Knowledge creation and exchange within research: the exegesis approach
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1.0 Introduction

This paper discusses the exegesis approach as a means of applying research methods and gaining insight into the processes of knowledge creation and exchange. The conceptual framework of exegesis based research will provide insights into the knowledge creation processes within practice based education which on its turn will feed the insights necessary for further development of the Methods of Research curriculum taught at Utrecht School of the Arts. The curriculum will engender new approaches and methods within design research and therefore help students and educational facilitators to create and articulate their retrieved knowledge.

2.0 The Learning Process

Institutions in higher art & design education are by nature organizations which value learning and creativity. Education and knowledge creation is the core business of these organizations. As such, it is quite remarkable how poorly developed the notion of knowledge creation through research is at an institutional level. Although educational facilitators put lots of energy at enabling knowledge creation and facilitating learning at a student level; few organizations have developed a knowledge vision on how they can enable knowledge creation within research processes at an institutional level.

The challenge of any evolving field is to bring tacit knowledge into articulate focus. This creates the ground of shared understanding that builds the field." [Friedman 2000]

The new approach; the exegesis approach, gave the institution the wanted insights of research which addresses this stated issue on both a theoretical and practical level within the EMMA [European Media of Arts] and the PhD in Design program.

In art education, learning is considered from a constructivist point of view: “Learning is a process of creating knowledge” [Weick, 1991]. This definition of learning implies that knowledge is both the input of a learning process as well as the output of a learning

process. Learning, perceived as a cyclic process, involves three types of learning activities: following a concrete problem or task students are triggered [A] to collect relevant information, [B] to process & synthesise this information and to [C] create and evaluate solutions for the initial problem or task [Renger, 2000].

When the learning process is observed from this angle, and it is part of the culture of the institution to value the learning process of the student as an important aspect to monitor [instead of focussing on output alone], this poses new challenges. One of these challenges, in the light of supporting the process, is keeping track of that process, and maintaining a fair and rigorous assessment process based on evidence delivered by the students.

To be effective, designers can no longer focus simply on the narrow domains of specific applications. They must increasingly reach deeper and more broadly into the foundations of design, and they must understand more about the cultural contexts in which their designs are created and used. They are now called upon not only to produce new products but also to manage the processes by which the products are produced. They must also understand more about the ways products are used and the people who use them, about how to involve users in a design process, and about how to evaluate designs based upon usage. In addition, more than ever before, designers are required to investigate and articulate the principles and methodology behind the designs through systematic research, experimentation, intellectual inquiry, and theoretical speculation. They are also expected to communicate their findings and contribute to a body of knowledge that constitutes the basis for an emerging academic discipline and a true science of design [Design Vision; Proposal for a School of Design at the University of California, Irvine November 2002]

3.0 Utrecht School of the Arts: Setting the Scene

Utrecht School of the Arts [HKU] is one of the largest institutes of higher education for art and culture in the Netherlands. The school consists of five faculties, which together offer around 100 courses. The Utrecht School of the Arts offers courses within the area of Visual Arts and Design; Music; Theatre; Art, Media & Technology; Art & Economy. The Utrecht School of the Arts aims to provide an exceptionally high level of the education; each educational facilitator [teacher, supervisor, tutor] - in whatever faculty - is a highly driven expert in his or her specialist area. It is within this context, the Utrecht School of the Arts is focussed at imparting sufficient knowledge and experience to students to enable them to flourish in the world of art and culture.

The approach as discussed in this paper is being applied and educated within the European Media Masters of Arts. The MA in European Media [EMMA] is a master program for young professionals with a multimedia background who want to extend their technical and theoretical scope towards a master degree. The programme has been validated by the Open University, London.

4.0 Exegesis Approach

The exegesis approach is a means of applying research methods and gaining insight into the processes of knowledge creation and exchange. In this module the student will conduct self-directed research on an individually assigned project of their choice. This will result in a creative artefact. In support of this process of research and making, they will write a thesis to provide a substantial piece of work in which both critical theory and

practice can be demonstrated. Both project and thesis provide evidence for the culmination of Masters level achievement on the program. The relation between the thesis and the individual project is a relationship with mutual influence. The thesis provides a research based theoretical and contextual framework for the practical work performed in the individual project. The individual project should bear evidence of theories, propositions and assumptions. The individual project should be embedded in the thesis part as a case study. Relevance of theory and design should be shown at an early stage. At completion of this module students are expected to present a practical as well as a theoretical body of work that is not only of a high quality, but also a result of rigorous and reflective research, both practical and theoretical.

4.1 The Value of the Exegesis

The exegesis is developed from the knowledge that preceding and during the process of creating artefacts, research is a substantial part of this process. By bringing these two elements [creating and research] together, a new kind of didactic structure has been found in the curriculum of the EMMA: the exegesis. The impact lays both on the thesis and the individual project constituting a combination of fundamental based research and applied research, which we can define as practice based research. Theory and practice cannot be seen as separated parts. Theory and practice are partners of conversation who should be equally balanced. The intention is that the exegesis approach should contribute to a willingness to look beyond the immediate concerns of making an artefact; it should enhance an integration of ideas and results from the underlying research into the creation of the artefact. This will be a process of continuous modification and unification. The thesis is a kind of representation of the undertaken research that has been initiated to create the artefact. In our understanding the artefact is an illustration and shows research, the thesis underlies the artefact and describes the connection between the research and the product. The artefact is partly the outcome of the research and is as important as the accompanying thesis. This process can be defined as a circular process. A continue communication between the thesis and the individual project is typical of the exegesis.

4.2 The Exegesis in Practice

The exegesis has been developed to educate students how to define their research. At an institutional level the exegesis will show what kind of research has been done and which results has been reached. As earlier mentioned, the most important issue is the connection between the artefact and the thesis. The role of the artefact and the thesis will be supportive and complementary. The artefact will gain insight in the way in which methods of research have been used. In our understanding the knowledge gained on a design project should be reliable employed on other projects and should be involved continuously into design processes. That's why students have to collect al their results in a research folder, which consists of the following objectives:
description of used methods;
description of the purpose of applicability of the methods;
description of the usage of the methods;
reflection on the additional value of the methods.
The focus on the methods of research is to foster reorientation of attention and concerns in a meaningful way. Research is deeply embedded in creating design. The point is how to show the research and being aware of doing research. The thesis describes the methods of research, which have been used by creating the artefact, and is a reflective part of the design process. The research will consider how the artefact should be developed. Due to the connection of these two elements, students will have to be critically aware of the

advantages research will offer them in creating their work. In the end the knowledge creation and exchange within research will be a continue mutual influence without boundaries. To make students aware of this, students should be triggered to be more interested in and enjoyed by the research part in showing that by doing research the project will be more grounded. The exegesis approach encourages students to expansive out–of-the-box thinking and will stimulate an inventive and an inquiring attitude.

5.0 Enabling Learning Processes

As the exegesis approach showed its main focus is on enabling knowledge creation processes by the creation an artefact. It is this central position of the artefact which evokes processes that enable learning and as such knowledge creation.

Practice tends to embody knowledge. Research tends to articulate knowledge. The knowledge creation cycle generates new knowledge through theorizing and reflection both. [Friedman, 2000]

The next step is to identify what enables these processes and how can we as an institute foster these new creations in order to support the exchange of these.
It can be said that the enabling learning processes is the core business of institutions of higher education [Thomassen, 2001]. As such universities have developed a range of services [libraries, campuses, ICT-systems] and hired competent staff to enable and stimulate learning and knowledge creation. Krogh, Icchijo and Nonaka [2000] have defined key enablers, which promote learning:
Creating the Right Context
Managing Conversations
Globalising Local Knowledge
These concepts, although from the knowledge management discourse, are highly applicable in the Exegesis approach towards learning and the role of the artefact.

5.1 Creating the Right Context

Effective learning depends on an enabling context, which can foster ideas and facilitate the articulation, creation and evaluation of learning experiences. As such the “whole process of knowledge creation requires the necessary context or “knowledge space”.

Creating a 'right context' is crucial to student-centred learning and typically requires the institute to initiate a learning process by stating a problem or assignment. The Exegesis approach enables the student to both create an artefact as well as reflecting upon the artefact in terms of thesis writing. By providing this context in which the student will be examined by showing the artefact as well as submitting a thesis the student will be enabled in its knowledge creation. Furthermore the associated workflow of the exegesis approach [creating an artefact and reflecting upon it] is supported by contextual supportive studies such as the Methods of Research. The student will be offered a set of tools to support all the research undertaken within the exegesis trajectory. These tools focus on the following identified research approaches;
Contextual Research: Context Analysis, Dichotomies and Semiotic Squares
Content Research: Information Documentation, Content Analysis, Dichotomies and Semiotic Squares
User Studies: Script Research, Projective Techniques, Field research
Application Research: System Verification, User-Usability tests, Component tests

5.2 Managing Conversations

Educational facilitators in student centred education often apply the beneficial effects of conversation on individual learning processes. In coaching student groups educational facilitators often rely on conversations for the purpose of stimulating intellectual effort, promoting the articulating of progress and structuring the workflow. These Socratic dialogues stimulate students to articulate the knowledge and learning experiences acquired and promote critical reflection. [Thomassen et al, 2001] Within the exegesis approach the student will be supported by their domain related supervision involving both a project supervisor and thesis supervisor. It is within this manner the exegesis approach can fully flourish as both supervisors keep a close watch on relevance and connection of both the artefact and its related research [thesis]. The student is also offered a set of methods of research which support the exegesis approach.

5.3 Globalising Local Knowledge

Critical to the quality of learning processes is the flow of information between students, educators and the institute. Supervisors require access to articulated learning experiences to enable coaching or evaluation of student-users. Peer learning can be promoted by enabling the exchange of learning experiences within and between student groups. Furthermore, the institute may require the collection of research papers and outcomes of research processes. As both the project and the thesis joint their forces within the exegesis trajectory local knowledge retrieved within the development and creation of the artefact will not be lost as it is articulated within the thesis. Vice versa this implies that an artefact can be reflected upon and enriched by this approach.

An extra asset that will stimulate the globalisation of local knowledge, and as such will enable knowledge creation, is the supportive learning environment of the Utrecht School of the Arts; called LEDA.

5.4 Support of knowledge creation: LEDA

LEDA, which is the acronym for Learning Environments for the Digital Academy, is an IST funded research project under the 5th framework of the EC. LEDA is a partnership of four universities and an industrial partner working together to develop new educational practices and knowledge management systems to meet the challenges of education in the highly innovative field of design and digital media. The project has resulted in a highly configurable authoring environment for educational facilitators to define learning processes as well as the logistical support of information and data flows in learning processes. LEDA will build learning environments which are specifically designed to facilitate and promote the exchange of student acquired knowledge, skills and attitudes within the EMMA [European Media Master of Arts] program. Within the exegesis approach the students are required to upload their thesis, a project description and a reflection on their research process undertaken within the trajectory. LEDA can best be perceived as a workflow supportive platform which is used in order:
to design webstructures, which reflect the educational context of a student
to design scripts such as questions, structured upload facilities for students, answer- and storage facilities
to add metadata to the information stored so offering retrieval mechanisms
to cater for the advanced relating of information to users or contexts, exchange based on the metadata

In order to make a match between the real world of the exegesis approach and the virtual world the process has been researched in its core and by its users. The results of the research defined that exegesis approach can best be supported by a page where students can upload a thesis outline and a brief description of their research domain. But also an area where students were able to document their research by creating online-articles and collections of research-resources. And finally an area in which students are allowed to post sub-sequential versions of their thesis and to submit their final thesis.

6.0 Conclusion & Opening

The exegesis approach originated as a response to traditional approaches for design learning. An important focus of the approach is the ability to enable knowledge creation and exchange. This is where concepts and ideas from the field of knowledge management appear to be highly applicable to an educational setting. Important requirements are to create the right context for knowledge to be generated. A second enabler, the need to manage conversations, has taken shape in the structure of the supervision. The student are supervised by both a project and a thesis supervisor; through the use of Socratic dialogues students are provoked with questions in a particular domain. The third enabler, globalising local knowledge, is embedded in the learning context by requiring articulation through a set of questions and reflections. The effect and the usage of LEDA to support the exegesis trajectory are still being investigated and renegotiated for efficient implementation. This is an ongoing and iterative process that will primarily enrich and develop not only the learning environment but also the exegesis trajectory. And secondarily the philosophical understanding of the role of the artefact and its value for knowledge creation and exchange as set out in this paper.

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