

## Danish University Colleges

### **Assessing Digital Student Productions, a Design-Based Research Study on the Development of a Criteria-Based Assessment Tool for Students' Digital Multimodal Productions**

Hoffmeyer, Mikkeline; Jensen, Jesper Juellund; Olsen, Marie Veisegaard; Melcher, Jesper Ninn Sandfeld

*Publication date:*  
2016

*Document Version*  
Publisher's PDF, also known as Version of record

[Link to publication](#)

*Citation for published version (APA):*  
Hoffmeyer, M., Jensen, J. J., Olsen, M. V., & Melcher, J. N. S. (2016). *Assessing Digital Student Productions, a Design-Based Research Study on the Development of a Criteria-Based Assessment Tool for Students' Digital Multimodal Productions*. 23-27.

#### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

#### **Download policy**

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# Assessing Digital Student Productions, a Design-Based Research Study on the Development of a Criteria-Based Assessment Tool for Students' Digital Multimodal Productions

By Mikkeline Hoffmeyer : Jesper Juellund Jensen : Marie Veisegaard Olsen : Jesper Sandfeld  
Metropolitan University College, Copenhagen, Denmark

*Digital multimodal production is becoming increasingly important as a 21st century skill and as a learning condition in school (K-12). Moreover, there is a growing attention to the significance of criteria-based assessment for learning. Nevertheless, assessment of students' digital multimodal productions is often vague or lacking. Therefore, the research project aims at developing a tool to support assessment of student's digital multimodal productions through a design-based research method. This paper presents a proposal for issues to be considered through a prototyping phase, based on interviews with six experienced teachers, analysis of educational materials, analysis of the national curriculum, as well as diverse theoretical perspectives covering text theory, assessment theory, and multimodal theory.*

Keywords: Assessment, student production, multimodal production, assessment criteria, feedback

This paper provides a proposal for issues to be taken into consideration when formulating assessment criteria for students' digital multimodal productions. The proposal is the outcome of a preliminary research stage and forms a basis to be developed in a forthcoming prototyping phase in a design-based research setup. The aim is to provide a better understanding of the function and characteristics of appropriate assessment criteria and thus to *improve evaluation practices of digital multimodal productions* in school. In this paper, we present our initial assumptions to be tested and developed through a series of interventions. The project, called "Assessing Student's Multimodal Productions", is carried out at Metropolitan University College, Copenhagen.

## Background

Students' digital productions are important for several reasons. First of all, in a digitalized society we need competent citizens who can act and communicate creatively and critically with digital and multimodal texts ("Assessment & Teaching of 21st Century Skills," 2016). Therefore it is essential to support and qualify not only students' reception, but also students' production of digital multimodal texts in school (Fraillon, Ainley, Schulz, Friedman, & Gebhardt, 2014). Secondly, as pointed out by Gunther Kress and Staffan Selander (2012), production of multimodal texts is at the core of the learning process, understood as a meaning-making process where modes like image, sound, video, and words are at the disposal to represent different aspects of the student's knowledge and understanding of a given subject. Nevertheless, The International Computer and Information Literacy Study shows that students' productive skills, at least in Denmark, are far from being advanced (Bundsgaard, Pettersson, & Puck, 2014), even though schools have invested massively in computer technology, and it is common to use computers for information search and collaborative writing processes.

Moreover, research has pointed to the fact that learning is optimised if it is based on evaluation practices with explicit objectives and criteria connected to the learning processes (Black & William, 1998; Hattie, 2008, 2013). Furthermore, *feedback* about tasks has proved to be an effective learning contributor – *if* based on explicit criteria and used for formative rather than summative assessment (Hattie & Timperley, 2007; Wølner, 2015). Unfortunately, studies show that feedback in general in Danish schools is often *informal* (Danmarks Evalueringsinstitut, 2013) and *not* based on clear criteria. This is supported by an analysis in our pre-study of learning materials on multimodal production and interviews with teachers confirming that evaluation practices connected to student productions are by and large vague or non-existing in Danish classrooms (Jensen & Sandfeld, 2015). Furthermore, the studies showed that teachers confuse assessment of the production, of the achieved learning objectives, and of the learning process. In particular, they seem to be reluctant or unsure to *assess the product itself*.

### **How to Support Formulating Assessment Criteria**

To sum up, *student production* of multimodal texts is essential for representing and expressing knowledge and understanding, and is best supported by *feedback* based on explicit criteria. The question now facing the teacher is: Which criteria to employ when assessing the product during the

production process? And this leads us to the following question: How can we support the formulation of assessment criteria regarding student's digital multimodal productions?

Answers to this question will be of great importance to the main question of our research project, which seek to find out how a criteria based assessment tool should be designed to best support students' digital production competencies.

The method we employ is *design-based* (Kennedy-Clark, 2015). We want *both* to understand and conceptualize assessment of students' productions, *and* to design a tool to improve assessment practises. The study is conducted in three phases: 1) A preliminary research phase, now completed, to be followed by 2) an upcoming prototyping phase, and finally 3) an assessment phase. An important result of the first phase is a rough outline of an assessment tool and a theoretical understanding of the problem. We have conducted a series of studies before entering phase two: Interviews with six experienced teachers, analysis of educational materials, analysis of the national curriculum, and a short review including theory concerning assessment theory, digital competences, genre, text actions and more. As a result, a number of issues to be taken into consideration when formulating assessment criteria have become apparent.

## Form and Content

A recurring issue in our interviews has been the relationship between *form and content*, though often expressed in different words. For instance, one teacher said: "You can talk about what is form, or at least the *aesthetics*. I don't think that it comes across as the most important at all. I definitely think one should focus on what regards *content*." Another teacher remarked that the students have become aware of differences "in relationship to both the *narrative* and the *technical means*". In these examples, one meets similar oppositions, although in different words and with different focus. Some of the terms related to *form* used by the teachers include "effects", "means", "aesthetics", "visuals", and as one teacher put it in relation to film the "purely cinematic". Terms related to *content* include "message", "story", "narrative", "storyboard", "dramaturgy", and not least the "subject". Regardless of the specific terms, the notion of an opposition between form and content seemed to be a common one for all the teachers we interviewed. However, the opposition was approached very differently: Some teachers stressed that the content, the story or the subject conveyed, was key, and that aspects related to form were merely to be seen as means to

communicate the content. Others stressed the accomplishment of skills related to form – for instance how to record and edit a video. Finally, some teachers viewed the opposition as something of a dilemma. No matter the approach, the opposition between form and content seems to be ubiquitous and constitute an important question for teachers when assessing students' productions.

## Typology

Another issue to be tested and refined is the question of *typology*. From the beginning of our project, we had the intention to make a tool that could be used *across* different multimodal genres, in order to make the tool useful in many different production situations and in different learning contexts. Theoretically, it is possible to make assessment criterias exclusively on the basis of e.g. *modes* like image and audio and the organization of or cohesion between modes (Hung, Chiu, & Yeh, 2013 and Ostenson, 2012 are good examples). But such criteria seem to be too general to be useful with specific products, such as websites, films and photo stories, where a mode like eg. image would appear with significantly different functions. Moreover, our interviews with teachers and analysis of learning materials point to the fact that multimodal products are categorized as specific text types with special features and functions, types that an assessment tool would have to address.

Text types have been taught from the perspective of *genre* ever since Aristotle. This perspective has been renewed by the genre pedagogy and its focus on the empowerment of students through an understanding of the social functions of language (Martins, 2004; Mulvad, 2013). Nevertheless, linguistically based conceptions of genres seem to be insufficient in dealing with genres of new media, where specific affordances of different semiotic modes play a major role. With new technologies new formats arises, to be exploited by different rhetoric purposes (Ledin, 2013). Therefore, assessment criteria that pay attention to the interplay between format and purpose might be of special interest.

## Tool

Taking all these issues into consideration, when and how might a “tool” be beneficial, and what should be the key characteristics of the tool? First of all, the tool must support students being active in discussing and formulating criteria (Wølner, 2015; Wille, 2013). Secondly, the assessment criteria depend on the learning objectives. For instance, making a book trailer to show one’s understanding of the book, and making a book trailer to learn an application like iMovie, calls for different assessment criteria. Thus, the tool should not lay down criteria independently of the learning setting in which the criteria are to be employed. Instead, we want to support the teacher’s process of formulating criteria, preferably in collaboration with the students. On the other hand, the best way to actually support and facilitate the work of the teacher formulating assessment criteria might very well be to suggest concrete criteria to be utilised and rephrased by the teacher, not least in the light of ever decreasing teacher preparation time. Thus, our proposal for a tool to be tested in phase two is a combination of 1) general guidelines for product assessment and 2) suggestions for concrete assessment criteria, both assisting the teacher drawing up appropriate and effective assessment criteria.

## Conclusion

As we begin the prototyping phase, we have outlined a proposal for issues to be taken into consideration when formulating assessment criteria for digital multimodal student productions (including issues of form and content, and of typology) as well as a model of an assessment tool. During the iterations of the next phase, beginning in February 2016, the aim is to test and develop this proposal, thus gaining a better understanding of assessment of students’ productions.

## REFERENCES

- Assessment & Teaching of 21st Century Skills. (2016, February 10). Retrieved from <http://www.atc21s.org>
- Black, P. & Wiliam, D. (1998). Inside the Black Box: Raising Standards through Classroom Assessment. In *Phi Delta Kappan* 80(2), 139-144, 146-148.
- Bundsgaard, J., Pettersson, M., & Puck, M.R. (2014): *Digitale kompetencer* [Digital Competences]. Aarhus Universitetsforlag.

- Danmarks Evalueringsinstitut (2013). *TALIS 2013. OECD's lærer- og lederundersøgelse* [TALIS 2013. OECD's Teacher and Leadership Investigation]. København.
- Fraillon, J., Ainley, J., Schulz, W., Friedman, T., & Gebhardt, E. (2014). *International Computer and Information Literacy Study. Preparing for Life in a Digital Age. The IEA International Computer and Information Literacy Study International Report*. Melbourne: Springer Open Access.
- Hattie, J. & Timperley, H. (2007). The Power of Feedback. In *Review of Educational Research* 77(1), 81-112.
- Hung, Y., Chiu, J., & Yeh, H-C. (2013). Multimodal assessment of and for learning: A theory-driven design rubric. In *British Journal of Educational Technology* 44(3), 400–409.
- Jensen, J. J. & Sandfeld, J. (2015, June). *Assessing Student's Multimodal Productions*. Paper presented at Multimodality and Cultural Change. Kristiansand.
- Kennedy-Clark, S. (2015). Research by design: Design-based research and the higher degree research student. *Journal of Learning Design*, 8(3), 108-122.
- Kress, G. (2003). *Literacy in the New Media Age*. Routledge.
- Ledin, P. (2013). Den kulturelle teksten: format och genre [The Cultural Text: Format and Genre]. In *Viden om læsning*, 13, 6-18. København: Nationalt Videncenter for Læsning.
- Martins, J. R. (2004). Genre and Literacy. In David Wray (Ed.): *Literacy – Major Themes in Education*, vol. 3. London: Routledge.
- Mulvad, R. (2013). Hvad er genre i genrepædagogikken? [What is Genre in Genre Pedagogy?] In *Viden om læsning*, 13, 20-28. København: Nationalt Videncenter for Læsning.
- Ostenson, J. W. (2012): Connecting Assessment and Instruction to Help Students Become More Critical Producers of Multimedia. In *Journal of Media Literacy Education*, 4(2), 167-178. National Association for Media Literacy Education.
- Selander, S. & Kress, G. (2012). *Læringsdesign – i et multimodalt perspektiv* [Learning Design – In a Multimodal Perspective]. København: Frydenlund.
- Wille, T. S. (2013): Vurdering for læring [Assessment for Learning]. In M. J. Elbeck (Ed.), *Feedback og vurdering for læring* (pp. 59-80). Frederikshavn: Dafolo Forlag.
- Wølner, T. A. (2015). *Kriteriebaseret vurdering* [Criteria-Based Assessment]. Århus: Klim.