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**INTERFACES OF TRAININGS IN TOURISM IN HUNGARIAN HIGHER  
EDUCATION AND (TEACHING) INFORMATION TECHNOLOGY**

PhD Dissertation – Theses

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## **1. The Research Question**

Trainings in tourism in Hungarian higher education have been facing new challenges due to the global changes that have been framing the discipline. The global economic, cultural and technological issues marked by the European Union have had an impact on the changing Hungarian higher education. The continuous improvement of training routines implies a serious challenge for experts in order to improve competitiveness in the business of tourism.

“The business of tourism has been undergoing significant changes during the last 10-15 years due to globalization. Tourism has been increasing enormously. Suffice to say that in 2002 the number of international arrivals reached 702.6 million. This number marks a 2.7% increase in comparison with the previous year. According to the WTO the optimistic pace of development until 2020 earlier forecasted will be sustainable, and the number of international arrivals will reach 1.56 billion. The world market has become a reality from every point of view. Competition has been further sharpening. New markets open with new offers. New channels of communication and new modes of trading appear due to the unprecedented development information technology and they transform the modes of operation for everyone acting within the framework of tourism” (László 2003, 67), says József László honorary associate professor at Budapest Business School in his paper. The higher educational training of experts in tourism has a priority among these chores and it has been putting great responsibility on people working in trainings in tourism.

Furthermore, learning environments have changed within information society and, in addition to this, digital learning scenarios have become parts of the everyday routine. The share of network-based modes of learning has been increasing and this has an impact on the ways of teaching and studying – generating novel issues in education development in modern society. Online scenarios of studying refer to a set of phenomena in education that “certainly hosts web ergonomics, study skills methodology, various paradigms or even technological means” (Papp-Danka 2012, 1).

As far as its conceptual definition is concerned, online study scenarios refer to “study settings where digital information and communication technologies mark the facilities of teaching and studying” (Komenczi 2009, 114).

With this background I have focused my dissertation on the issues of trainings in tourism in Hungarian higher education – and, within this, on aspects of their related issues in informatics. I examine these setting from IT applications in trainings in tourism in Hungarian higher education, via the IT competence of players involved, to the applicability of digital

modes of long-distance education.

## **2. The Significance and Definition of the Research Topic**

My choice of a research topic has been promoted by my interest in and commitment for the system of trainings in tourism in Hungarian higher education. I did not start out with my studies in this field yet I have been working in this educational setting for several years and this business has become my expertise and home for more than a decade on account of my professional and family incentives. My publications, the curricula I have developed so far and the training development I have done – and my educational work – have all been connected to this field of pedagogy. I work in training in tourism in a higher educational setting day by day which also indicates my choice of a topic with reference to trainings in tourism in higher education.

The BA in tourism and hospitality was introduced in Hungary as part of the gradual training framework in 2006. The bachelor degree – according to the competences of BA in tourism and hospitality – enables graduates to perform tasks and work in jobs in various fields of tourism. They will be able to manage touristic enterprises, communicate in multiple languages within various communicational scenarios, work in jobs concerning international tourism and they will also be able to work with and apply IT.

The gradual training framework “actually starts out with a rather general study in the basics to embrace the challenge implied by the increasing number of students. Therefore training is less business focused. It conforms to the demands of the changing labour market; and – adopting the rule of life-long learning – general competences, skills and professional competences and professional work experience that is indispensable when one starts to work in a job can also be provided within this framework” (Bakos et al. 2006, 9), yet there are numerous questions to be answered with reference to the future.

One of them is the question of how this model of training might tackle with the challenges of a permanently changing modern knowledge-based society. That is a further question what IT competences should graduates in tourism hold after having completed their studies in higher education. This raises the question of what should constitute the IT package of competences for a student majoring in tourism or for a prospective expert in tourism. This includes problem-solving tasks, presentation, information-collecting and management techniques that are indispensable in tourism and, in addition, users’ skills in operating a digital learning environment and also various IT solutions. Operating online utilities provided by the information society constitutes an increasing share in higher education – trainings in tourism

included. Digital learning environments are not unique any more; on the contrary: they have actually become almost indispensable parts of competitive trainings in higher education. It is time frontal modes of pedagogic operation (like that of lecturing, explaining, discussion) were displaced by methodologies and techniques promoting individual and small-group learning and students “pursuing an autonomous access to knowledge” (Csapó and Kárpáti 2002, 308).

At the same time one might wonder what training curriculum and environment could secure the required IT competences and how ready tutors are for the implementation of new methodologies, modern technologies providing digital learning and a competence in and improvement of online applications – the parts constituting tutors’ teaching repertoire in trainings for tourism.

These questions and issues constitute and target the research object choices of my dissertation. My research has been focusing on these areas.

### **3. Research Objective**

The dissertation has been targeted at finding an interface among segments of trainings in tourism in Hungarian higher education via the analysis of these segments and at providing an overview of trainings in tourism in higher education with special reference to their IT framework.

The aim of my research has been to map trainings in tourism in Hungarian higher education via the analyses of the collected basic data, their unique framework and development and aspects that have been hindering their development. My research has been primarily focusing on informatics – I have tried to follow up how IT modules have been shaped within the framework of trainings in tourism in a higher educational setting. Fieldwork research has been completed in Hungary.

I shall attempt to set up a framework of competences in IT-assisted tourism with the help of which I will depict the segments of IT knowledge that are indispensable in performing tasks with reference to tourism in order to be able to develop and enhance the skills concerned and provide the job market with excellent experts in tourism. The analyses of students’ and tutors’ perspectives, respectively, will depict the prompts of the framework of competences in IT-assisted tourism.

I shall also discuss the use of specific IT applications that support tourism. I would like to present possible IT solutions in the teaching of IT-assisted tourism that will methodologically efficiently help developing touristic skills.

Information technology may feature in the framework of trainings in tourism as a

device of tourism-marketing. I will also offer choices for the implementation of systems of e-learning in trainings in tourism. I have argued in detail the applicability of e-learning systems and, in addition to this, how and to what extent trainings in tourism in Hungary may employ synchronous and asynchronous e-learning methodologies.

#### **4. Research Questions and Hypotheses**

We can generally admit that the social and educational embedding of trainings in tourism in higher education ought to be mapped and a perspective has to be shaped for the benefit of the educational institutions of the future. The present role and significance of trainings in tourism need to be revisited with special reference to their aspects concerning IT. My aim is to provide an overview of the general state of affairs in current trainings in tourism in higher education (courses taught, methodologies employed within these courses, educational technology employed within these courses, IT devices, etc.).

My aim is to present a scientifically based framework of training in tourism supplemented by its educational hermeneutics. This will help me in mapping the hindrances and core problems the development of trainings in tourism has been facing. Then I shall discuss the IT segment specified with reference to the levels of users. I shall try to set up the conceptual framework of tourism-related informatics – their required educational impact included. Real time exempla will suffice to set up a list of what is to be done and what is to be avoided along the way of development and improvement. The path of avoiding obstacles has to be established – that is, issues closeted in the development of trainings in tourism should be marked with special reference to issues concerning IT-related problems to be followed by recognizing ways of solving them.

I have wanted to map in what form and in which segments of trainings in tourism in higher education IT features in Hungary – with reference to aspects of tourism-related informatics, the use of IT devices in tourism-related activities and in teaching. The results of my research and their implications have also required further research in the history and development of trainings in tourism in Hungarian higher education and the mapping of their geographic dissemination.

I have been looking for answers for the following questions:

1. Where is the place of trainings in tourism in Hungarian higher education and what have their roles been?
2. What contingencies can be depicted with reference to tourism, education and the IT aspects

relating to them?

3. Have there been implications of trainings in tourism in the previous century that are still effective? What might they be?
4. How much has informatics' share been – as the infrastructure of tourism and as an educational methodological aid – and how actively has it been present in trainings in tourism; and how much has it been marking their competitiveness?
5. Is the concept of IT-assisted tourism relevant in the framework of training; and would it make sense to set up a framework of IT-assisted touristic competences?

*My Research Hypotheses:*

- H1. The sustainable development of trainings in tourism in Hungarian higher education very much depends on the development of an IT infrastructure that is implicated by IT applications to be used in the business of tourism (e.g., the Zsolnay Museum without IT devices; the role of social networking platforms in the development of touristic brands; the regular use of audio guides, etc.). The irregular positioning of these items within the process of training definitely makes the work of experts in tourism and that of tutors in higher education more difficult.
- H2. I presuppose – and I shall test this presupposition in my research – that tutors with an IT-qualification would use computers in their work more efficiently than the ones who have had no prior IT training.
- H3. Tutors in trainings in tourism in higher education do not wish to work in an up-to-date educational environment because they lack competence and experience in the use of online applications.
- H4. The IT curriculum does not cover IT applications that can be made use of in tourism – or it covers it at random.
- H5. At present IT training within trainings in tourism in higher education in Hungary has not been settled yet and it has not yet been standardized.
- H6. It is not enough to train students in the basics of computer use in IT courses – it also has to cover the development of problem-solving skills in order to train experts for the job market with more flexible and broader competences and routines.

## 5. The Methodologies Employed and the Presentation of Samples

Research has consisted of both primary and secondary research activities. Data for primary research has – naturally – been provided via the work of my own. I shall discuss the actual steps of empiric work and its results with reference to missing or unavailable segments of secondary literature.

As far as secondary research is concerned I have been relying on both inner and outer environmental resources because of the experience and knowledge they contain.

Resources of my research consisted of the following segments:

Resources of primary research:

- interview (questionnaire)
- observation (case study)
- content analysis
- generating figures, tables; modelling.

Resources of secondary research:

- inside resources of information:
  - analytic and synthetic inventories (training and graduating protocols)
- micro-level sets of information:
  - professional periodicals, secondary literature
  - scientific studies
  - academic papers
- macro-level sets of information:
  - nationwide data bases (felvi.hu)
  - booklets issued by institutions (entrance examination booklets)
  - statistic analyses

Data have been accessed, processed and analyzed via statistic analytical protocols with the help of the programmes, *IBM SPSS Statistics Version 21.0* and *Microsoft Office Excel 2007*.

My research has been based on the following core methodologies:

To begin with, I made an overview of the available secondary literature: I have gone through year-books, course-books, periodicals and last but not least conference proceedings with reference to my research topic in second-hand bookshops, libraries and professional

libraries. I have consulted literature with reference to the history of the discipline in order to edit a chapter on the history of the discipline's development. I have found data concerning the early 1960's in the entrance examination guide-books for my historic enquiry. Besides these resources secondary resources relating to tourism and/or to teaching have also helped me in writing the theoretical chapters. I have gathered relevant data for my research with reference to trainings in tourism via official online databases (felvi.hu).

In the interviews I was using questionnaires. Tutors' questionnaire consisting of 37 questions targeted lecturers teaching in trainings in tourism in Hungary. The questionnaire featured both close and open questions – some of them offering multiple choices, prioritizing and inquiring about the interviewees' opinions. I interviewed full-time employed active tutors who had been participating in trainings in tourism. I tried to be flexible with the interviewees and I was offering three modes for filling in the forms – they chose depending on which mode was the most appropriate for them, respectively. The first mode was a traditional hard-copy questionnaire, the second one was a digital questionnaire processed via a word-processing software (Microsoft Word 2003 and 2007) and the interviewees could send it back electronically, via e-mail; while the third mode provided a questionnaire that could be filled in online – I have generated it with the help of the [www.ripet.hu](http://www.ripet.hu) questionnaire editing web application.

The survey sample bears the following features:

First I was spreading the questionnaires in April, 2012 among lecturers who taught courses for BA majors in tourism and hospitality in any institution of higher education in Hungary. I immediately realized that I was going to have difficulties on account of the fact that very few lecturers were inclined to fill in the questionnaire. I have to admit that only an insignificant number of questionnaires were returned (8-10) filled in, in spite of the three modes of answering the questions I was providing. No one had chosen to fill in the questionnaire online. Some interviewees had filled it in with word processor and some others had stuck to filling it in on hard copies.

Because of the fiasco of the first round of the questionnaire, I repeatedly sent the form to prospective interviewees in October, 2012 – this time with considerable success: I had sent the questionnaire to 137 lecturers either by snail mail or electronically. Approximately 72 questionnaires were returned during the two months to follow, each one of them had been filled in. The sample reached 52.55% (with reference to the ratio of sent and returned questionnaires) – and this can be considered to have been a representative sample. It is furthermore important to note that we received data from 11 of the 14 institutions providing

BA trainings in tourism and hospitality (Table 1). The major locations providing BA trainings were included.

Table 1: The list of institutions providing trainings in tourism that had returned tutors' questionnaires in 2012

Corvinus University, Budapest	Budapest
Budapest Business School	Budapest
University of Debrecen, Faculty of Economy and Country Development	Debrecen
Eszterházy Károly College	Eger
Károly Róbert College	Gyöngyös
Kodolányi János College	Székesfehérvár
Nyíregyháza College	Nyíregyháza
University of West Hungary, Apáczai Csere János Faculty	Győr
Pannon University	Veszprém
University of Pécs	Pécs
Szolnok College	Szolnok

Editing mine, Enikő Nagy

The questionnaire consisted of 37 questions. There were 27 questions of a professional nature to be followed by 10 questions on basic data. Questions covered the following areas:

- aspects of how tutors teaching in trainings in tourism in higher education use computers and applications,
- questions surveying IT competences concerning whether tutors are sufficiently competent in internet-based teaching, whether they have sufficient methodological competences (e.g., would they have the ability to adapt to long-distance and online learning environments?),
- questions surveying the IT competences of tutors of trainings in tourism in higher education.

The basic frame of reference in the survey had been constituted by potential tutors living in Hungary. Since the basic frame of reference (100%) is unknown or it might be considered small and, furthermore, neither has its constitution been mapped, we might wonder whether the sample is a representative one. Since the sample at hand approximately exceeds 30% I can employ – in basic statistics – a multivariable solution (One Way ANOVA variability analysis, cross table analysis). I have used the programme, IBM SPSS Statistics Version 21.0 for statistic analysis and for basic analyses I have used the programme, Microsoft Office Excel 2007.

Another type of my survey has relied on observation. I have completed a case study in which I was assessing the IT competences of students entering training in tourism for two

academic years. This involved the assessment of more than a hundred students – and their number has seemed to be big enough to provide for the uncovering of issues implied by their IT training.

I have observed the home pages and their educational documents (curricula, schedules, course descriptions) of institutions providing trainings in tourism employing document analysis in order to trace dysfunctional features and missing modules within the curricula. I was assessing the segment of IT trainings and I mapped the share of courses in informatics.

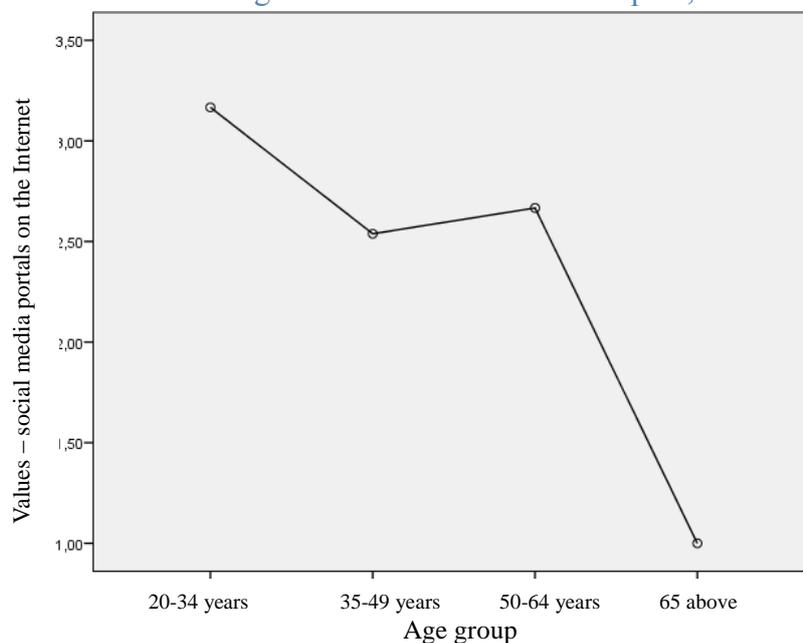
I have verified my hypotheses via the results of the methodologies I have employed and I have discovered prospective choices that might offer solutions even in times of economic crisis.

## 6. Results and Conclusion

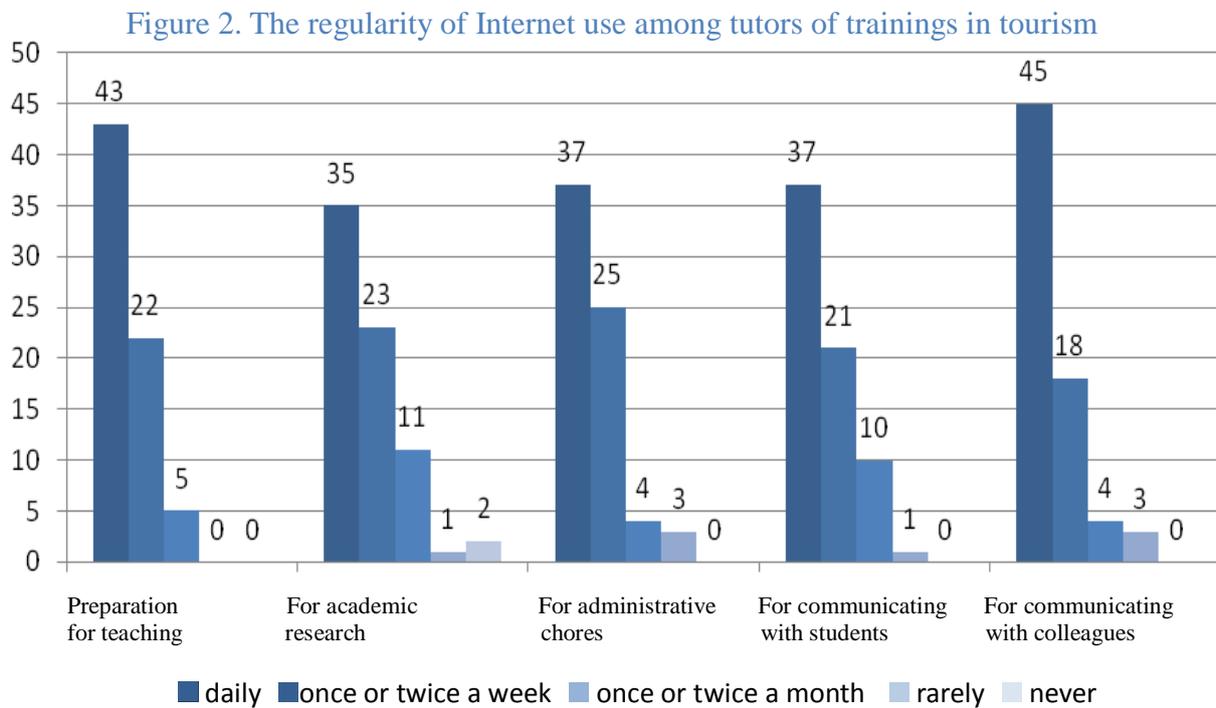
The major conclusion implied by the results is that informatics has a relevant role in tourism and in trainings in tourism, respectively. The survey employing questionnaires in the institutions of higher education offering trainings in tourism has answered a number of my initial questions that have also been closely related to the hypotheses of mine. The following conclusion can be drawn with which I can also verify my hypotheses.

Age does not mark the regularity of the daily use of IT – unlike in case of the use of web applications where senior groups of users apparently use social media platforms rather rarely (Figure 1).

Figure 1: Average values of the use of social media platforms in the different age groups of tutors – the diagram has been edited with “Spss”, 2012



I initially presupposed that since the assets in terms of human resources and facilities in trainings in tourism were permanently changing a sustainable development required the development of infrastructure. This has been verified by the data concerning the supply in hardware. Most of the locations of trainings in tourism have an outdated infrastructure. Both hardware and software are obviously in need of updating. On the one hand the senior generation of tutors has been satisfied with what they have at their disposal and they do not communicate the demand for new technical devices and applications. On the other hand it has become also obvious that both the junior and senior groups of tutors are ready to make do with innovations in teaching methodology. We can say that junior tutors regularly use internet applications concerning both their everyday lives and, also, tourism. The daily use of the internet dominates tutors' activities on the internet (nearly 50% of the interviewees) yet this is limited to a user's competence (Figure 2). They generally bank data, share tests and documents – and this marks the permanent need for updating hardware and software, respectively.

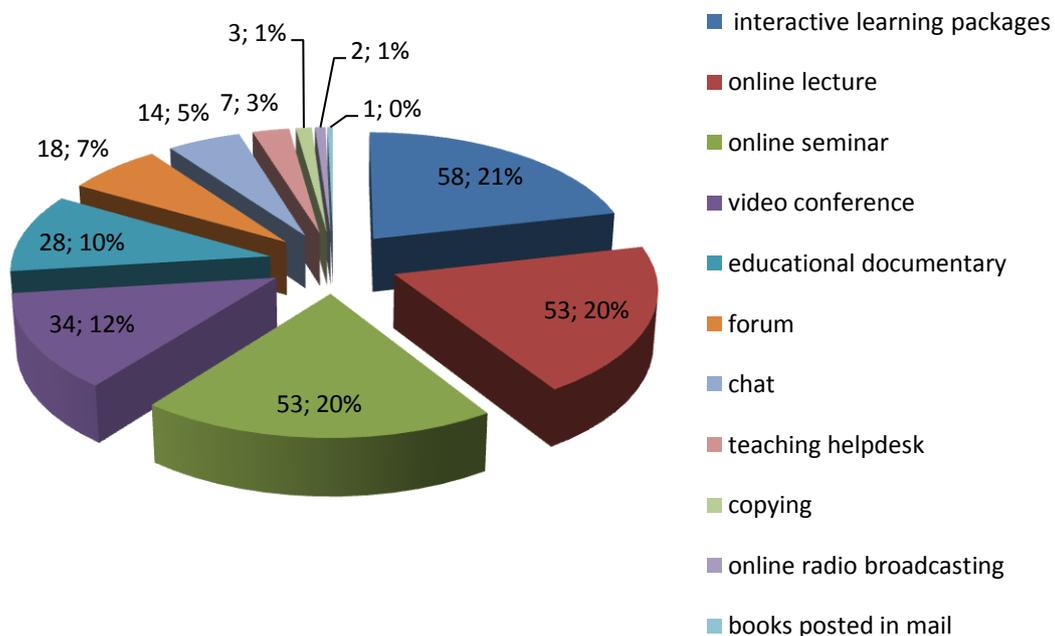


Source: edited with Microsoft Excel 2007 – editing mine, EN.

According to my second hypothesis tutors who have been IT graduates would rather use IT devices more intensively and regularly than others. After research I have turned down this hypothesis because the data I have received have indicated that having an IT training does not significantly influence the regularity of the use of computer applications.

In the second segment of the analysis of the questionnaires (Chapter 5.2) I have also turned down my third hypothesis (H3). That is true that the communities of tutors I have interviewed do not hold an integral competence (Figure 3) concerning the realization of an electronic educational-learning environment but neither can we claim that they would also refuse the use of this.

Figure 3: The share of devices – according to the answers given by interviewees – within the repertoire of e-learning and methodological assets

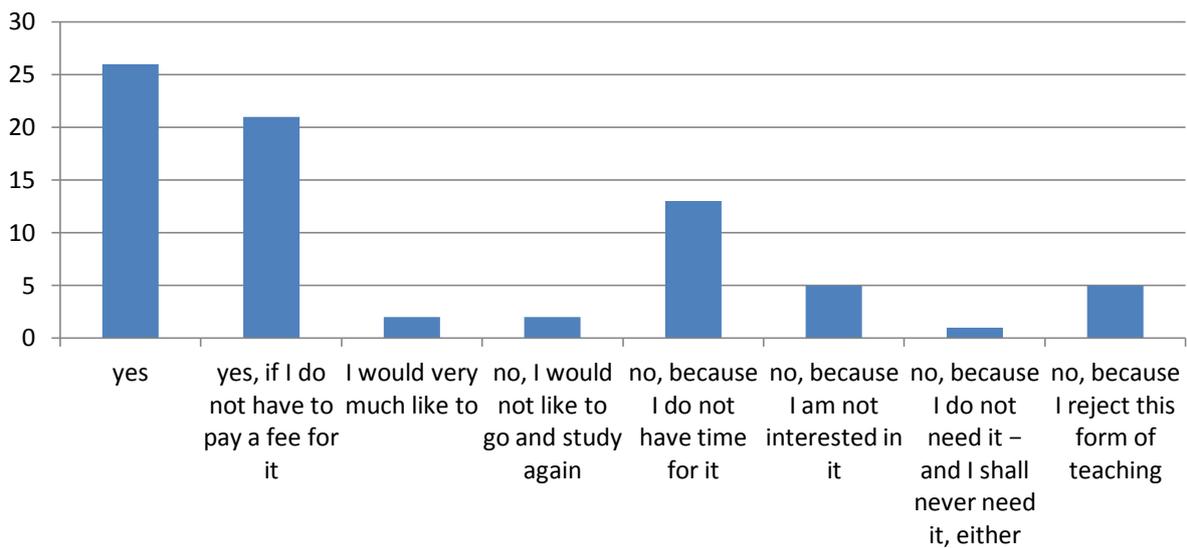


Source: Microsoft Excel 2007 – editing mine, EN.

That is also true that the Internet has been made use of for few activities, that is, choices have been left unused – yet, again, tutors are apparently open to learning the use of these. E-learning teaching environment does not have a significant share and, consequently, teaching-learning environments and the methodologies employed in them cannot be considered to have been routines. The majority of tutors (66%) have never been involved in any form of distance-learning but their openness for adopting web-based teaching methodologies has been apparent (Figure 4). So we can definitely claim that tutors are open to

working in an updated teaching environment in spite of the fact that they mostly are in lack of relevant information concerning digital networks and their mode of operation. A way to solve this problem might be to launch postgraduate trainings in “e-learning” teaching methodology for the purpose of updating education in trainings in tourism in Hungarian higher education. I claim the importance and the necessity of carrying on with the implementation of frameworks of e-learning – it will provide a fast and efficient solution for the issues cropping up in the field of training concerned both economically and with reference to educational work.

Figure 4: “Would you consider participating in training or in a postgraduate course in web-based teaching methodologies?” The distribution of answers to the former question among tutors in higher education in 2012



Source: Microsoft Excel 2007 – editing mine EN.

The majority of the tutors have met with the concept of IT-assisted tourism, though – yet we cannot mark any significant competence in it. There is an apparent contrast between paradigms of IT competence featured in current curricula and the ones that tutors’ communities have been considering to have been definitely essential in trainings in tourism in higher education (Figures 5 and 6). Informatics as a global paradigm has been provided with a thin portion of the training curricula – only some segments, mainly the ones concerning users’ applications, feature in them.

Figure 5: IT topics featuring in trainings in tourism in higher education according to how much they are needed or not (according to data provided via questionnaires for tutors in 2012 – editing mine EN)

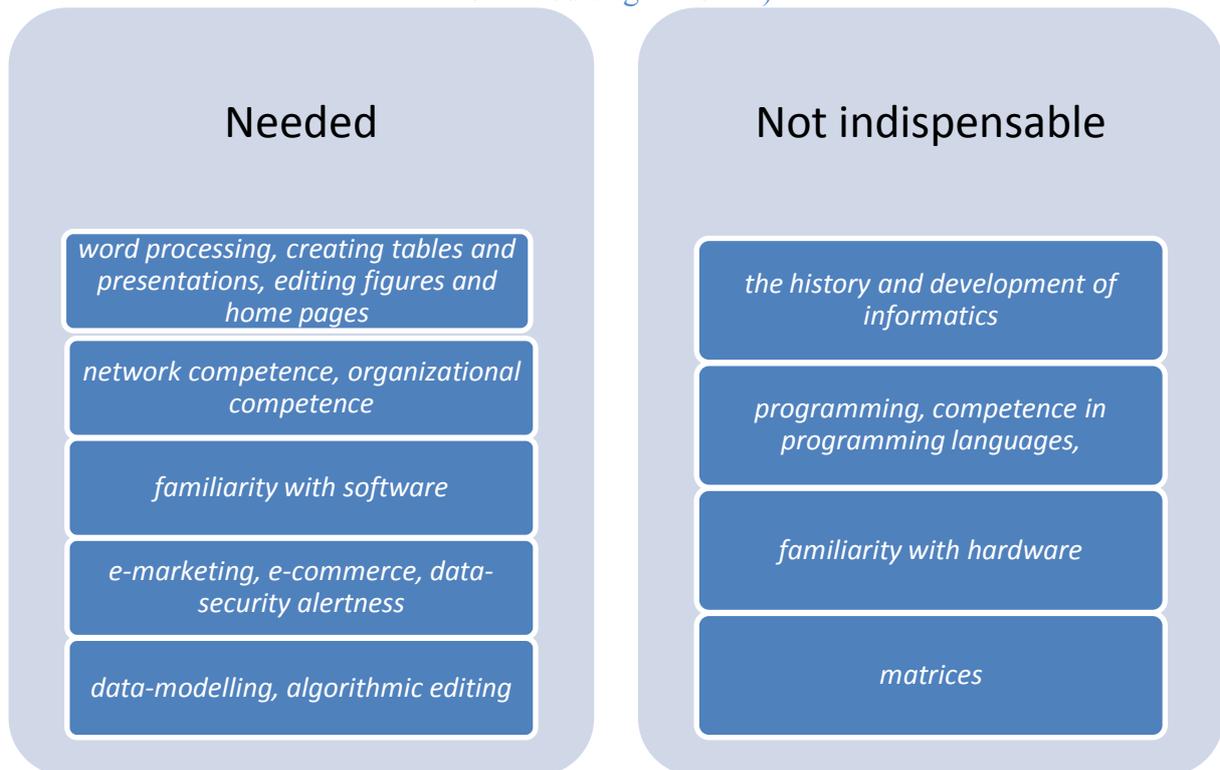
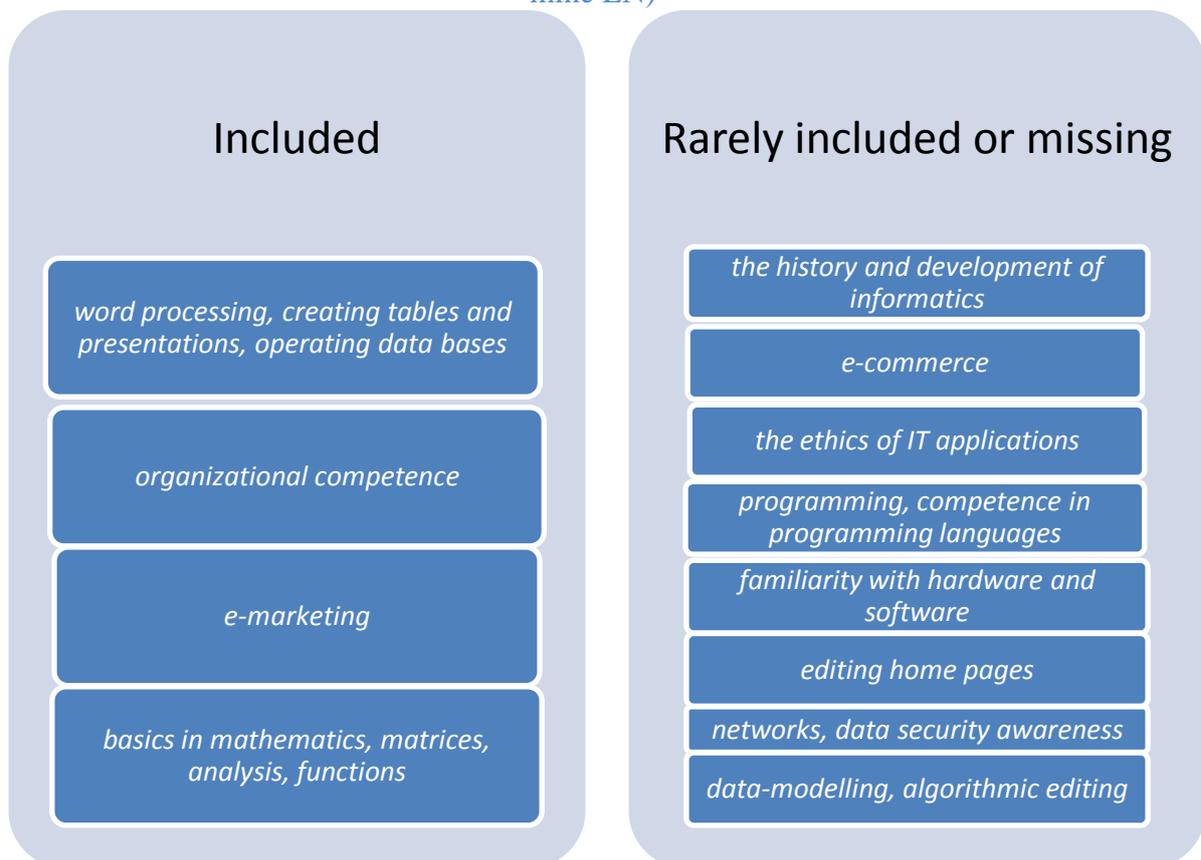


Figure 6: The status of courses in informatics within the framework of trainings in tourism in higher education (according to data provided via questionnaires for tutors in 2012 – editing mine EN)



We can say that the community surveyed and interviewed has been displaying an exceptionally positive and open attitude towards informatics in spite of their reservations concerning further studies. That is also beyond doubt that the nationwide implementation of network-based (or web-based) teaching methodologies would arrange trainings in tourism in higher education to become standardized, more efficient and competitive than they have been so far.

The case study of mine assesses the IT competences of BA students who major in tourism and hospitality and it also contains the detailed analyses of the home pages of institutions providing trainings in tourism in higher education and that of the contingent documents for the purpose of generating results that may verify the hypotheses, H4, H5 and H6.

Students entering BA trainings in tourism have the competences and routines they need during their undergraduate studies. Consequently an improved training in informatics to become part of their undergraduate studies is indicated – there is no need to limit their IT training to basic users’ applications. As far as the topics assessed are concerned networking competence, web-applications and the fields of data security need to be enhanced (Table 2).

Table 2: average scores of BA students majoring in tourism and hospitality at the Illyés Gyula Faculty of the University of Pécs in the academic years, 2010/11 and 2011/12 at the course in informatics

IT competences:	IT basics	Ergonomics basics	File management	Networking	World Wide Web competence	Online security	Web page design	Total (items)
Assessment of performing tasks in 2010:	80%	77%	95%	64%	90%	48%	20%	67.714
Assessment of performing tasks in 2011:	78%	72%	90%	82%	100%	30%	34%	69.429
<b>Average (%):</b>	79	74,5	92,5	73	95	39	27	68.571

Source: Microsoft Excel 2007 – editing mine, EN.

After the analysis of the home pages of institutions providing a BA training in tourism and hospitality we can see that although their course-descriptions are fairly unanimous further documents (academic schedule, course thematic), however, provide altering lists of topics with reference to IT competences. IT courses generally cover office applications exclusively and that hinders the shaping of skills for self-instruction which is indispensable in order to

adapt to the permanently changing technological environment of the information society.

We can also claim that the thematic of IT ought to be given priority on behalf of sustainable development – within the framework of MA training in tourism and management – in order to make experts in tourism entering the job market to be competitive in each segment of the permanently changing economy.

The prospective solutions for current issues constitute an extremely complex question as far as training in informatics is concerned. A standard framework of IT training should be designed that would definitely go beyond teaching users' basics and would enhance the global management of digital frameworks employed in tourism.

The points of my conclusion can be arranged around two core questions concerning the aim and the theoretical and empiric segments of my research. One of the two sets constitutes a theoretical approach to trainings in tourism in Hungarian higher education with reference to their approaches to informatics; while the other set consists of the most important conclusions drawn from the results of empiric research and, of related recommendations. Both core questions centre around three issues: that of tourism, education and informatics.

The theoretical approach starts out with the positioning of university and college level trainings in tourism in the framework of Hungarian education. I trace its structural transformation and its changing contents – and this allows me to focus on the issues of the current training protocol implied by the teaching overload inflicted on tutors in higher education, the problem of equipment at educational facilities and the IT challenges all the former issues mentioned generate. While going through the IT aspects I discuss changes generated by the information society and I shall observe all these with reference to the framework of tourism.

I have attempted to define the concept of *IT-assisted tourism* on account of situating informatics within the framework of tourism and its context. After this I am looking for the actual and possible functions digital devices may have in trainings in tourism to be followed by the third approach to informatics with reference to IT training. My dissertation has on the one hand focused on IT-assisted tourism and on its organizing patterns. I have related IT-assisted tourism to trainings in tourism and I have also situated it in the framework of higher education.

My approach to informatics has targeted the interpretation of the roles of recent technological devices, the means of online learning environment and that of the exploitation of web technology. The latter issue also implies enhancing the success and effectiveness of teaching and learning processes.

I have also done research in the history and development of the discipline concerned with which I was tracing the development of trainings in tourism; I have depicted aspects of the past that have had some impact on the present.

On the other hand in my dissertation I am presenting guidelines for setting up a framework of competences with reference to IT-assisted tourism in the theoretical chapters – and this constitutes the other focus of my research and argument.

Prior to the shaping of a framework of competences with reference to IT-assisted tourism I performed empiric observations (analysis of questionnaires, document analysis) the results of which have provided a sufficient basis for setting up the framework. I have considered the following core-competences for the purpose of shaping the competences of IT-assisted tourism:

- user's competence in applications
- selecting skills
- office management and assessment competences
- algorithmic and analytic thinking
- the ability to follow prompts and the ability to recognize novel elements
- individual planning and realization
- problem solving
- the ability to think in abstraction

Below I shall consider competences in informatics that everyone who wants to become a successful expert in tourism needs.

1. Experts in tourism with **users' competence in application**, concerning IT.

S/he should **be able to operate** hardware and software provided for the purpose of tasks to be performed. S/he should be able to select the proper multimedia office device – like a video camera, a printer, office software or, possibly, some technology in 3D. S/he should be able to assist touristic work with the use of IT **for the purpose of office management and assessment**.

2. **Competence** in the use of touristic software **at user's level**.

S/he recognizes the data bases' modes of operation in applications for touristic purposes and, consequently, **will never get puzzled** if s/he meets with a data base processing application with a user's interface s/he has never seen before (e.g., Fidelio, Micro software frameworks, Trinity, etc.). S/he is familiar with IT protocols and concepts employed in tourism. S/he is capable of thinking in algorithms and analytically.

3. The ability to **use IT** for accessing information and for learning.

Informatics plays an outstanding role in the life-long learning of an expert in tourism. To get access to knowledge and its application wherever and whenever it is needed is indispensable from the point of view of IT-assisted tourism. An expert in tourism **should be aware of** novel applications entering the market and s/he should be ready to use them. S/he is **capable of using the most recent digital channels of communication** and of **learning the use of the novel ones** (e.g., professional community media, cloud format data banking and transferral, operating online travel agencies, etc.). S/he should know how to design and realize an IT-assisted working environment with the help of which experts in tourism can set up the accessories s/he might need for doing her/his job.

4. **Knowledge of IT tools** to solve marketing and management tasks (eg. e-marketing tools).

**Familiarity with IT devices** for the purpose of marketing and management operations (e.g., e-marketing devices). Familiarity with and the ability to use methodologies, strategies for working in tourism in order **to cope with the problems** cropping up.

5. **Competence in handling ethical issues and ergonomic applications**

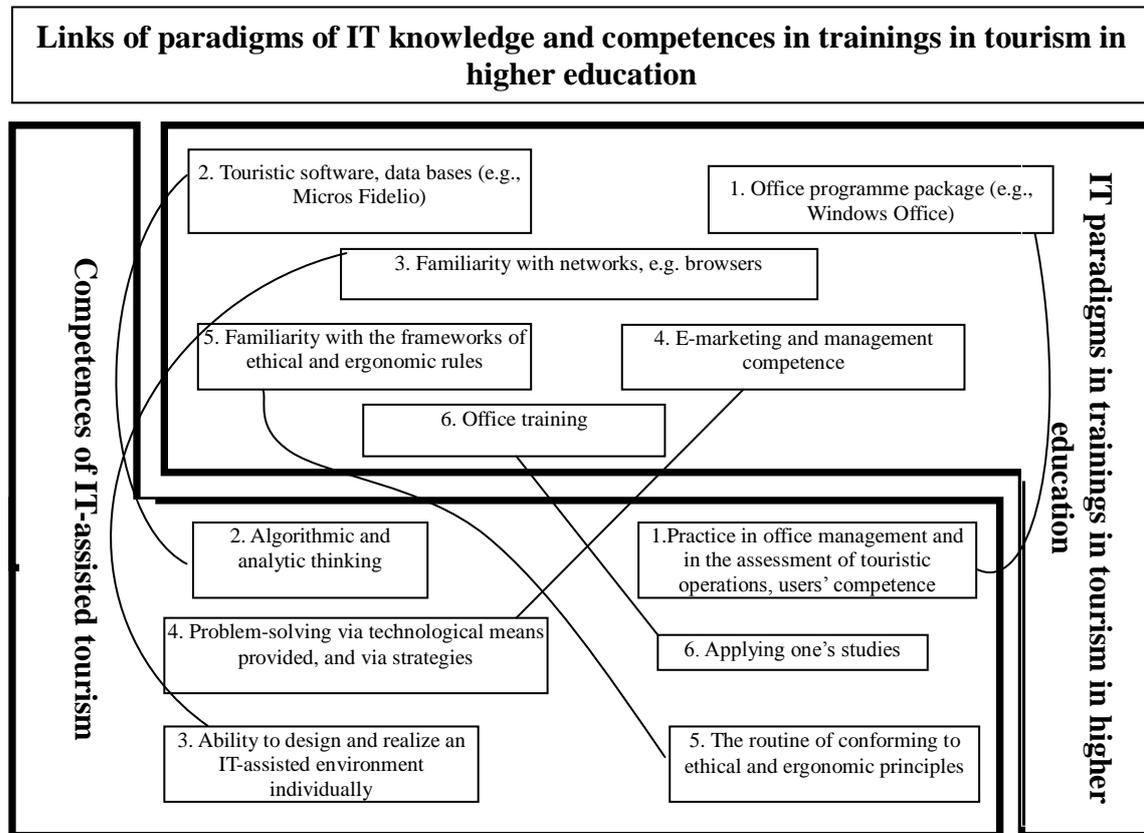
Competence in the ethical and ergonomic framework of rules and the routine of conforming to them (e.g., effectuating copyright, shaping a healthy working environment). The ability to conform to ethical and ergonomic principles in IT environments.

6. **Applying one's competences**

Applying what one has studied in touristic environments – this will transform disciplinary knowledge into professional competence.

Along the list above I shall arrange competences of IT-assisted tourism around six foci. The following figure (Figure 7) will depict my suggestions concerning which informatics segments could host the development of particular competences. Of course, numerous intersections and mergers become apparent among various sets of knowledge and competences – this time I shall depict the most characteristic ones.

Figure 7: possible links among sets of topics of IT knowledge and that of IT-assisted tourism competences in trainings in tourism in higher education (editing mine – EN)



The results of the analysis of the questionnaires apparently show that informatics has a relevant position in the framework of trainings in tourism. The level of IT infrastructure is not satisfactory in this training segment yet in spite of this the players of teaching tourism (tutors and students) are as far as their means are concerned receptive towards modern technology. Both students' and tutors' communities generally have random IT competences and knowledge. This issue can be embraced via postgraduate trainings in case of tutors and for students IT competences ought to be integrated in their trainings – and perhaps modern digital and virtual learning environments at hand may as well be exploited for this reason. The future vision of IT training is also to be looked for in a hybrid use of real time space and that of its virtual counterpart. Integrating modalities of spaces will not only assist teaching

methodologies but it can also be made use of in tourism for the purpose of modelling journeys and other touristic products.

The results of the survey obviously arrive at the conclusion that the development of IT trainings should be considered a priority in trainings in tourism in Hungarian higher education.

Further analyses (of home pages, curricula and content analyses) mark apparently that almost every BA programme offers a course in IT basics. But this is not sufficient: BA programmes should launch a course in IT-assisted tourism while MA programmes might possibly – perhaps in the form of an elective course – also offer this course. A broader share should be provided for e-marketing and for e-tourism. Standardized courses and a thematic protocol should be set up for all the institutions of the country – perhaps via international curricular integration in order to promote students' and tutors' mobility.

Furthermore – among other things – the setting up of a strategy for technological realization (the implementation, standardization and integration of e-learning systems) is indicated in order to provide complex solutions to embrace the issues we have outlined above with.

## **7. Possible Tracks of Further Research**

Because of the diversity that characterizes the segment of higher education providing trainings in tourism it is not easy to tell exactly what skills and competences must a student majoring in tourism and hospitality learn during her/his studies. However it has been unanimously acknowledged that a professionally very competent multilingual human resource is indispensable for the exploitation of the choices tourism offers. During their professional visits and studies abroad tutors and students can gather an enormous amount of experience and competence, they can get acquainted with new cultures – and they can make use of this after graduation in their work. Such opportunities however have been offered by already running programmes, like Erasmus, CEEPUS and the Visegrád Strategic Programme, yet they need to be improved and setting up novel programmes and educational co-operations are necessary by all means.

Trainings in tourism in Hungary have been undergoing significant structural changes recently – these changes have entered a new phase with the implementation of FOKSZ's (higher level vocational trainings) in September, 2013. But the question of how training will prepare students sufficiently effectively for entering the labour market and for carrying on with their studies on a higher level – with special reference to the area of the Danube Region

– can only be answered and solved properly by further research. For this purpose I think we should do a thorough survey of the labour market – concerning the number of employees working in tourism and their qualifications – and a careful, detailed mapping of touristic attractions that are the key features of the repertoire of trainings in tourism in higher education. No sufficiently provided training protocol could be designed without them and neither could we set up the harmonious integration and co-operation of standardized institutions in the region otherwise. Besides improvements in informatics, the following possible developments have become urgently needed in trainings in tourism in higher education:

- shaping a training based on the attractions of the Danube Region in higher education and at universities via opening new tracks of specialization,
- the touristic destinations of the country should provide a location-specific training since training for students is provided right there,
- training hotels and training restaurants should be set up to make training “more pragmatic” – and professional trainings ought to offer a broader horizon of IT applications,
- working for the integration of institutions that are located geographically far from one another in order to standardize trainings while, at the same time, preserving the uniqueness of each one of them,
- enhancing both students’ and tutors’ mobility for the purpose of providing a more effective and experience-friendly training,
- a continuous promotion of learning languages; updating methodology, backing it up with incentives because for people who are employed in tourism to speak two or more languages well is indispensable.

In conclusion of the prompts listed above we can claim that it is indispensable – for the sustainable development of trainings in tourism in higher education and for the development of aspects of informatics related to these trainings – to manage them together in a single context. However much my discussion of these issues and the commentary I have provided on behalf of them – with the additional sets of information that my research has been offering – might be of help in the realization of the tracks of development depicted above this would be rather difficult to realize without the openness and interest of the employees working in this sector: the co-operation of the total complex of higher education is indispensable for the realization of the goals.

I do hope that via asking and answering these questions in my thesis and via the realization of my research project I may have helped to solve the IT-related issues of trainings

in tourism in higher education fast and effectively.

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