

EDUCATION ON MUSIC AND TECHNOLOGY, A PROGRAM FOR A PROFESSIONAL EDUCATION

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ABSTRACT

We describe the development and the maintenance of a program for a professional education at Utrecht School of Music and Technology. The program covers most of the field and offers various degrees up to PhD level. The program was developed over the last 23 years and is updated on a yearly basis. We deliver about 80 graduates a year to work, survive and keep up with developments.

92 % of our students develop a healthy career after graduation. Music technology as a field of studies is in constant and rapid development and because of that the characteristics of 'the professional' in the field are changing very rapidly too. For this reason we have built in mechanisms to enforce regular updates of the program and to develop the knowledge and skills of the teaching staff.

1. INTRODUCTION

Utrecht School of Music and Technology is a Dutch Professional Education in the broad field of Music and Technology. Our School is part of the Utrecht School of the Arts, a University with 5 faculties (Visual Arts, Music, Theatre & Drama, Art & Economy and our faculty of Art, Media & Technology), around 3600 students and 600 lecturers. Within the School of Music and Technology we offer several tracks in the fields of:

- Sound Design.
- Composition for the Media.
- Composition for non-linear Media
- Composition of Electronic Music.
- Composition & Music Production.
- Composition & Music Technology
- Music Production & Performance.
- Music Technology & Performance.
- Audio Design, Music System Design
- Audio Design, Recording and Production

Some of these programs have a strong emphasis on the

Arts; some have a more technical focus. The programs partially overlap. Currently the School has over 350 students and a teaching staff of 35; we offer bachelor, master and research degree programs. The mission of the School is to educate students up to a level of skills and knowledge and to a level of professional attitude good enough to work and survive within the Dutch context and the international context. The emphasis of the different programs is on the personal development of the student; to help her to earn a living and to establish a professional career in which she is able to continue the professional development and keep up with the constant and rapid developments in the field of Music and Technology.

1.1. History

Our School started as a department of Utrecht Conservatory of Music in 1985. Our current program started in 1987. From then on we have been updating to synchronize with the outside world on a very regular basis to obtain a good match between the educational program and the demands of real existing professional careers. For the last 10 years we get figures like the 92% of our graduates that have a healthy career within music technology within two years after their master graduation. Pro year the School of Music and Technology admits around 90 students of whom around 85 will graduate in one of the many tracks we have in our program. On ICMC2003 we presented a paper on our program, on our School and on our educational philosophy [1].

1.2. Developing curricula and maintenance.

In the past six years some major changes have occurred, which made us adapt the curricula for Composition and the curriculum for Music Production. We are developing a curriculum for Composition for non-linear Media (Composition for Games fits in that track). Research within our School was integrated as a topic in most curricula.

Music technology as a field of studies is in constant and rapid development and because of that the characteristics

of ‘the professional’ in the field are changing very rapidly too. We developed a very active alumni policy, we track all of our graduates, we make sure we know what types of work they do and in what type of context they work and we invite some of our alumni as advisors¹. We follow developments in the different contexts we educate for and we redesign parts of our curricula if changes in the actual contexts urge us to do. We have a small taskforce to deal with misfits between our curricula and actual contexts, the total of curricula and teaching methods is adapted once every four years, every year we adapt parts of each degree-program.

2. VISION AND MISSION.

In our vision the most important topic to teach to a student is how to keep up with the constant developments of the field and how to develop as a professional after graduation. To establish this attitude and to develop the skills to do so the teaching staff developed some formats for parts of the program:

- Workshops in which a student learns from exercises accompany the lectures.
- Learning-projects in which the focus is on some aspects of Music technology.
- Hands-on sessions and practical assistance by older students.
- Study-groups in which students work together on theoretical and research issues, discuss each other’s work in progress and reflect on their own work in progress.
- Industrial placement in companies or research Institutions.
- Real world projects with (paid) assignments from outside the School; some of these are interdisciplinary projects with a strong emphasis on the production

¹ Statistics of graduates two years after graduation:

Employment:
 44% salaried employment
 18% owner
 11% co-owner
 20% freelance
 7% study

Type of work:
 22% music composition
 17% music production
 16% studio and/or live sound technology
 12% sound design
 6% software development multimedia
 7% education and research in the area of music
 5% software development music
 4% software development ICT
 5% performance
 3% multimedia
 4% remaining

processes that are typical for the multidisciplinary setting of the specific project.

We educate the student to professional independence with self-reflection as an important tool to keep up with new developments, to gain new insights and develop new concepts.

3. COMPOSITION FOR THE MEDIA

3.1. Contexts within the media industry

Looking at different contexts within the media industry such as television, advertisement, film (fiction, documentary, animation) and games, they all have some specific characteristics in common i.e. the speed and the unpredictability of developments. Both are caused by the availability and accessibility of digital means and distribution channels.

It’s quite easy using free software to make your own radio- or TV-program and broadcast it through the internet. Consumers are becoming producers or – as they are called nowadays – *prosumers*. Another element of importance is the individualization of consumers. The traditional approach of the media industry through target groups is not valuable anymore because the average consumer has developed a very individual and therefore unpredictable behaviour. Additional is the given fact that media landscapes are constantly subject of discussion in politics on a national and on a European level. Parties concerned such as the advertisement industry and the television industry try to find solutions for the problems as described above in different ways. On the one hand one uses a very individual approach of the potential consumer (narrow casting). On the other hand a ‘product’ is published through all possible media channels and –forms so the consumer cannot escape from it (cross media publishing). In addition all kind of mechanisms and moments for measuring the effectiveness of a product are developed so the product can be re-adjusted: stand a chance of a disappointing commercial result should be minimal.

3.2. Role and function of music in the media industry

Taking a closer look at the role and function of music in the media industry, it is precisely this effectiveness that has been a problem in the past. There was no way to hear and check a final score for a film or TV-commercial in advance because usually only a piano version existed to decide upon (the composer would play the score on the piano and would explain the orchestrations verbally to the director or advertisement agency). Along with digital technology came the possibility for the composer to use a ‘virtual’ ensemble or orchestra to produce a demo-version of the final score in close detail and perfection and to allow changes until the very last minute. Apart from using this

technology in the actual composition process, a way to obtain more control for the ‘people in charge’ on the concept of music for audiovisual media and its outcomes, is the use of so-called temp track or temp music (the expression ‘temp track’ stands for the use of existing music during postproduction to create a temporary score for a scene, a film or any other audiovisual production) ². The process of developing a concept for a score through the use of temp track can be done with or without the composer. Both possibilities however end up with a final temp track that is the model for the appropriate music for this specific scene or film or TV-commercial because ‘it works’. In applying this model, the outcome is often an assignment for the composer to create a so-called sound-alike, which is a copy of the original temp track (within the limitations set by the copyright). Such an assignment doesn’t exactly appeal to the creativity of the composer and is one of the reasons for composers³ to reject the use of temp track in the scoring process. Despite this rejection, the use of temp track has become a regular ‘tool’ in media production.

Another important element with regard to the role and function of music in the media industry is the emancipation of sound. Ever since Debussy taught us that timbre is as important as pitch, the actual ‘sound’ of film music became more important as digital technology allowed a far better reproduction of film sound. And when the same technology opened up the world of electronic sounds and electronic music, the possibilities for sound to be used in and as film music have become endless.

3.3. Consequences for education.

Despite these developments, professional education in composition for media usually focuses on music for film using the traditional symphony orchestra. Other musical genres and/or other contexts that combine visuals, sound and music like the advertisement industry or the game industry are most of times not taken into account. Frequently the perspective of these courses and curricula is that of the composer as an autonomous artist.

The Utrecht School of Music and Technology regards the soundtrack in audiovisuals not as a combination of separate disciplines but as a coherent object that is made

² According to Karlin & Wright [2] filmmakers use temp track a.o.:

- to help them screen their film for the producer(s), studio, and/or network executives and preview audiences during various stages of postproduction;
- to establish a concept for the score;
- to demonstrate that concept to the composer.

³ Film composers in general are not very keen on temp track. A lot of them have encountered the drawbacks of temp track:

- If it works, it might be difficult to imagine a better way. And if it doesn’t work, then the chances are it will have spoiled your first emotional reactions to the film. And what’s worse, you may still have trouble getting it out of your head [2].

up of the ingredients called dialogue, music, sound effects and sound atmospheres. The curriculum composition for media aims therefore at compositional skills and knowledge that are not restricted to certain musical genres but refer to specific principles and methods that are related to the role and function of music and sound in audiovisual media.

Another important item in the curriculum is the contextual awareness that refers to the understanding of specific contexts, its participants and the related design and production processes. Such awareness is needed to keep up with the ongoing developments as described in the first paragraphs of this article.

In addition cognitive skills are needed to understand the design and production processes (not in the least one’s own design and production process) and to be able to reflect on it, to adapt it if needed and to use it as a possible means for innovation.

Designing the curriculum composition for media around these core elements, we aim to provide the student with tools that help them succeed in building a professional practice in a rapidly changing media industry.

4. MUSIC PRODUCTION

4.1. Production and distribution.

During the past two decades several major technological innovations have fundamentally changed the music industry in general and the record industry in particular. Disruptive technologies, in particular those in the areas of networking and digital audio, have caused fundamental shifts in working-methods of music production and distribution of music. Professional music production has rapidly changed from being based on more centralised, industrial models of organisation towards decentralised, networked models of organisation. The democratisation of music production tools has caused a shift from technology towards design strategy as a distinctive aspect for music production professionals.

4.2. The physical product and the virtual.

At the same time, the move from physical product (e.g. CD) towards virtual product (e.g. mp3) has caused major changes in the music industry, changes that are still ongoing. These range among others from new business models in music production and music distribution, the shifting emphasis in commercial sectors from recorded music to live performance, the ongoing discourse on intellectual property, to the rise of new products such as in-game music and other forms of non-linear music. All these developments pose challenges to education in music production.

4.3. Consequences for education.

Traditional professional education on music production tends to focus on the technological aspects of music production, especially studio engineering. It has difficulties in dealing with theoretical and artistic aspects of popular music with its complex web of subgenres, all having a high rate of circulation, while at the same time maintaining a high standard of academic integrity. Consequently traditional curricula on music production tend to display implicit or explicit preferences for certain musical genres. Traditional professional education has difficulties in dealing with creative aspects of music production; relevant for the contexts it is aiming at. It also has difficulties in dealing with the current high rate of change in the music industry, and organising a continuing and significant interaction of these changes with its curricula. It has difficulties with assessing and subsequently incorporating innovative developments in products, tools and strategies in music production into their curricula.

The curriculum Sound & Music Production is designed to reflect and respond to the changes in the music industry and their consequences for the music professional. Furthermore, it is designed to balance technological aspects of music production, design strategies and its creative aspects, the ongoing development in various sectors of the music industry and emerging new contexts of music production, and innovative developments in product and distribution. We do this by approaching music production from three angles, and directing the overlap of these strands: the engineering producer, the organising producer and the composing producer. The curriculum is student aimed, and takes as a main point the potential of each individual student as a reflective practitioner in the field of music production. We aim at a curriculum which exceeds the purely technological aspects of music production, exceeds specific musical genres and contexts, and provides students with tools which help them succeed in building their professional practice in a rapidly changing music industry.

5. RESEARCH

5.1. Software development and system design

In the curriculum for Audio Design one of the tracks is focused on R&D in music system design and music software development. Most of the students graduating in this track build a professional career in research at the well-known research centers in Europe (i.e. IRCAM Paris, MTG Barcelona) or elsewhere. A growing number of graduates find their way into system design for theatre, games and adaptive music systems.

5.2. Research & music production / design

In the field of music production and music design the importance of research is developing. Research was not a topic dealt with by individuals or small companies until recently. We see a growing need for research *into* music design processes, methods, and ways of co-operation and business models, both mono-disciplinary and multi-disciplinary. This type of research is one of the factors that can make a music designer stand out in the crowd of users of the democratized production means. Also important is the development of methods of research *through* music design. Another important aspect of research is that building up experience, however necessary, is not enough anymore in the scattered field that music design is with average company sizes that are lowest in all creative industries. A research attitude and the willingness and, especially, the capability of music designers to share results will be one of the major forces for further development of the field. The results of the research into and through music design have a direct relevance for the professional development of students and teaching staff. Through this research we augment and develop our knowledge of music design to be able to contribute to the development of important new fields like composition and sound design for adaptive systems, the improvement of music design processes in the creative industries, the improvement of music (design) education and the support for various social themes like inclusion, interculturality, application of design, game and play concepts in new contexts like culture tradition, education, care and the like.

6. CONCLUSIONS

The period 1985 up to present we have developed a continuously adapting educational program. This program is successful in preparing students for the existing and future professional practice. Both the program and (the knowledge and skills of) the teaching staff are being adapted on a yearly basis to the developments in the field. We have learned and gathered evidence that it is necessary to build in mechanisms to guarantee such a development, to guarantee the quality of the programs and to monitor the field of studies and practice.

7. REFERENCES

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- [2] F. Karlin and R. Wright, *On the track: a guide to contemporary film scoring*. London (UK): Routledge, 2004. pp. 29 - 31