

PIONEERING INTERDISCIPLINARY ACADEMIC FIELD OF DIGITAL HUMANITIES IN LATVIA

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Summary. A mainstream tendency for multimediality of information and exponential growth of data have promoted major changes in the academic paradigm, supporting the transition towards interdisciplinary research-based studies, which has affected the development of the emerging field of Digital Humanities (DH).

The paper aims at providing insights into the different activities implemented by the DH community in Latvia, which have contributed to the advancement of the field and stimulated the inclusion of digital research-related courses in the Latvian higher education curricula, reflecting on the establishment and implementation of the Master study programme in Digital Humanities at RTU considering it in its wider Latvian, pan-European, and global context.

Keywords: Digital Humanities, digital scholarship, humanities curriculum, interdisciplinary studies, emerging scientific discipline.

Introduction

Although the field of humanities computing has a relatively long history dating back to the end of the 1940s, it has experienced exponential growth with several major developments made especially in the last decades. Rapid development of Information and Communications Technology (ICT) and their targeted application in humanities research allowed for the establishment of an independent discipline of Digital Humanities (DH).

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Nowadays DH stands as an umbrella term covering a wide range of interdisciplinary research and development perspectives of multimodal digital scholarship in humanities in its wider understanding [1; p. 144]. It has been acknowledged [2, 3, 4] that DH has expanded the scope and usability of the humanities, as well as broadened definitions of the scholarly activity in general [5].

At the turn of the 21st century, DH has gained substantial visibility and recognition in many countries around the world. Although the discipline is still considered relatively young as compared to mature scientific fields, it has accumulated a significant body of scientific knowledge, adopts a variety of established and innovative research methods, and relies on varied forms of empirical evidence. Development of the relevant theoretical and methodological framework has promoted the increasing integration of DH into academic curricula [6]. Thus, currently, the scholarly discipline of DH is developing not only as an innovative research area found at the crossroads of such fields as humanities, social sciences, ICT, culture studies and computational linguistics but also as a topical tertiary education field established to respond to the changing needs of the research community and the labour market.

In the last decade, following the global rise of digital scholarship in humanities, many leading universities have recognised the need to include this interdisciplinary field in the academic curricula, addressing different multifaceted challenges associated with the establishment of the theoretical and empirical framework of DH. Such top-level higher educational institutions as Oxford University, Cambridge University, King's College London in the United Kingdom, Massachusetts Institute of Technology in the United States of America, Sorbonne University in France, and Helsinki University in Finland to name just a few have established study programmes in DH at various levels.

Riga Technical University (RTU) has joined the cohort of universities, which have clearly recognized the necessity to change their educational paradigms by switching to an interdisciplinary student-centred higher education model. The launch of the Master study programme in DH at RTU in the 2010s coincides with the period of rapid global expansion of the field of DH. It is the first DH Master level programme in the Baltic States. Advancing a rather inert discipline of Humanities towards the technology-driven field is a huge step toward providing modern and internationally competitive education.

The aim of the paper is twofold: a) to provide insights into the different activities implemented by the DH community in Latvia, i.e. researchers, academia, students and industry, which have contributed to the advancement of the field and stimulated the inclusion of digital

research-related courses in the Latvian higher education curricula; b) to shed some light on the establishment and implementation of the Master study programme in DH at RTU considering it in its wider Latvian, pan-European, and global context.

The authors of the paper believe that such a historically-driven observation is required to build solid foundation for further advancement of both scientific and academic research in the field of DH, as it helps assigning the value to the efforts invested, comprehending the scale of DH field and recognizing its new frontiers to be conquered in the future.

Development of Digital Humanities in Latvia: Research and Academia

Research centres, laboratories and research groups in DH keep emerging in many countries around the world, which attest to the topicality and relevance of this discipline that is persistently evolving into an interdisciplinary research and development field. Cooperation that promotes the advancement of the discipline is carried out not only among academic institutions but also in the sector of cultural heritage management, i.e., libraries, archives and museums.

Transnational DH organisations, research networks and consortia are being established and developed. For example, «*Common Language Resources and Technology Infrastructure*» or CLARIN ERIC established in 2012 serves as a research infrastructure to support the sharing, use and sustainability of language data and tools for research in the humanities and social sciences (www.clarin.eu). In 2014, another important network – DARIAH or the «*Digital Research Infrastructure for Arts and Humanities*» – was established (www.dariah.eu). The Association for Literary and Linguistic Computing was renamed the European Association of Digital Humanities (<https://eadh.org/>), which *inter alia* helped promote the usage of the very term «*digital humanities*». It has become an umbrella organisation for the European digital humanities community comprising several regional branches. The Digital Humanities in the Nordic Countries is one of them. It was established in 2016 and subsequently renamed the Digital Humanities in the Nordic and Baltic Countries or DHNB in 2020 (<https://dhnb.eu/>).

It may be noted that the development of DH in Latvia is following a rather unconventional path. On the one hand, since the field has emerged and has gained wide global recognition in major European countries and the USA, Latvia has managed to benefit from the opportunities offered by leapfrogging – it was not necessary to develop the discipline from

the very start. On the other hand, many existing DH solutions had to be adapted for the needs of the local research community and industry, often not relying on the capacity of such tech giants as Google and Microsoft. This, in its turn, provided an impulse for the development of in-house solutions in cooperation with the Latvian ICT sector and HEIs.

Since the 1990s, computer linguistics has been the most visible DH-related field in Latvia, around 2014 other humanitarian disciplines started to become increasingly active in digital scholarship. The launch of the initiative *www.digitalhumanities.lv* in 2017 has played an important role in building Latvia's DH community. It was initiated by the Institute of Literature, Folklore and Arts of the University of Latvia (UL), which has successfully managed to bring together academic and cultural heritage institutions interested in digital scholarship with the aim of building closer cooperation and promoting DH in Latvia. This initiative aggregates information on the Latvian DH tools and resources and organises various events. Since 2018, the member institutions of *www.digitalhumanities.lv* have been organising the annual Baltic Digital Humanities Summer School. This initiative has also resulted in the establishment of an inter-institutional consortium that has successfully won the competition for the implementation of the project «Digital Resources for the Humanities» of the National Research Programme supported by the Ministry of Education and Science for the Republic of Latvia from 2020 to 2021.

The initiative promotes closer integration and cross-fertilization between research and academia in the field of DH in Latvia. RTU and the UL take the leading roles in promoting this synergy, boosting the development of the DH field in different academic and research perspectives.

The last decades in the context of DH and higher education can be described as a time of experimentation and search for the most useful approaches. The field of DH is evolving very rapidly and it is very different today in terms of the methodologies adopted, the resources and tools developed, available infrastructure, and the research capabilities from the DH 15 years ago. Understanding of what DH are and what they evolve into is also changing rapidly. This has contributed to the fact that there is no one comprehensive and universally adopted definition of what DH are, as well as stirred extensive scholarly debates on whether it should be seen as a distinct scientific field or as a strong methodological complement to the humanities [1, 7].

Versatile approaches to DH in higher education curricula not only reflect this diversity and lack of general agreement but also offer great potential and possibilities to merge DH with other disciplines, such as media studies, economy, or creative industries.

Combining teaching practices used in the humanities, which have evolved over centuries, and information technology studies, which have been actively developing over the recent decades, in the joint teaching methodology and curriculum design, simply transferring and extrapolating their elements to equally comprehensively cover computing and humanities would not be the most successful and efficient model for DH. A more nuanced approach that would reflect the truly interdisciplinary and collaborative nature of digital scholarship in the humanities should be adopted.

The late 1980s to mid-1990s was a favourable period for the establishment of new academic initiatives. Many DH research centres and institutions were established in Europe and Northern America at that time, thus providing fruitful ground for further academic advancement [6, 8]. Although the development of digital resources in the humanities for the Latvian language had been going on since the late 1960s [5], the early 1990s was the time when digital scholarship in the humanities, particularly computational linguistics, became institutionalised in Latvia.

The Artificial Intelligence Laboratory (AiLAB) at the Institute of Mathematics and Informatics of the University of Latvia was founded in 1992, it makes the main focus on the development of digital tools and resources for the Latvian language and culture. One year earlier, company «Tilde», another prominent research and development centre of language technologies, was established [9]. However, despite the increasing availability of personal computers since the second half of the 1990s and onwards, which raised interest in wider application of computational methods in research in general and the development of language technologies in particular, higher education establishments in Latvia did not make any substantial efforts to include DH in their curricula over this period, except for a few study courses covering fragmented elements of the digital scholarship. For example, the Faculty of Humanities and the Faculty of Social Sciences of the University of Latvia offer courses in DH, corpus linguistics and computational text analysis as part of their Master degree programmes. At the undergraduate level, a course in computer linguistics is offered at the University of *Liepāja* and *Rēzekne* Academy of Technologies, and Introduction to Natural Language Processing is part of the curriculum at the Faculty of Computer Science of the UL.

However, the most efficient and sustainable academic results in the field of DH are being achieved along with the establishment and development of the Master study programme Digital Humanities implemented by the Faculty of E-Learning Technologies and Humanities (FETH) of RTU. It has become the first tertiary education programme

in the field of DH in Latvia offering advanced and versatile training in digital research in the context of humanities, cultural studies, e-marketing solutions, and e-pedagogy.

Master Study Programme «Digital Humanities». New Interdisciplinary Academic Frontiers

The rapid advancement of modern technologies, a tendency for multimodality and multimediality of information and exponential growth of diverse data have promoted major changes in the academic paradigm, supporting the transition towards interdisciplinary research studies, which has affected the development of DH and pushed it to the leading positions in academia, science and research.

Nowadays a specialist in DH is a multi-competent professional who organises, administers, implements, and/or supervises comprehensive research and application of interdisciplinary data mining, digitization, representation and archiving, processing, visualisation, and analysis strategies and methods to effectively solve cross-disciplinary challenges.

An increasing number of the world leading universities, including MIT, Oxford University, King's College London, and the University of Vienna, either launch study programs in DH and/or set DH as their strategic priority (<https://www.univie.ac.at/en/about-us/at-a-glance/strategic-priorities/>). It should be noted that although the study programmes vary in structure, duration, academic focus and curricula, they apparently indicate the overall global tendency for the launch and implementation of interdisciplinary study programmes.

The implementation of such study programmes requires adopting manifold study process organisation strategies and envisages introduction of various mechanisms pursuing excellence in the academic environment. The authors do not attempt to provide an exhaustive list of the mechanisms and strategies proposed worldwide when implementing similar study programmes but shall focus on the ones adopted and successfully approbated by Riga Technical University, which are provided in the Figure 1, p. 148.

It is interesting to note that although nowadays the Master study programme in «Digital Humanities» has gained its visibility and recognition, the decision to elaborate this study programme at the FETH did not come easy and required considerable effort, since the proposed model of the study programme presupposed active participation not only of different faculties within RTU but also various international partners that had already gained considerable experience in DH education and training. Today, the core of the study programme is

provided by the academic staff of RTU FETH and the Faculty of Computer Science and Information Technology, who alongside the representatives of the Faculty of Architecture, Faculty of Civil Engineering, Faculty of Engineering Economics and Management, Faculty of Electronics and Telecommunications contribute their scientific knowledge and extensive experience implementing study courses, supervising, consulting and reviewing Master Theses, providing study modules, seminars and tutorials. In terms of the number of faculties involved in the implementation of the study programme – 6 in this case – the Master study programme «Digital Humanities» is a unique example of successful interdepartmental and interfaculty collaboration not only on the national but also international scale. Effective and efficient cooperation between different faculties of RTU allows delivering high-quality interdisciplinary education to the students of the Master study programme.

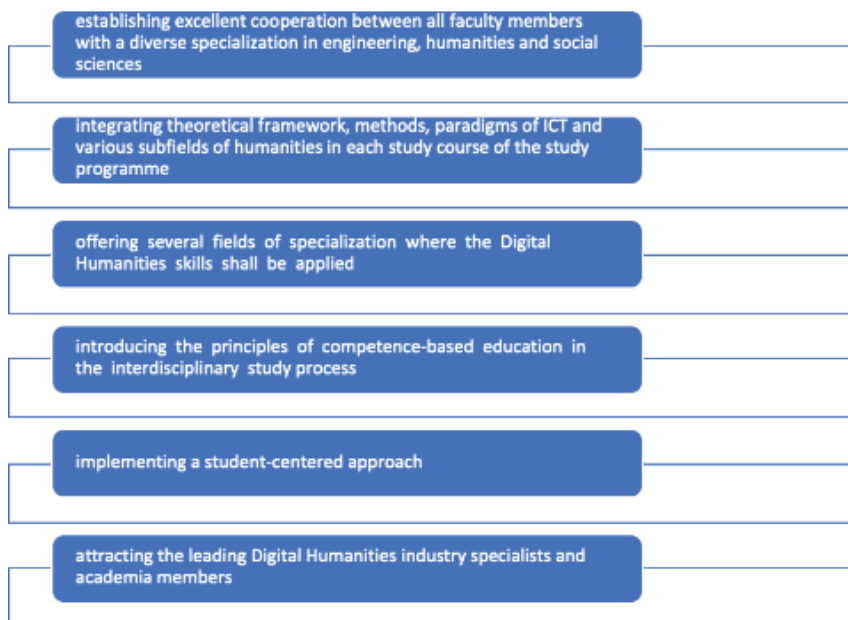


Figure 1. List of the mechanisms and strategies approved by RTU.

Prominent professors with international achievement record from the School of Advanced Studies, King's College London, Vrije Universitat Brussels, Linnaeus University, University of Western Ontario, Tartu University, not to mention professors and leading researchers from the local HEIs, such as the University of Latvia, who participate in programme implementation make it a region-leading and sound initiative.

The study programme is highly esteemed by the students with different backgrounds in humanities, art, social sciences, cultural studies and computing. The project, which started in 2018 with a group of local students and just one international representative, has now tripled in size and has attracted foreign students from many countries, including China, Pakistan, Uzbekistan, Egypt, Turkey, Iran, Azerbaijan, Indonesia, Peru, Ukraine, India, Russia, Cameroon, South Korea, Sri Lanka, Ghana, Bhutan, Brazil, etc.

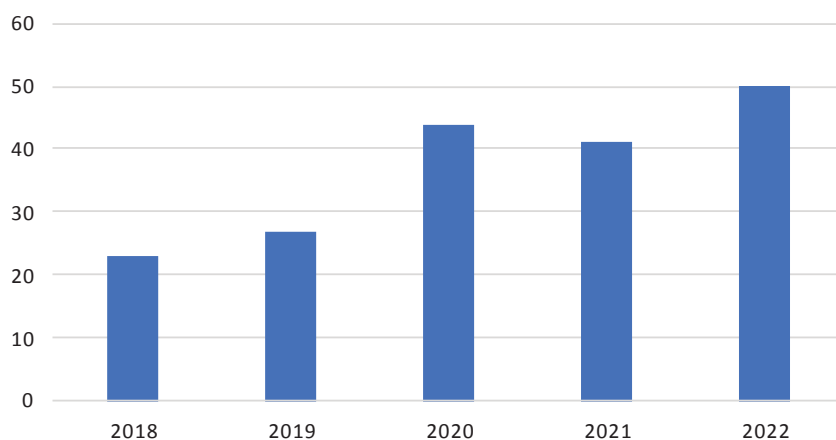


Figure 2. Total number of students enrolled at the RTU FETH master study programme «Digital Humanities».

Within the framework of the study programme, the primary focus is made on the students' needs. The list of the study courses is regularly complemented to operatively respond to the changing market and industry needs, as well as the new challenges posed by the emerging field of DH. It is worth noting that the list of compulsory and compulsory elective study courses contains more than 50 items, they are grouped into several study modules. Currently, there are 4 distinct study modules, containing custom-designed interdisciplinary study courses, which allow ensuring that the list of the students' takeaways will grow exponentially.

The provided specialisation fields aim at developing such skills as creative problem solving, implementation and approbation of the customised interdisciplinary solutions, analytical and critical thinking, cognitive flexibility and conceptual thinking, curiosity, and excellent communication skills. These skills help students «get outside the silo» of just one field and successfully apply the methods and paradigms of engineering, humanities, social sciences, and other scientific disciplines

to solve current interdisciplinary scientific research, academic training and professional tasks quickly and efficiently.

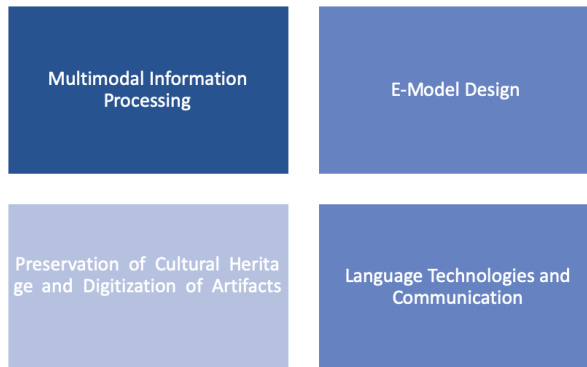


Figure 3. Study modules at the RTU FETH master study programme «Digital Humanities».

Undoubtedly, academic and scientific research greatly contributes to the study process and promotes the development of DH as a promising scientific discipline in Latvia and globally. One of the strategies adopted to promote international recognition of this Master study programme is to develop close links with academic research and DH infrastructures in Latvia and beyond. The aim is to encourage students of the programme to become active members of the DH research community during their studies, further strengthening not only their academic knowledge and skills but also helping them develop a wide range of «horizontal» skills, and motivate them to perform interdisciplinary research casting their gaze across all existing and emerging relevant theories, methods, phenomena and paradigms [10; p. 78].

The ability to attract new scientific and academic disciplines to establish yet other methodological commons, to explore yet other research and learning challenges and to discover more winning points the interdisciplinary field can offer provides for the high valency of the given study field (11, p. 10) in general and of the given study programme in particular, as well as contributes to creating the well-pronounced competitive advantage for every student, academic staff and researcher operating in DH.

Conclusions

Current research in the field of DH is aimed at solving many interdisciplinary challenges faced by the industry, academia and general public. Given the scope and impact of DH research, it may be safely predicted that the field will only grow in popularity, both locally and globally.

The fruitful and efficient synergy established between RTU and the UL paves the road for sustainable development of the field of DH, pioneering digital scholarship in Latvia. The research initiatives implemented by the UL are reflected in the education process implemented by RTU, whereas the issues faced within the framework of research performed by the academic family of RTU are further addressed within the projects and other scientific activities propounded by the researchers of the UL.

Nowadays it is safe to argue that RTU has truly become a natural cradle for the first tertiary level study programme in DH. In future, other Latvian universities will definitely follow the trend started by RTU, enriching the field, promoting cooperation and strengthening Latvia's position in such smart specialisation areas as digitisation, intelligent cities, sustainable cultural heritage management and other areas particularly important for humanity in the times of geopolitical turbulence and insecurity.

Integrating and implementing humanitarian ideas in various areas of human life with the help of the most advanced ICT solutions, DH has the potential to become both ends and means in making Latvia a modern, intelligent, welfare and human values-focused country.

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SOURCES OF ILLUSTRATIONS

Figure 1. Raksta autoru veidots attēls.

Figure 2. Raksta autoru veidots attēls.

Figure 3. **Platonova, Marina, Smirnova, Tatjana, Seņko, Zane** (2021) *Academic Research Student Handbook*. Master of Science in Digital Humanities. Riga: RTU Press, p. 10.



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Starpdisciplinārās akadēmiskās jomas digitālās humanitārās zinātnes aizsākumi Latvijā

Galvenā informācijas multimedialitātes tendence un eksponenciālais datu apjoma pieaugums ir veicinājis būtiskas izmaiņas akadēmiskajā paradigmā, atbalstot pāreju uz starpdisciplināriem pētījumiem, kas ir ietekmējis jaunās digitālo humanitāro zinātņu (DHZ) jomas attīstību.

Raksta mērķis ir sniegt ieskatu par dažādām DHZ sabiedrības īstenotajām aktivitātēm Latvijā, kas veicinājušas nozares attīstību un stimulējušas ar digitālo pētniecību saistītu kursu iekļaušanu Latvijas augstākās izglītības studiju programmās, atspoguļojot RTU maģistra studiju programmas «Digitālās humanitārās zinātnes» izveidi un īstenošanu plašākā Latvijas, Eiropas un visas pasaules kontekstā.

Atslēgas vārdi: digitālās humanitārās zinātnes, digitālās zināšanas, humanitāro zinātņu mācību programma, starpdisciplinārās studijas, jauna zinātnes nozare.