontology, http://edutechwiki.unige.ch/en/Ontology#Limitations):

- To enable a machine to use the knowledge in some application.
- To enable multiple machines to share their knowledge.
- To help yourself understand some area of knowledge better.
- To help other people understand some area of knowledge.
- To help people reach a consensus in their understanding of some area of knowledge.

For the time being, the purpose of creating a simple management ontology that is planned to be developed is to determine where and what kind of management is taught at institutions of higher education in Croatia, what is comprised in the syllabuses of those study programmes, which narrower domains they belong to and which pedagogy they are based on.

A part of the initial ontology developed in Protege ontological editor is shown in Figure 2.

Figure 2. Part of initial ontology of management developed in Protege ontology editor



Ontology, like other methods and concepts used in curriculum development has "inherent biases derived from their respective domains, cultures, purposes and the environment in which their entities exist."(Shirky;2005)

CONCLUSION

Management as a scientific and practical discipline is being continuously developed, resulting in good solutions or solutions with acceptable or unacceptable consequences. The confrontation of management theory and practice, which are interconnected, implicating mutual changes in their spiral of development, shows that results on both sides can have unexpected consequences.

Similarly to other social sciences, management is self-fulfilling, which means that new (as a rule paradigmatic) "theories" change the existing practice and vice versa, i.e. some at a given moment accepted solutions of good practice become the basis for creating new theories. The changes in academic management education have been caused by the insights from management disciplines, management practice, other social sciences, as well as by requirements for institutions of higher education to take responsibility for consequences at all levels of management practice.

The leading universities with a long tradition in academic management education subject their curricula to changes with the aim of a more precise management

positioning within the given socioeconomic context. Similar projects should be undertaken by the institutions of higher education that provide academic management education in the Republic of Croatia, where management education and management practice do not have a deeply rooted tradition. Deviant behaviour and catastrophic results in management practice that have caused a "gloomy vision of economy" should be the reason for management academics to face the facts and take an active role in the necessary changes by immediately questioning current management curricula and the related pedagogy.

REFERENCES

1. Blenkin, G. M., Kelly, V.A., Change and the Curricula, Paul Chapman, London, (1992), ISBN 1 85396 154 X
2. Dexter, H., Davies, I, (2009) An Ontology-Based Curriculum Knowledgebase for Managing Complexity and Change, , Ninth IEEE International Conference on Advanced Learning Technologies, Riga, July 15-17, 2009, pp.136-140 ISBN 978-0-7695-2916-5
3. Dicheva, D. et al, (2005) Ontological Web Portal for Educational Ontologies, International Workshop on Applications of Semantic Web Technologies for E-Learning (SW-EL), Amsterdam, 18-22.05.2005 ISBN - ISSN:0922-6389 , 1-58603-530-4
4. Raspoloživo na: http://www.win.tue.nl/SW-EL/2005/swel05-aied05/swel05-aied05-program.html (10.03.2010)
5. Donaldson, L., (2002) Damned by Our Own Theories: Contradictions Between Theories and Management Education, . Academy of Management Learning & Education, 96, 96-106, 1(1) ISSN: 1537-260X
7. Gruber T, (1993) Toward Principles for the Design of Ontologies Used for Knowledge Sharing, In International Journal Human-Computer Studies 43, p.907-928. Substantial revision of paper presented at the International Workshop on Formal Ontology, March, 1993, Padova, Italy. Available as Technical Report KSL 93-04, Knowledge Systems Laboratory, Stanford University
8. Huazhu Song et al, (2005) Constructing an Ontology for Web-based Learning Resource Repository,

9. Dostupno na: http://www.win.tue.nl/SW-EL/2005/ swel05- kcap05/proceedings/Poster-3-Huazhu.pdf

10. http://en.wikipedia.org/wiki/Ontology_(computer_science) (09.03.2010)

11. Kincheloe, J.L., (2003) Critical ontology: Visions of selfhood and curriculum JCT: Journal of Curriculum Theorizing. 19, 1, pp. 47-64**.,** ISSN**:** 1942-2563

12. Lovrenčić, S., Čubrilo, M., (2007) Ontologies in the Higher Education Domain, Proceedings of the 18th International Conference on Information and Intelligent Systems / Aurer, Boris ; Bača, Miroslav (ed). - Varaždin : Fakultet organizacije i informatike Varaždin , 35-41 (ISBN: 978-953-6071-30-2).

13. Management Thesaurus, http://libraryds.grenoble- em.com/en/services_missions/Pages/Thesaurus_ Management.aspx

14. Mesarić, J. Integracija znanja u obrazovanju, presented on XIV International Scientific Conference Society and Technology, Zadar, June 28-30 th 2007. Published in INFORMATOLOGIA, 40, 2007, 3 pp 216-222, UDK 007: 659.3:37, ISSN 1330-0067

15. Milam, J. (2003) Ontologies in Higher Education, Inxight, 2003, p. 2. HigherEd.org, Inc. Raspoloživo na: http://highered.org/docs/milamontology.pdf (02.03.2010.)

16. Mintzberg, H., Gosling, J. (2002) Education Managers Beyond Borders, Academy of Management Learning & Education, 64-76, 1(1) ISSN: 1537-260X

17. MOZVAG - http://mozvag.srce.hr/preglednik/pregled/brzo/traziNaziv?naziv=menad%C5%BEment (10.03.2010)

18. Noy, F.N., McGuinness, D. (2001) ``Ontology Development 101: A Guide to Creating Your First Ontology". Stanford Knowledge Systems Laboratory Technical Report KSL-01-05 and Stanford Medical Informatics Technical Report SMI-2001-0880, March 2001.

19. Ontology, http://edutechwiki.unige.ch/en/Ontology#Limitations) (02.02.2010)

20. Pfeffer, J., Fong, C.T. (2002) The end of business schools? Less success then meet the eye, Academy of Management Learning & Education, 79, 78-95, 1(1) ISSN: 1537-260X

21. Ronchetti, M., Sant, J. (2007) Curriculum Management and Review: an ontology-based solution, April 2007, Technical Report # DIT-07-021, Raspoloživo na: http://eprints.biblio.unitn.it/archive/00001195/01/dtr-07-021.pdf (11.03.2010)

22. Shirky, C. (2005) Ontology is overrated: Categories, Links and Tabs, 2005, Dostupno na: http://www.shirky.com/writings/ontology_overrated.html (14.03.2010)

23. Smith, M. K. (1996, 2000) Curriculum theory and practice *the encyclopaedia of informal education*,

24. Dostupno na: www.infed.org/biblio/b-curric.htm., the current curriculum

25. Thesaurus of Economic, Social and Cultural Rights, http://shr.aaas.org/thesaurus/) STW Thesaurus for Economics, http://zbw.eu/stw/versions/latest/about

26. Ghoshal, S., (2005) Bad Management Theories Are Destroying Good Management Practices, Academy of Management Learning & Education, (4), 1, pp 75-91, ISSN: 1537260X

27. Whitson J.A. (2006), Schematic view of Curriculum in/out of school, and directed / undirected, Dostupno na: http://en.wikipedia.org/wiki/File:Curriculum_Concept.svg

28. Yale School of Management Curriculum. Dostupno na: http://mba.yale.edu/MBA/curriculum/index.shtml,

29. Yu-Liang Chi, (2009) Ontology-based curriculum content sequencing system with semantic rules, Expert Systems with Applications: An International Journal, ISSN:0957-4174