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The Conference Poster as a Multimodal Hybrid Form of Knowledge Exchange

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To communicate research in an appealing and condensed form is a challenge for researchers. Because of the emerging new literacies the audiences for research communication seem to accept and enjoy multimodal research presentations, and the audiences even expect the presentation to be artistic as well as scientific at the same time. In the poster design process this double challenge becomes quite evident. Epistemologically, the production of art links to the scientific investigation through the explorative process of meaning making. As one innovative aspect of the Norwegian graduate school for teacher education, NAFOL, its doctoral students were invited to create and present a poster about their research in progress, and to participate in a poster mingle session at the NAFOL conference held in May 2012. There were 44 poster presentations exhibited at the conference, which means that about 66% of the doctoral students responded to the challenge. These posters and a survey of the doctoral students about the poster production and presentation serve as empirical material analysed in the study presented in the article. The aim of the study is to contribute to knowledge about the challenges for the researcher in this hybrid form of knowledge exchange. The students found the poster form production very demanding, but also very rewarding. In particular, they were overwhelmed by the beauty of the posters exhibited by their fellow students. The vivid conversation about research during the posters mingle session was also highly appreciated.

Key words: Poster as Multimodal Hybrid Genre, Poster Communication Dramaturgy, Poster Innovation

Background, aim and context

The poster presentation is often thought of as a beginner's game at conferences, and it certainly is a good task for fresh researchers in order to get focus and conclusions clarified (MacIntosh-Murray, 2007). Our pre-understanding is that a poster presentation is not a simplified version of a project description. The poster genre is demanding, because of its hybridity, consisting of written text, visual design, and oral presentation as well as dialogue with the audience. To produce a high quality poster might be quite challenging. The technical production of the poster is a skill, and can be learned. Most people find the hardest part to transform their message and present it visually and orally in the restricted format of a poster session. If the poster does not catch the interest of fellow researchers it is a very lonely place for the presenter to be in the midst of vivid conversations around other poster presentations. When it comes to the presentation the researcher must be very alert, and prepared to answer any question that might arise from the poster (MacIntosh-Murray, 2007).

The aim of this study is to problematize aspects of research communication through poster presentations. The poster is a cultural expression, and there are some rather indistinct principles guiding this presentation form. The research question posed in this study is: What are the characteristics of research communication through posters? The problematizing concerns the following questions: How might the culture around poster presentations become vitalized by stressing their hybridity as a resource? What are the aspects that doctoral students pay attention to in their design process and in poster communication in a conference setting?

New literacies in research communication

There is an ongoing process of change within research communication all the time. It might not be so visible when looking at the strict formats of scientific journals, which are important for researchers, and the rigid formats of calls for papers to conferences. The changes which are noticeable are, for instance, connected to a variety of research positions within mixed methods, and different forms of bricolage presentations as well as Deleuzian rhizomatic analyses. Also efforts to present art-based research are challenging the existing formats for research presentation within education. There is also an increasing number of journals including new literacies. In Norway, for instance, a journal for art and research InFormation

was launched in 2012 with presentation forms which include hyperlinks to video and other visual documentation. Some playful occasions are launched where researchers are asked to perform their research results embodied as dance, or there is a “Researchers’ night”¹ arranged with multimodal presentations of ongoing research. The specific challenge for the graduate school NAFOL² is connected to the dimensions of practice and theory, and the doctoral students are explicitly challenged to communicate research in different ways during their doctoral training. It is, as with genre in general, necessary to know the basic rules of the genre, but as important to develop the genre in order not to be caught in frozen positions with no dynamic energy left.

Poster as a hybrid genre

New literacies are described as multimodal (Jewitt, 2009; Kress, 2010). The new literacies demand complex reading skills, or skills to decode the assembly of signs in multimodal communication. The new literacies are mostly connected to the digital world, but new literacies also are visible in research communication. A basic principle for different modes is that each mode has affordances, which make that mode especially well-suited for a certain communication. Each communication actually consists of a composition of different modal signs. The poster with its presentation includes several signs, which the audience must be able to “read” and interpret. It might be called a hybrid with its components of written text, layout, images and oral presentation. The new literacies demand from the researcher the skill of communicating, simultaneously approaching the audience with a cluster of signs, and clusters of meaning making stemming from the talk, the images and the written texts. This communication has been compared to presenting at a market place or a fair. The presenter must attract potential “customers”, finding ways to be special, different and interesting. The presenter can benefit also from perception psychology, neuroscience and rhetoric, especially the actio part. The actio part is the performance of a speech, and in this performance the notions of logos, ethos and pathos can inform the presenter. There must be a sense of logic in the presentation. The presenter must get the confidence of the audience. (Leith, 2012).

Jane E. Miller (2007) has written about “Preparing and Presenting Effective Research Posters” with much of the same focus as Elizabeth

¹ http://ec.europa.eu/research/researchersnight/index_en.htm

² <http://www.nafol.net>

Halliday (2012). In a study from 1996, Cynthia Russel, David Gregory and Marie Gates (1996) focused on the presentation of qualitative research and poster presentations: content, text, materials, component arrangement, and visuals. They also point at the importance of connecting to the potential audience. The views of the poster presenters are in focus in a study by Anu MacIntosh-Murray (2007). In a case study the poster presentations of doctoral students are examined as a research-process genre. In the article genre knowledge required is mapped: poster form, creation processes, presentation practices, and underlying values. For further investigation the complexity issue is mentioned, because a poster must fulfil multiple roles. The hybrid form is casually mentioned, and the complexity is addressed with a special focus on the challenges from digital media use. From this short presentation of research done on poster presentation as research communication, we now turn to the context of the present study.

When flip flopping between the different genres in use, there is a certain risk that the presenter is crossing borders, and forming a new hybrid genre while elaborating the poster presentation. The risk is that the presenter does not communicate well in the genres in use, and thus loses the interest of the potential audience. The crossing of borders is also an innovative space for vitalizing the poster presentation genre, because the empty space the presenter has to cross over in the flip flopping between written, spoken and visual genre signs is the empty space of transduction with its potential for meaning expansion. Gunther Kress (2010) calls the transformation from one modality to another transduction. In a poster presentation the condensed form contains transductions – for instance, from written words to visual signs, and from written words to spoken words.

Basic poster communication dramaturgy

In order to design a poster the researcher must combine the role of the researcher with the role of the artist. In theatre dramaturgy (cf. Evans, 2006) the basic question is: What do you want to convey to the audience? What do you have to say? The dramaturge must be quite clear here, because all other decisions are connected to the answer to this initial question. This is the artistic part of the poster presentation, but it is also the core of a scientific presentation: What is the research problem? To focus the problem in order to attract interest for your project is a prerequisite for a good poster. This focus must be visualized in fonts, use of space and

other modal signs. In dramaturgy the hook is the way the play attracts the audience. The hook in a poster is often visual, or some text written in big enough fonts, and with a question or word that attracts the potential audience.

In dramaturgical thinking the target group analysis is essential; that is why the communication must be very clear about what the audience needs to know in order to grasp the research project presented: Who is the receiver of the poster and its presentation? A skilled poster presenter thinks like a dramaturge: thinks of how to use the space given, how to maintain the audience's interest throughout the poster; in short, how to be aware of the audience as receivers of the text. There must be nerve and drive which keeps up curiosity and engagement in the audience. The content (text and graphics) is not necessarily presented in a linear sequence, like in a paper presentation, and the visual centre of gravity might be anywhere on the poster. The skill to take the position of the other is valuable in the process of designing the poster. To borrow one metaphor from artistic work: less is more. It is necessary to keep up a clear line in the presentation which gives it nerve and drive. The presenter's narrative can be accompanied by hand-outs for the audience wanting to get to know more. Form, aesthetics and content are intertwined in producing the meaning of the poster. The dramaturgical thinking and the new literacies both might vitalize the culture around poster presentations by stressing the hybridity as a resource.

The presenter faces an additional challenge if the poster session is arranged as a competition. In addition to the factors mentioned above, the poster must stand out from the rest of the posters in ways that often cannot be predicted. A jury will assess the content objectively, according to given criteria. However, the "wow-factor" is harder to define, and thus is more up to the jurors' subjective preferences.

The context of poster presentation at a NAFOL conference

The quest for innovation in a national graduate school like NAFOL has been mentioned earlier (Østern & Smith, chapter 1 in this anthology). One task that was an answer to this quest was the construction of a poster task. All doctoral students in the graduate school were invited to contribute with a poster presentation of their research project to a NAFOL conference held in May 2012. The task was given in January 2012, and the

students at that time participated in a workshop of 1-2 hours about poster making. They also received a tutorial text with detailed information about how to design a poster (Strømme, 2012). The deadline for submission was 2 months later. The administrative advisers in the graduate school did the proofreading of the English, organized the printing and the lamination of the poster in large format A0. The administrative staff also organized the setting up of the poster exhibition. The poster mingle session was 45 minutes of the post conference seminar. In the mingle session three poster presenters (with posters beside each other) had to present their posters using 10-15 minutes on each presentation. Other participants could choose to join one of the mingle groups. The poster design was subject to playful competition, and three of the best designed posters won an award after the posters mingle session (cf. <http://www.nafol.net/index.php?page=posterkonkurranse>). The jury comprised the professor who introduced the poster-making session in the workshop in January, one professor of teacher education, and one doctoral student with competence as an artist. The criteria for judging the quality of the poster were: “visual attractiveness, substance content balanced between text and graphic means and more formal requirements of use of sources and graphics”. The jury concluded that all the 44 posters had some of these qualities. They were different. Some of the students had chosen strong visual effects, some had a very attractive title, some had elaborated the text, and some had elaborated visual figures and images:

The most important aspect is to attract readers. You choose something that you want to study more closely, and thus learn something about the topic. Some of the posters have too much text, but even if the texts are of good substance, they are best suited for publication in an article. Others have a visual appearance that excludes them from being first choice for approach. In the final heat we had a few posters left. None of them are perfect; they all have their strengths and weaknesses which we have weighed against each other, and here we have the three posters which we will award.

The aspects that doctoral students pay attention to in their design process and in poster communication in a conference setting

In this section of the article the focus is on the posters and the doctoral students' experiences. The collection of 44 posters can be grouped according to the categories focus on appealing title, focus on visual elements, focus on text, and mixed focus (Table 1).

Table 1. Posters grouped according to focus (N= 44).

Focus on appealing title	3
Focus on visual elements	8
Focus on text	22
Mixed focus	11

The three posters which were awarded were grouped into the three categories with a clear focus on either title, visual elements or text.

The survey distributed to the students shortly after the conference contained Likert scale sentences to agree or disagree upon regarding the poster production process. The survey also contained three open questions. The survey was digital and the answers anonymous. Of the students, 37 responded to the survey. Out of these, 33 students had prepared a poster. There were 11 presenters of posters who did not respond to the survey.

To more than 80% of the doctoral students, this was their first poster presentation at a conference. 50% of the students did not consider the task technically challenging. Over 80% of the students found it difficult to manage the limited space of a poster, however 87% thought that they managed to foreground the essence of their project. Graphical elements were of little importance in order to convey their message (8%), while 81 % considered design important. 60% answered that they tried to make the poster spectacular in order to attract the audience's interest. The competition was of little importance for 55%, and it did not influence the design of the poster. Still, 37% had hoped to win the competition, and 58% understood the decision of the jury, but 11% disagreed with the jury's decision. 75% participated in the poster mingle session and enjoyed it, but 10% did not consider this mingle session rewarding. The open questions were answered through free texts, and we will illustrate and deepen understanding of the frequencies given in the descriptive statistics through identification of themes emerging from the answers.

The most demanding aspect in the poster design process

The question regarding what was the most demanding aspect in producing a poster received 32 answers, which can be grouped into three themes:

(1) It was demanding to sharpen the focus

Example quote: *The most demanding thing was to sharpen the focus, in order to fit into the poster format.*

(2) It was demanding to use visual effects in research communication.

Example quote: *I am not trained to use visual effects in my communication.*

(3) It was demanding to write little text, and in English.

The three themes will be further elaborated in the answers to what lessons that were learnt during the poster process.

The lessons learnt from poster production and presentation

The question *What did you learn most through producing and presenting the poster?* received 33 answers. The themes identified in the answers concern on the one hand (A) the design process, and on the other hand (B) the presentation situation and the learning from watching the other students' presentations, such as to observe elegant use of multimodality, and to present without a written manuscript. One theme that emerged was the experienced shortcomings of the student and the wish to develop proficiency in poster production and presentation.

A) The design process

Most of the comments are about the challenge to be focused, and the deep learning of that aspect. Another theme is the challenge of the multimodal design.

Example quote: *To train to be specific and focused in my communication. It was a very rich learning experience to try to present the project in a visual form, which I have never done before. I think that it is very good that the graduate school gives us the possibility to rehearse different kinds of research commu-*

nication; it will be useful for us in the PhD-project and later in the research carrier.

Example quote: I learnt two important things: the technical aspects of poster production in Power Point, and how to use the poster visually. The latter I did not learn that much through producing my own poster, but through looking at all the other posters.

Example quote: To be short. To think of design.

Example quote: Steep learning curve since I have not produced a poster before. I am proud of producing an OK product without help. I have learnt enormously, but I also used much time. It was a strong learning experience as well technically as connected to the topic, because you have to learn to present the project with few words. This made me really understand what I am elaborating. When it comes to the technical aspects I should have contacted a professional. I used much time on understanding power point and Google graphics.

B) The presentation situation

Some commented on the learning during the poster mingle because of feedback from other doctoral students and supervisors. Some commented on their shortcomings and their potential for development of presentation skills. Others mentioned the learning from watching other students' posters.

Example quote: Feedback during the posters mingle session. The mingle session could have been longer.

Example quote: It was useful work, which made me think of communication, conveying results, and partly also to popularize the topic. This also contributed to my own research process – what I try to find out about – how I work (method) and when I advance a bit in my process what my results are and how I shall present them.

Example quote: I think I learnt a lot about how to present my topic in a short and clear way, even if I did not completely manage to do so. In retrospect I can see a potential for improvement and I look forward to producing a new poster.

Example quote: *I got a better overview of my own PhD-project. It was also rich learning in acknowledging the potential of the poster presentations even if I do not have the technical skill to produce so advanced posters as those I saw at the presentation session.*

Example quote: *I have found a core in the project, a core which I can show to others, and that is a huge advantage. The poster now hangs on the wall in my office, and can be presented to all who wonder.*

Example quote: *I have learnt how little time you have to catch the interest of the reader and how active you must be to accomplish that. I also have learnt that for further paper presentations.*

In conclusion, the lessons learnt are of a transformative kind in the research process. The forced concentration and the visual design has been a vitalizing element in the doctoral students' thinking of how to communicate research. In the last open question we asked for critical comments and suggestions for the future.

Critical comments and suggestions regarding the poster task and presentation

There were 12 answers to the question: *Something that should have been done differently?* Most of the answers contain suggestions for further development of the design of the poster task and of the presentation. There are three comments on the poster mingle session, and two of them are somewhat critical, but one positive.

Example quote: *The posters mingle was a bit chaotic and unstructured, and the poster workshop at the seminar was, too short and not fruitful. That said, I had great learning of substance and practice in presenting my poster for other participants at the conference. The work with the poster was fun and very rewarding for me.*

Example quote: *The posters mingle session was too short. I would have liked to look at more posters and to have discussed them, but I could not because I had to stay in one group.*

Example quote: *Joyful design ☺*

The poster exhibition at the conference site was rather tight, with one poster right beside the next one. Some suggested more space between the posters, as well as grouping according to research topic, or methodical approach in order to promote networking.

Some wanted the presentation of the award winning posters to have gained more attention, and the jury to have described the qualities more thoroughly. Some would have liked to have the quality criteria explained more in detail.

Most of the comments suggest even more attention to these kinds of training in research communication:

Example quote: Suggestion: To have more awards for different stages of the PhD-process

Example quote: I think we were followed up in a nice way, and I was impressed by the many brilliant posters my fellow doctoral students had produced. An important event in a graduate school!

Example quote: Many persons became involved in the conference in this way, and contributed, nice to have a poster that is yours!

Example quote: We should be given one more chance to produce a poster, now when we have learnt a lot!

Conclusion

The themes arising from the analysis of the aspects the students pay attention to in their comments are visible in the researchers' categorizing of the poster presentations in four categories: focus on appealing title, focus on visual elements, focus on text, and mixed focus. The characteristics of research communication through posters are the necessity to think in a non-linear way and to be able to flip flop with alternate focusing on one aspect, and adjust it to the other. The creative challenge is this flip flopping between paying attention to more artistic elements and to the substance of the research project – and to focus on the communication situation. In a poster design and in the mingle situation with presentation, hybridity is described as a vitalizing element (but without the use of the term hybridity among the students). The learning experience also connected to the design process, as the mingle sessions with presentations are experienced as trans-

formative learning experiences with the wish to further develop the competence achieved.

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