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Net Literature in the Classroom

Teaching Practice at the University of Siegen

Teaching computer-based and networked literary projects—or more specifically "digital literature"—is not an easy undertaking. It is not simply the continuation of teaching the established literary forms with new electronic means, and it can not represent these new forms comprehensibly with the known didactic methods for the very reason that literature in computer-based media no longer creates firm "objects:" The series of letters on the new surfaces have become mobile; only in the process of "reading" the stories or poems emerge in varying degrees, qualities, and intensities and this also means that the roles of researching, teaching, and learning are becoming blurred in a (still) disturbing way. As a rule, the teacher knows more about the stories, the genres, the authors, cultural backgrounds, and so on; e.g., the various components that so far have comprised the literary field. This continues to remain a central requirement for working with "net literature," which is clearly referring back to these traditions in many ways. But this recognition of intertextual references is merely *one* of the requirements. Already when navigating, for example, within the possibilities of reading or composing the respective literary projects, the advantage lies no longer necessarily with the teacher; often it is the students who are the more experienced users and discover or produce combinations that surprisingly widen the literary field. The students become "teachers" and only in the next step, when poetic qualities are explained—or when the nonsense produced is being criticized—can the teacher again take on his or her customary role. We would like to delineate the interesting, even though sometimes difficult, directions taken in our own teaching at the University of Siegen, as well as with our project partner Brown University in Providence, RI.

1 Literary and Media Studies at the University of Siegen

In the winter semester 2008/09, 12,324 students were enrolled at the University of Siegen (Germany) of whom about 4,900 were studying within the Department of Language, Literary and Media Studies. This makes it the biggest department of the university by student numbers. Research and teaching within this department on the one hand cover the traditionally important areas of *Germanistik, Anglistik,* and *Romanistik* ('German, English, and Romance

Studies'), but on the other hand from its very beginnings in the 1970s, literary studies at Siegen operated with a particular focus on the media in which literary texts are being written, distributed and read (for example, Gumbrecht and Pfeiffer; Kreuzer). This inevitably led to the question of how texts are transformed into films or radio plays—or currently into computer-based media and onto the Internet.

From this starting point, Siegen developed a distinctive profile within the new academic discipline of Media Studies in the 1980s and 90s by focusing on research in media aesthetics and cultural studies. Between 2002 and 2009, a so-called "Forschungskolleg" ('Research Center') has been funded by the *Deutsche Forschungsgemeinschaft* ('German Research Council') entitled *Medienumbrüche* ('Media Upheavals'). It aimed at examining the prerequisites and structures of two "media upheavals:" The first one at the beginning of the 20th century triggered by the new audio-visual mass media, the second one at the crossover to the 21st century that is characterized by the integration and substitution of distinctly analog media with computer-based and networked media. Our ongoing sub-project under the title "Literatur im Netz/Netzliteratur" ('literature on the net/net literature')—we do regard the slash in the title as programmatic—aims at examining literature in computer-based and networked media which we regard as characteristic for such a media upheaval.

2 Degree Schemes in Higher Education

In order to introduce didactic approaches, it is necessary to give some basic information about recent reforms in German higher education. The long-established German university courses and degrees—the "Diplom" ('diploma') for most technical subjects, the "Staatsexamen" (which is the entry qualification for school teachers but also for some other professions in Germany), or the "Magister" in the humanities—had existed in sharp contrast to the Anglo-Saxon tradition of modularized Bachelor and Master degrees with a strictly limited duration of study time. German students, especially in the humanities, were allowed to study without cost as long as they liked; they just had to register for their exams once they had successfully accumulated the necessary credits. This sounds rather anarchic—in particular under German circumstances—and it is pretty obvious that this was not the most economic and efficient system. But on the other hand it allowed students to find their individual areas of specific interest and to go deeper into the matter. Students in the humanities generally had to take only a few compulsory courses (such as an Introduction to Literary Studies, to Medieval Studies or suchlike) but were free to choose

most of their classes from a wide range of optional courses, which only needed to cover some areas outlined in the curriculum.

This system, however, had come under pressure in recent years and is currently being replaced by Bachelor's and Master's degrees derived from the English and American model. Officially, this has been done for two reasons: First of all, there had been strong political pressure to reduce the average length of study. In German Studies for example, students averaged 6.5 years to gain their "Magister" or "Staatsexamen" degree. This, of course, has been regarded as too long in comparison with students from the U.S. or other EU countries. Secondly, as a consequence of European integration, efforts have been made to harmonize the degree schemes in higher education in EU countries, the so-called "Bologna Process." By now, BA and MA courses have been introduced step-by-step to replace the traditional German degree system. In reaction to these demands, Siegen's Department of Language, Literary and Media Studies introduced two three-year BA courses as of winter 2002/03. The first one, Language and Communication (LAC), is a course in Linguistics (including language instruction), whereas in Literary, Cultural and Media Studies (LCMS) literature is being taught within the framework of Cultural and Media Studies, which we briefly introduced earlier on. In addition, various 2-year MA courses, among them Literature, Culture and Media and Medienkultur ('Media Culture'), are being offered since fall 2004.

We will not be able to discuss the—to our minds disastrous—results of these reforms here, but we would like to abide by the opinion that these reforms do already have a deep impact on the everyday teaching practice in general and on the teaching of literature in particular. By now, the modularization of courses has been widely realized and the ECTS (European Credit Transfer System) has been introduced in Germany. Therefore German university teachers have to provide an attractive and recurring set of optional modules, and students are making stronger demands for more standardized courses.

3 Teaching Net Literature in the Classroom: Syllabi and Didactic Approaches

By now, literature in modern computer-based and networked media has rather been a subject of mainly scholarly research at Siegen. Teaching activities in the subject matter have been carried out in a rather unsystematic manner so far and have not yet been implemented as a compulsory module in a curriculum. Nonetheless, Peter Gendolla has repeatedly offered seminars and lectures on literature in new media for the last 14 years. His chair in literary studies is known as "Literature, Arts, New Media and Technologies" and is thus explic-

itly committed to research and teaching of literature in its medial and technological context. Hence, he offered some initial courses approaching the subject matter of "net literature" in the 1990s, such as

- *Literatur auf CD-ROM* ('Literature on CD-ROM'; seminar, 1995): Examples ranged from the first very simple CD-ROM editions of classical writers—which were nothing more than texts by Kafka, Goethe and others and some illustrations—to some more interesting experiments like *otto mops: Auf der Suche nach dem Jandl* (1996) or *Stehender Sturmlauf: Kafka in Prag* (1997) trying to find media-adequate realizations of the originals.
- *Computerlyrik* ('Computer-aided Poetry'; seminar, 1997) exploring early text and poetry generators such as *Ars magna, CAP, POE* or *Delphi*.
- *Literatur im Internet* ('Literature on the Internet'; seminar, summer 1999) exploring new tendencies of writing and reading in networked media. In this seminar students were introduced to topics such as hypertext and hyperfiction, game theory, collaborative writing as well as to theoretic approaches like George Landow's theory of hypertext or Espen Aarseth's cybertext theory.

3.1 *Literatur im Netz* ('Literature on the Net')

From 2002/03, Gendolla and Schäfer jointly offered—in the context of a course program derived from the activities of the Research Center on "Media Upheavals"—various seminars on the topic, beginning with a two-semester seminar *Literatur im Netz* ('Literature on the Net'). As anybody who already taught interdisciplinary classes can tell from her/his own experience, this has positive as well as negative effects. In these particular cases, we had students of Computer Studies who knew a lot more than we do about information technologies and electronic networks but had little knowledge of literature and the arts sitting next to students of pure literary studies who were well acquainted with literary theories and traditions but only had a vague idea of the impact of computers on writing and reading.

What, however, did we discuss with students in the classroom? For the purpose of the first seminar, we used our distinction between "literature on the net" on which we focused in the first semester and "net literature," which was on the agenda in the second semester. We started the seminar with a survey of the media history of literature from ancient epitaphs to the handwritten manuscripts of medieval monks, from the printed books of the *Gutenberg Galaxy* to modern digital computers. Thereupon we examined the impact of computers

on literature by discussing the peculiarities of electronic storage and transmission of data. We then referred to traditional aesthetic criteria and asked if they are still in force in selected hyperfictions, collaboratively written texts or computer-generated poems. And then we raised the question whether traditional literary genres such as poetry, prose and drama can be realized in computer-based media and, if yes, how their impact would then change.

After this, we examined how computer-based and networked media have already influenced and changed the literary system. Literature cannot be analyzed without taking into account that verbal objects have always been subject to historically varying communicative practices that are highly dependent on the media in which they are carried out. At this point of our course, we focused on the distribution and post processing of literary texts: How are texts being transferred over time and space? How are they stored and edited in the age of "permanent mutability" (Chaouli 68)?

In the following semester, we focused on what we regard as "net literature" in a stricter sense. We again started with a rather broad approach by discussing various theoretical conceptions of telecommunication networks from physical transport of messages by messengers and the transport of letters by mail to dematerialized telecommunication systems such as telegraphy, telephony or computer networks, but also social and biological networks.

We then raised the question whether new literary forms may be developing under the influence of present-day computer technologies. Although we did not intend a general discussion of theories of literature—this would certainly be too much to expect from students in this context—, we wanted to confront net literature with those four epistemological conceptions we already mentioned in our other essay in this book: *intentionality vs. chance, performativity/performance, emergence* and *game/play*.

3.2 *Geschichte der interaktiven Literatur* ('History of Interactive Literature')

Whereas we had started our first seminar with a top-down approach by introducing quite complex theoretical conceptions and then trying to apply them to net literature, we gave preference to a bottom-up approach in our second attempt: Since many students had not been in touch with net literature before, this allowed for a beginning with self-exploring activities in class. We then could introduce the theoretical framework on the basis of a thorough knowledge of some exemplary texts. Hence, in our two-semester seminar *Geschichte der interaktiven Literatur* ('History of Interactive Literature'), which we held in

2005/06, we aimed at drawing students' attention to the historical dimension of net literature.

For this purpose, we focused mainly on three tendencies for characterizing and classifying those many literary texts and procedures in which recursive processes can be identified. First, current text generators can be traced back to previous forms of *combinatory literature*. Since the Baroque era, numerous writers were experimenting with literary forms that did not only consider a literary text a symbolic expression of a person's subjectivity but also considered a text as determined by the level of programming and processing of signs. On the one hand, this is reflected in the tradition of word games such as anagrams, palindromes or proteus verses, ranging from Baroque writers such as Quirinus Kuhlmann to 20th century avant-garde poets like Unica Zürn or Oskar Pastior. On the other hand it is presented in mechanical text-generating machines such as Ramon Lull's *Ars Magna* (1305-08), Georg Philipp Harsdörffer's *Fünffacher Denckring der Teutschen Sprache* (1651), which claims to reproduce the entire German-language word formation in a mechanical apparatus, or the (fictive) Grand Academy of Lagado's machine for automatic writing in Jonathan Swift's *Gulliver's Travels* (1726). In 20th century literature, (neo-)avant-garde writers such as the international (though predominantly French) Oulipo group developed a wide range of chance and/or algorithmic procedures for the production of literary texts, which were subsequently implemented into computer-based and networked media. We discussed manifests and texts by François Le Lionnais, Italo Calvino and Raymond Queneau, the creator of the famous sonnet-machine *Cent mille milliards de poèmes* [*One Hundred Million Billion Poems*].

Secondly, *hyperfictions,* too, are not necessarily dependent on computers: If the basic idea of hyperfictions is letting the reader determine how he traverses the text by choosing from different story threads, then this is possible in all storage media in which texts can be divided into segments which are connected to each other by hyperlinks. Starting from Landow's theory of hypertext, we analyzed texts in which readers have the choice between multiple links and thus need to make decisions during the reading process. In print media, this has been done either in permutative novels such as Italo Calvino's *If on a Winter's Night a Traveller* (1979) or Andreas Okopenko's *Lexikonroman einer sentimentalen Reise zum Exporteurstreffen in Druden* (1970). Alternatively, the text segments can be published in loose-leaf form as has been done by Marc Saporta in *Composition No. 1*, by Herta Müller in *Der Wächter nimmt seinen Kamm* (1993) or by Konrad Balder Schäuffelen in his various "lottery novels." We discussed how the reader could either combine the text segments according to set rules or rather intuitively.

It goes without saying that human-human communication has always been possible prior to the installation of computer networks. There have always

been *collaborative writing projects* such as the parlor games of the Baroque era, the co-operative writing in 18th century literary salons or the Surrealist "cadavres exquis" ('exquisite corpses'). However, it was not until the implementation of postal systems and of technological transmission media that long-distance collaborations were to become possible, ranging from varying writers' correspondences and the epistolary novels to Mail Art or Correspondence Art projects of the 1960s and 70s, from telephone and fax performances to simultaneous communication via computer networks.

In the summer semester 2006, we continued with analyzing and discussing current tendencies of net literature with a focus on projects in computer-based and networked media. At first, we familiarized the students with the already mentioned media-technological changes of literary production, distribution, and reception (3.1), as well as with the diverse models of interactivity in the computer sciences and also in literary and media studies (e.g., Pflüger; Heibach 68-91; Rettberg) in order to work out the differences to traditional sociological theories of interaction as well as to the usage of the term "interaction" in theories of reception.

Following this, we referred back to Noah Wardrip-Fruin's thoughts on the specificities of "digital literature" in order to give the students an overview covering the wide spectrum of literary works and processes in computer-based media. Wardrip-Fruin's text is a good entry into this field (unfamiliar to most students) because his attempt to determine the typology of this field of knowledge is well suited for the fundamental discussion of the connection of literature to its media with concrete examples.

In order to discuss the different aspects of human and machine "creativity," we at first spent some time with collaborative writing projects like e-mail-novels, where several authors or groups of authors jointly produced literary texts. This engendered particularly the question of the changed traditional conceptions of the author and the attribution of creative processes. When using programmed poetry generators in which literary forms are implemented, this question comes to a head in a special way since the problem arises whether and to what extent artificial "intelligences" are able to create texts to which readers are ready to attribute aesthetic qualities.

The rest of the semester was devoted to the effects of interactivity on literary genres made available by computer-based media. Above all, we discussed the relation of narration and games within literary hypertexts and computer games. In the course of this, we focused on the possibilities of a transmedial narratology that has been particularly questioned by the so-called "ludologists" (e.g., Aarseth and Eskelinen). Attempts to mediate between the narratologists and the ludologists are for one Wardrip-Fruin's efforts regarding "playable

media" and "textual instruments," and on the other hand the interactive drama *Façade* by Michael Mateas and Andrew Stern.

3.3 *Digitale Literatur und Kunst: Close Readings* ('Digital Literature and Art: Close Readings')

For several years we have been cooperating with Roberto Simanowski, who teaches German literature and digital aesthetics at Brown University in Providence, RI. Brown University, one of the renowned Ivy-League universities on the East Coast, is one of the centers where the theoretical and practical discussions regarding digital art and literature are taking place in the U.S. Even though the project partners had already been offering lectures and seminars on digital literature and art for some years, they were exclusively presented at Brown or at Siegen respectively in face-to-face classes. Therefore, the idea emerged to complement our cooperation in research with joint classes so that students from both universities could be included in the discussions, and this as a start led to a one-day initial block-course in Siegen on *Digital Literature and Art: Close Readings* during the winter term 2006/07 for the Siegen students.

Teaching this seminar as a block allowed us to concentrate much more closely on individual literary projects. In particular, it was possible to include longer periods of group-work in which the students were able to first discuss their own experiences and thoughts on the literary projects without a professor's input. Here, we especially aimed at a first descriptive representation of the object before including our guiding questions into the discussion. These had been presented previously already at a first introductory session in order to structure these group-activities. Apart from this, the students earlier had been able to access some theoretical texts and URLs on the BSCW-Server of our University.

Using the examples of the interactive drama *Façade* by Michael Mateas and Andrew Stern, the hyperfiction *Die Schwimmmeisterin* [*The Bubble Bath*] by Susanne Berkenheger, as well as Daniel C. Howe's installation *Text.Curtain*, we discussed above all their continuities and discontinuities relative to "traditional' literature in print media. Continuing, we asked about the intertextual or intermedial relationships to concrete literary forms, structures, elements, conventions, constellations of characters, etc., that are taken over from traditional genres, and then we attempted to find out about those characteristics that can be realized exclusively in digitally networked media. In the course of this we also looked at the relationships between "author," "work," and "reader" and apart from this we were also interested in the technical realization of the pro-

jects, as well as the question of the reciprocal "regulation" between human and machine "actors."

The discussion on the interactive installations (or environments, respectively) *Screen* by Noah Wardrip-Fruin, *Text Rain* by Camille Utterback and Romy Achituv, as well as *Listening Post* by Mark Hansen and Ben Rubin led to more concrete questions like, for example, the intertextual relationships between *Text Rain* and the poem by Evan Zimroth on which it is based, or the borders and interdependencies between literature and the fine arts.

4 Teaching Net Literature in a Transatlantic Blended Learning Environment

A follow-up course, *Digitale Literatur und Kunst II* ('Digital Literature and Art II') that broadened the aforementioned cooperative teaching practices, took advantage of the Internet to enable an online cooperation between teachers and students within a collaborative transatlantic teaching framework.[1] What follows are the practical experiences and lessons learned from conducting this cross-cultural class between our seminar group at Siegen and Roberto Simanowski's at Brown University in fall 2008. Since digital literature is created via programmable media and usually produced, published, and read (interacted with) in an online environment, it seemed to be a plausible strategy to teach digital literature in the environment these works participate in. However, performing such a class in a transatlantic teaching framework requires several organizational adjustments. Before presenting the course description along with the methodological approach applied in the Blended Learning class, problems, procedures, and background information related to student groups and logistics will be illustrated first.

4.1 Teaching Procedures

Due to logistical issues—for example, the six-hour time difference and different academic schedules (Brown University's fall term was from September 6th to December and Siegen University's was from October 17th to February 6th)—both partners had to adjust sessions to hold parallel courses. As a consequence, we conducted five transatlantic cooperation sessions where tandem groups discussed their results face-to-face in the U.S. and in Germany separately.

Each of these groups simultaneously undertook special studies for an appointed work of digital literature by using the discussion board for collabora-

tive work conducted in English. The outcomes were then presented to their respective groups in the five (spatio-temporally separated) sessions and presented online as a PowerPoint presentation.

4.2 Teaching Environment

As the central place for online interaction and communication between group members, we provided a secure, asynchronous discussion board. We assumed that students already participate within the Web 2.0 environment and, therefore, shied away from implementing a synchronous communication tool.[2] Instead, students could provide alternative contact information on their member profile. Generally, the discussion board provided space for reflections and discussions while the face-to-face meetings with the teachers served as the place for prompt intermediation.[3] We, as teachers, did not moderate the discussion board but encouraged the students to work together without our direct intervention.

Based on a didactic Blended Learning Model that was developed for the purposes of the class (Tomaszek), the web-based discussion board was understood as a "space for reflection" in which a certain competence could be developed with the help of written-down discussions within small cooperating groups. This was based on the assumption that in a discussion forum critical thought is practiced and that thereby meta-cognition produces knowledge in the reflective process of writing. In this seminar, in which students had to be present, the teaching situation is understood as a space of mediation. In this mediational space, activity- and transfer-oriented knowledge is acquired that can be implemented or applied on the basis of a research oriented development of competence.

Generally, it was the teachers' goal to turn students into researchers, critics, and self-directed discussion board moderators in the online environment. Within this environment, students were engaged to develop their own thoughts, views, and insights.

This is also advantageous because German students wouldn't have had enough language skills to react spontaneously and adequately to an American student's comments. We observed this phenomenon in the final session that was held via an online video-conferencing system in real-time. Here, German students had difficulties organizing their ideas and reacting promptly to the American students. Implementing the asynchronous discussion board proved to be the most effective way for students to do their research collaboratively. It provided opportunities to consider the matters discussed in the face-to-face environment, and the depth of the student responses reflected this. They were

able to draw enlightening connections that ranged from programming knowledge related to n-grams when discussing Wardrip-Fruin's *News Reader* to discussions of Shklovsky's theory of "defamiliarization" when talking about Utterback's *Text Rain.* These inputs and links to external information and experiences definitely enriched the students' discussions held on the discussion board. While discussing asynchronously on the provided discussion forum, students had more time to elaborate on answers and to draw on knowledge they already had and made use of to adopt for the given assignments.

The discussion board was open for all students to elaborate on the projects and accompanying research questions. Moreover, the face-to-face classes that were held each week while the discussion board was open provided another source of inspiration, insights, and knowledge. Via the online communication system, students shared what they learned in the face-to-face meetings with their counterparts. This dynamic broadened the classroom-facilitated, intercultural collaboration between students from different courses of studies to foster multifocal perspectives. The teachers accompanied the process in face-to-face sessions and commented on outcomes by posing questions and giving valuable hints to direct the students towards new perspectives.

4.3 Methodological Course Description

To conduct the class in Germany and the U.S. successfully, a methodological approach, divided in four phases, was developed:

- *Phase 1:* Teachers at both universities conducted face-to-face classes discussing identical topics within six weeks (spatio-temporally separated) in Germany and the U.S.

- *Phase 2:* The students were divided into five groups, which usually consisted of one American student and three to four German students. These groups were designed so that participants could draw on their varying backgrounds to contribute their ideas to a pool of collective group knowledge.

  Each group discussed one work in-depth by answering research questions provided by the instructors. Furthermore, students were asked to read assigned academic papers to complete their presentations. These presentations were prepared by the students from both universities collaboratively and presented face-to-face to their respective classes in the same week (spatio-temporally separated) both in Germany and the U.S.

- *Phase 3:* The second phase served as a preparation for a final online-session conducted via a synchronous video conferencing system at the end of the seminar. Here, students were asked to adopt what they learned.
- *Phase 4:* This was a phase of reflection and documentation. The groups prepared final PowerPoint presentations, which they uploaded to the online class forum.

Students need to be familiar with a number of divergent works to be able to discuss the varieties of digital literature and to approach new reading and interpreting strategies successfully. The online environment helped to meet that need by providing a discussion board for time permitting in-depth discussions.

In the face-to-face sessions, teachers used their literary and cultural studies perspective to help students develop abilities for testing concepts of "traditional" literary theory critically. Moreover, students were asked to describe as well as to evaluate the structures, forms, aesthetics, and techniques of selected works of digital literature in respect to their theoretical and methodological competences within assigned research questions (Schäfer et al. 69). In the real-time sessions, the class discussed intermediality, multilinearity, interactivity, and programming as features of digital literature and art with reference to specific examples.

Students worked collaboratively in groups on their group assignment. They explored the Web for related information, read academic papers provided by their instructors, and discussed their findings and observations in the online class discussion forum.

4.4 Syllabus and Research Questions

Five thematic foci were agreed upon for the joint seminar sessions with exemplary literary or artistic projects in each case:

Session 1: Interactive installations I

Project: Camille Utterback and Romy Achituv: *Text Rain*

Research questions:

– How does Utterback and Achituv transform Zimroth's poem "Talk, You"?
– Could this poem be replaced by another text?
– What are the main differences between fixed texts and texts in motion?

Session 2: Interactive installations II

Project: Scott Snibbe: *Deep Walls*

Research questions:

- What are the main differences between traditional ("inter-passive") and interactive art?
- How are we to understand the grammar of interaction, the (spatial and temporal) structure and the applied symbols of Deep Walls?

Session 3: "Playable media" and "textual instruments"

Project: Noah Wardrip-Fruin et al.: *News Reader*

Research questions:

- How does Wardrip-Fruin define "playable media"?
- What are the differences to computer games on the one hand, to literary texts on the other hand?
- How are "instrumental texts" differentiated from "textual instruments"?

Session 4: Digital photography

Project: Andreas Mueller-Pohle: *Face Codes*

Research questions:

- What are the roles, features, functions of photography in traditional literature?
- Is the text imprinted on the faces the "genetic" makeup of the image itself or rather the fingerprint of the photographer?

Session 5: Mapping Art, body liberation and surveillance

Projects: George Legrady: *Making Visible the Invisible;* Mark Napier: *Black and White;* Josh On: *They Rule;* Golan Levin: *The Secret Lives of Numbers;* Martin Wattenberg: *Shape of Song;* Greyworld: *The Source*

Research questions:

- Are there relationships between maps in general, mind maps, concept maps and mapping art?
- What is the common ground, what the difference between the aesthetics of mapping art and the aesthetics of readymades and photography?

Along with the research questions, students were given links to theoretical papers provided in an electronic reader in the online discussion board. These academic readings formed the common theoretical ground for the tandem groups' research and analysis.

4.5 Student and Course Performance

As a result of divergent methodological approaches that the students from Germany and the U.S. adopted in their research, the overall discussions were enriched by their differing views and complementary perspectives that brought a panoply of meaning to the projects and a wide range of insights into the research questions.

The board messages of Brown University students demonstrate that the student groups approached the course material differently: Brown University students worked critically with an established hypothesis on digital literature and art that they had developed together in class. This hypothesis served as a starting point for all other evaluations and discussions on primary and secondary literature and allowed to prescind the topics on various levels. In contrast, German students used secondary texts mainly as a source to understand the assigned work of digital literature and to apply the terminologies used in an academic paper correctly. Thus, they worked closely with the given academic papers without prescinding from the contents read. Thanks to the collaboration with students from other educational backgrounds, the transatlantic Blended Learning class helped them to experience other approaches for dealing with works of digital literature and its accompanied research papers.[4]

5 A Résumé for the Future

As we have said in the beginning, the teaching of digitally networked literature is not an easy undertaking; it is in no way fully developed; it has no completed curricula with canonical projects, let alone differentiated methods. Of course the reasons lie in the fast changes of the new literary forms, as well as in the constant technical changes of the media systems within which they are being "written." If we, however, take net literature as the testing field for the emerging forms of communication in a global electronically networked world, then a characterization and sedimentation of digital literature corresponding to the traditional canonizations will not surface since the literary arts are about to become *opere aperte*, open works of art in a still further reaching sense than Umberto Eco once had suggested. Authors and readers, teachers and students read and write together with programs, fluidly creating texts. Whether great art or great kitsch emerges from this will be decided—as it always has been—through criticism and the further history of their reception.

Translated by Brigitte Pichon and Dorian Rudnytsky

Notes

1 Students from Brown University were majoring in a variety of subjects: Chinese, Music Theory, Management, and Digital Aesthetics; Literary Systems; Literature and languages or Computer Science. German participants were mostly students pursuing a Bachelor or a Master of Arts in Literary, Cultural and Media Studies. The overall students experience with digital literature, art, and new media ranged from basic competences in programming to theoretical knowledge acquired in classes on interactive literature.

2 Instead, students could provide alternative contact information on their member profile. In fact, 59 percent of the German students used other communication systems (for example, E-Mail, *Skype*, *ICQ*, *Messenger*) to work together on their assignments. These communication systems were used by German students who couldn't meet face-to-face and who wanted to discuss issues in real-time with online tools that allowed them to ask questions and get answers promptly. Due to the time difference, American students didn't participate in these real-time discussions; they used the discussion board instead.

3 Asynchronous communication systems such as the discussion board allow the time for thoughtful discussions and preparations; moreover, these discussions are permanent and able to be reviewed. Such detailed examinations of the classes' subjects couldn't have been conducted on synchronous face-to-face communication channels, as words are ephemeral and cursory with unclear conversation threads.

4 An evaluation of the students' learning activity at the end of the seminar was conducted by using a coding scheme developed by Anna Veldhuis-Diermanse to analyze message content in computer-supported collaborative communication systems. With the help of this coding system, it was possible to observe cognitive, meta-cognitive, and affective learning activities performed by our students in the discussion board. A content analysis of the posts revealed that 53 percent of the discussions were related to a cognitive learning activity, 24 percent to a meta-cognitive activity, and 23 percent were within an affective learning activity (Tomaszek). The results highlight a concentrated student performance in which participants focused on their group-discussions by presenting concepts, reasoning, arguments, visions, and conclusions by relating these to their learning process and research goals.

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