Shifting Ontologies of a Serious Game and its Relationships with English Education for Beginners

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ABSTRACT This article takes as its point of departure a language project which is a subproject under the larger ongoing (2007-2011) research project Serious Games on a Global Market Place. The language project follows how the virtual universe known as Mingoville (http://www.mingoville.com) becomes an actor in English education for beginners. The virtual universe provides an online environment for students beginning to learn English in schools and at home. This article will focus on the shifting ontologies of Mingoville and teaching and learning situations in beginners’ English. It takes as its point of departure neither Mingoville as part of the media ecologies of the classroom, nor the epistemological ramifications of Mingoville. Instead, it suggests that opening up the shifting ontologies of Mingoville and teaching and learning situations in beginners’ English. It takes as its point of departure neither Mingoville as part of the media ecologies of the classroom, nor the epistemological ramifications of Mingoville. Instead, it suggests that opening up the shifting ontologies of Mingoville (i.e. what mediates Mingoville and its relationships with doing beginners’ English) may offer a different and useful approach to understanding how Mingoville becomes a multiple actor. It reveals that such an actor both influences and is influenced by manifold constitutive entanglements involved in organizing English teaching and learning activities for beginners. Theoretically and methodologically, the article and the empirical gatherings and analysis are inspired by science and technology studies (STS) and Actor Network Theory (ANT). The arguments and descriptions provided throughout the article will focus on the shifting ontologies of Mingoville as it moves into, and out of, different teaching and learning situations of English for beginners.

Introduction
In this article we wish to explore and discuss the processes of researching an educational technology, Mingoville, which has been developed for teaching and learning English for children, and which has been circulated worldwide. Part of the challenge with Mingoville is that it is, in a sense, a multiple phenomenon. This is in part represented by the many labels attached to Mingoville, such as MMOG (Massive Multiplayer Online Game), virtual world or virtual universe. Additionally, Mingoville is distributed globally via many different channels, such as the Internet, mobile phones, books and other applications. Mingoville is still undergoing development by the Danish company Mingoville A/S (Inc.) through continuous alterations of existing activities and additions of new activities. Furthermore, Mingoville is being conceptually and concretely developed by other actors. One such actor could be comprised of publishing houses that make teaching materials associated with the virtual universe. Another could be national governments that create direct links to Mingoville via, for example, new laptop computers distributed to all schoolchildren (as in Portugal) or via the launch of Mingoville as the new entrance to beginning to learn and teach English in primary schools (as in Chile).

Our research necessarily involves engaging in the processes of analyzing and accounting for the epistemological ramifications of educational technologies and their relationship with English language teaching and learning. However, as we shall propose, the engagement in epistemologies is not in itself the most appropriate approach to researching a platform which is articulated in, and which is part of, a globalization of educational technologies where involvements in learning are
shifting and multiply situated. Thus, the boundaries of education and materials for educational activities, as well as their relevance, are becoming more and more blurred. Historically, it is somewhat recently that teaching/learning materials developed in one country or locality become marketed and distributed globally. The problem with an epistemological approach may therefore be, we suggest, that epistemological ramifications of information and communication technologies (ICTs), education and the living world today may not very well encompass the specificities of engagements with ICTs in everyday life.

Rather than focusing on epistemological approaches to media and education research, we therefore argue for a relational approach to understanding the specificities of engagements with and enactments of Mingoville. This approach is one that takes as its starting point what we, inspired by Actor Network Theory (ANT), shall call an entanglement perspective. This approach takes any form of (human or non-human) being as a result of processes of entanglements, which is something other than taking forms of being as points of departure for processes of entanglements (which they may also become). Within this entanglement, relational, processual and performative perspective, the agencies of various human/non-human actors are understood as momentary and relationally defined, and therefore also as always partially existing (Latour, 1999a; Bruun Jensen, 2004b). Latour calls for any form of being as always existing in the midst of things. Throughout this article we pursue the shifting ontologies of Mingoville as it is brought into existence in the midst of things related to, for example, Portuguese grade 3 and 4 English lessons and home education in Denmark.

Science and Technology Studies (STS) and ANT

Our methodological cues come from a variety of resources within Science and Technology Studies (STS).[1] More specifically, we associate our interests with the branch called Actor Network Theory (ANT) (Bruun Jensen et al, 2007). STS can be divided into three approaches: a functionalistic, a socio-deterministic and an integrative tradition. ANT ‘belongs’ to the integrative tradition (Fuglsang, 2005). From 1980 onward, empirical philosopher Bruno Latour [2] and his sociology colleagues Michel Callon and John Law jointly formulated and developed what was to become the ‘non-foundational’ positions and concepts of ANT (Elgaard Jensen, 2005). It is against the basic tenets of ANT to think of any actor – including Actor Network Theory – in terms of being an entity with a stable core. ANT is to be understood as continuously on the move (as is everything else) and undergoing processes of translation through enrollment in various activities. ANT is always in the process of be-coming.

The book Actor Network Theory and After by Law & Hassard (1999) marked both an ending and a new beginning of Actor Network Theory. In the book, some of the central contributors to ANT discussed how it had developed and undergone many translations since its origins in the 1980s, and maybe especially because of the intellectual quarrels that took place between postmodernists and realists in the 1990s that are referred to as the science wars [3] (see Latour, 2005). These debates had particular influence on STS, and partially mark the difference between what are now referred to as Actor Network Theory and after Actor Network Theory.

The difference between these variations of ANT is presented by Law & Hassard (1999), who explain that the initial ANT research concentrated on and emphasized relational materiality – that is, that entities gain form through relations - and that ‘after’ ANT research emphasized performance and added that entities are performed and are performing through relations. This description is of course a much too short, progressive and simplistic way of describing ANT.

Conventionally, research starts by positioning – that is, by connecting with a research question methods (qualitative, quantitative or a mix), a world view and associated theories. In this way, research partially starts by enacting its concepts of perspectives, places, things, actors and times in relation to these theories, as well as its concepts of the interdependencies and relationships between these different aspects of research, especially the ways in which to deal with them methodologically. This is usually considered a basic condition for research. In the preface to the Sage Handbook of Qualitative Research, Denzin & Lincoln (2005) write, for example: 'Still, the question of methods begins with the design of the qualitative research project. This always begins
with a socially situated researcher who moves from a research question to a paradigm or perspective, to the empirical world’ (p. xii).

Today, in (most) research, we are firmly aware that there is no view from above or from nowhere (Haraway, 1991). Positioning things may be viewed as a partially existing condition of all research (Strathern, 2004). Latour (2005) suggests that any research therefore involves landscaping things. This, of course, is problematic for any research that sets out to study the performances of landscapings in the living world. It raises the question of how it is in fact possible to question the forms of connections (Strathern, 2004) that take part in making (research) constructions. If we cannot avoid involving knowledge and knowledge practices in research, then how are we able to study things?

Latour and other STS researchers like Strathern (2004) try to engage with this concern by calling for a symmetrical approach (to begin with).[4] A symmetrical approach – according to Latour – wishes to dissolve any a priori scaling and distinction making, for example, between the micro and the macro, local and global, simple and complex, relevant and irrelevant, central and peripheral, etc. ANT researchers do not work from the imaginary that there is a background, inside and outside that are naturally given in the order of things: ‘Ins and outs, like ups and downs, are results not causes. The sociologist’s job is not to fix their limits in advance’ (Latour, 2005, p. 215).

This symmetrical approach is also referred to (e.g. by Strathern, 2004: Bruun Jensen, 2004b; Latour, 2005) as the ambition of analytic isomorphism – to begin with. There are several variations of ways to work with symmetrical research approaches. David Bloor, in Knowledge and Social Imagery (1976), introduced the symmetry doctrine, which was, according to Olesen & Kroustrup [5], meant to overcome the distinction in sociology between explanations for true assumptions and explanations for fake assumptions. Bloor’s intention was to equalize explanations of these apparently different forms of existence. In sociology there was a tendency to explain true assumptions as having a relation to reality, while fake assumptions were explained as having a relation to psychological and social factors. While Bloor emphasized social explanations of all instances, ANT engages differently in the symmetry doctrine. In the 1980s, Law (1989) and Callon (1986) both argued that the social should not be granted a privileged position either. Callon (1986) suggested so-called generalized symmetry as a methodological approach which implies that all entities in the living world should be treated equally. All entities refer to the ANT acknowledgement that any entity is an actor network, a hybrid existence involving multiple heterogeneous human/non-human and material/immaterial actors. Thus, both so-called social/cultural and natural relationships must be equally included, treated and studied as such.

Bruun Jensen (2007) points to the tendency for social science studies to engage with strategic essentialism, meaning criticizing what earlier attempts to study a given object have done in the process of legitimizing one’s own point of view. Actor Network Theory emphasizing analytical isomorphism should not be interpreted as an instance of strategic essentialism. ANT is not to be regarded an essence (a ground) from where to move (Latour, 2005), and it is not – as we understand it – a way of distancing oneself from other approaches. It is a way to engage with different approaches to assembling things. Thus, it is not, as we engage with it, a non-foundational approach as, for example, Brown (2002) suggests, an a modern approach as, for example, Bruun Jensen (2004a) & Latour (1993) suggest, or a postmodern approach, as for example, Fuglsang (2005) suggests; rather, it is a moving approach (Hansbøl, 2010). It is an approach that is concerned with circulations – that is, things in motion. We thus add another label to the already many suggested namings of ANT – namely, a sociology of translations or associations/attachments (Latour, 2005), and a sociology of things (Fuglsang, 2005). Inspired by Hansbøl (2009), our preference is to call the approach a science ‘of’ movements – that is, an entanglement approach.

The ‘Object’ of Educational Media Studies – four conceptual approaches

ICTs are often viewed by e-learning researchers, as already mentioned, as objects that have already been assembled. It is therefore cultural engagements that vary, and some may be judged better than others. Rather than talking about ICTs as already existing platforms, we propose talking about the entanglements, and hence the moving platformations, of ICTs, which implies their shifting
agencies (Hansbøl, 2010). Quite concretely, this means that the idea that ICTs are platforms containing views of learning, knowledge and communication (e.g. Bang, 2003) must be revisited. Within e-learning research (i.e. research dealing with relationships between ICTs and education) it is quite rare to see discussions of the concept of technology. Mostly the acronyms IT or ICTs are used without reference to philosophies or definitions of technology. For this reason we turn to STS researcher Wanda J. Orlikowski (2010), who lists four conceptual approaches to technologies in management literature:

1. Absent presence
2. Exogenous force
3. Emergent process
4. Entanglement in practice

These approaches situate and qualify our discussion of what we will call an entanglement approach to understanding Mingoville. The entanglement approach, we argue, contributes to further developing existing research on the generation of relationships between ICTs and education that has been conducted with an absent presence, exogenous force or emergent process approach. Consequently, we review each briefly below.

Latour’s observation about sociological accounts of everyday life (e.g. Latour, 2005) has been echoed by Orlikowski (2010) in terms of management accounts of organizational life, and by Sørensen (2005) in terms of educational research accounts: that is, that in research there is a tendency to forget about artefacts and their participation in the everyday organization of things. Even research that may take an interest in, for example, synthetic worlds in organizational life most likely will not pay thorough attention to or inquire into the specific technological entailments of synthetic worlds, how they are taken up and changed by participants or how they configure participants’ interactions and with what outcomes. In the absent presence perspective thus, the role and influence of synthetic worlds for distributed collaboration – like technology more generally – will likely remain backstage concerns. (Orlikowski, 2010, p. 129)

In other words, research taking this approach makes technology present only as an absent force, factor or construction.

The exogenous force approach which has to a large extent dominated e-learning research (Friesen, 2008a,b; Hansbøl, 2010) takes for granted that the qualities of information and communication technologies are inherent in the technologies (ICTs). In other words, research working from this approach does not question what the role of ICTs may or may not be, in the sense that ICTs have already been imagined and thus granted agency to (most often) carry forward the information society (e.g. see Trilling & Hood, 1999). Within this approach, research often takes a strong position, either for ICTs (technological optimism) or against them (technological pessimism) – and mostly the former position is taken.

The third approach, the emergent process, emphasizes that technologies are always socially situated. This means that the agencies of technologies are conceptualized as being thoroughly social. That is, to understand what makes technologies ones that work, one needs to look into their historical and cultural contexts. A central concern in emergent process approaches is the emphasis on technologies as emerging through processes of production, use and change (Orlikowski, 2010).

These three approaches are represented, to a certain degree, in e-learning research. The absent presence and exogenous force approaches are very common; the emergent process approach appears more sporadically, but recently with more frequency. They can also be seen as partially co-existing and creating what Hansbøl (2010) calls the dilemma of e-learning research. On the one hand, e-learning researchers claim that ICTs carry learning potentials that may/should revolutionize education, and on the other hand, surveys repeatedly claim that in a general account, ICTs do not fulfill these expectations – in spite of increased and continuous investments in ICTs in education (Hansbøl, 2010). This dilemma, Hansbøl suggests, is a partial result of research focusing on the social arrangements of ICTs in education, while not paying enough attention to the ICTs in question. This means that much research refers to the general qualities of ICTs on the basis of a few experiments that have not themselves been the object of investigation. Furthermore, conclusions are made on the basis of experiments where the specificities of the ICTs are not
included in research, and they tend to be over-enamoured with the learning of particular strategic approaches to IT integration. Furthermore, much e-learning research tends to focus on new possibilities with ICTs, and claims that these are radical in comparison with ‘old school’ practices. Such claims are made without ever taking seriously these so-called old school practices. In other words, e-learning research has potentially been too asymmetrically focused on ICTs, resulting in excluding them from the heterogeneity of everyday organization of in education (Hansbøl, 2010).

In e-learning research, the emergent process approach crucially has focused on the social arrangements around, with or through ICTs, but without a focus on the ICTs. In a Danish context, researchers have identified a resultant problem: on the one hand, ICTs are perceived as change agents; on the other hand, they are not seen as bringing about changes on their own. It is often argued that a (constructivist) change is needed in the overall educational culture. Such a change would avoid simply carrying on with the so-called traditional school culture (often referred to as instructivist; e.g. Sawyer, 2006).

The emergent process approach within e-learning research has largely been concerned with the social arrangements of ICTs. One potential reason could be found in the character of the ICTs that have been dealt with until recently. In a sense, many ICTs have been developed in the form of finished programs with which one can engage. The central difference is that the current focus on virtual worlds, social media and cloud computing no longer deals with ready-made programs waiting to be used. As Sørensen (2006) suggests, the design of technologies can no longer be placed with the developers. Similarly, the use of technologies cannot be placed with the users. Using ICTs is as much a design process as developing technologies in the first place. Both human-centric and techno-centric approaches are problematic, and this leads Orlikowski (and the current authors) to the fourth approach, inspired by STS and ANT.

Entanglements as Practices

Orlikowski’s last STS/ANT inspired approach is the entanglement approach. While the emergent process approach focuses on technologies in practices, with an emphasis on what humans can do with technologies, the entanglement approach focuses on technologies as practices. Although Orlikowski has named the fourth approach entanglements in practice, we have been inspired by Henriksen (2003), and emphasize that entanglements are practices. In other words, the emergent process approach emphasizes the epistemologies and social constructions of ICTs – that is, the cultural and historical contexts in which ICTs make sense and become productive or detrimental to us. Alternatively, the entanglement approach emphasizes the ontologies of ICTs – that is, the momentary socio-material arrangements and specificities inside which ICTs become what they are.

While it may be difficult to see the difference between the two latter approaches, we hope to show throughout this article that taking the entanglement approach produces different contexts of knowledge and engagements that change the foundations against which we may understand engagements with Mingoville. The fundamental difference lies in the emphasis on the performative aspects of ICTs found in the entanglement approach. Relational performativity refers to ICTs being doubly acknowledged, on the one hand as actors that partially produce the practices and ontologies they become part of, and on the other hand, as being partially produced by these practices and ontologies. In other words ICTs perform and become performed inside these constitutive entanglements. Our research contributes to the further development of e-learning research with a focus on the performative aspects of ICTs. At the same time, our research places fundamental uncertainty regarding the agency of ICTs and their possible relationship with education (another example is Pelletier, 2009). Our work marks a turn towards understanding ICTs and their agencies as emerging results of processes of entanglements rather than as points of departure for action (Hansbøl, 2010).

Accessing Mingoville

Our research follows Mingoville, a platform for teaching and learning English that is currently marketed as ‘The World’s Most Comprehensive Online English Lessons for Kids – for FREE!’
Following Mingoville involves making an effort to understand how it can be understood as associated with teaching and learning English.

Much like other online and so-called social media such as Facebook, Mingoville is continuously shifting in a global marketplace on two main levels. The first is regarding what holds Mingoville (e.g. portable/stationary computers, mobile phones, books, schools, governments, private homes). The second is what Mingoville holds (e.g. home education, pupils, teachers, parents, special education, general education, virtual world, mini-games, maps). The manifold both actual and possible socio-material entanglements associated with Mingoville represents the challenges that our research faces when studying Mingoville as a means and form of English education for beginners. In other words, it is necessary to understand both what Mingoville is and how Mingoville may become an actor in, and across, various teaching and learning situations.

Mingoville is translated into 33 languages, and currently there are more than one million registered users across the world. We will now present the platform through a number of screenshots, explaining each in turn. In the first, Figure 1, Mingoville is presented by its developers as an entrance to learning English the Fun Way via a number of other game-based activities. Two further arguments are presented: Kids learn English more effectively when they are immersed in the language, and Not all children learn English in the same way.

Figure 1. Screenshot of the Mingoville homepage on 1 May 2010.

Mingoville is marketed as a global educational resource, while simultaneously it attempts to connect with many different educational needs. Access to Mingoville requires registration through a password and username. At present Mingoville involves two parts: Learn NOW and Play NOW (seen in the screenshot in Figure 2), although this has not always been the case.

Mingoville virtual world (i.e. Play NOW) was launched in June 2009. Originally, Mingoville consisted of the Learn NOW part, which Mingoville developers then referred to as the Mingoville Classic/School part. Mingoville Learn NOW is targeted at individual users and contains more than 150 interactive lessons, creative downloads and teacher tools, with a focus on speaking, writing, reading and listening to English. The Play NOW part is a virtual world targeted at groups or the community of users, and involves virtual spaces. These spaces can be used to meet, chat and interact with other Mingoville users in English (e.g. through initiation of users’ own playful activities, such as playing hide and seek), or to play interactive games between two or more users (e.g. in word quizzes and singing contests).

By clicking on the Learn NOW button, the user gains access to a variety of resources. As Figure 3 demonstrates, when logging on as a teacher, we gain access to Mingoville missions with activities, as well as teaching tools for planning, evaluation and administration.
Figure 2. Screenshot of Mingoville after log-in on 1 May 2010. The two parts: Learn NOW and Play NOW.

Figure 3. Screenshot after clicking Play NOW on 1 May 2010 (after logging on as a teacher).

Clicking on the Missions button (depicted in Figure 3) opens a new page with ten missions. It opens with music and a song: ‘We are so happy to have you here …’, and a flamingo makes an introduction, saying: ‘Hi, this is Mingoville.’ Figure 4 illustrates the missions page. Each mission represents as a particular theme. For example, 1 represents the family; 2, colours and clothes; and 3, numbers and letters to be worked with in English.

Mingoville registration is sometimes provided for free (for example, at school level, municipal level or national level). Such free launches have taken place in Chile and Portugal through partnerships between Mingoville A/S and the local governments. The concept of offering free educational resources through Mingoville is not a simple matter. Although it is offered for free in
some countries around the world, in others (e.g. in Denmark) either individual or institutional registration that costs money is required. Additionally, Mingoville offers all registered users who have access to the Play NOW part the possibility to pay for an upgrade to become SuperLearners. Upgrading to SuperLearners involves access to activities (like buying virtual clothes) that are exclusive to SuperLearners. In Chile, the government has launched special access to Mingoville through its own servers. As a result, users in Chile do not have access to the Mingoville Play NOW part. Furthermore, logging in to the Mingoville Play NOW part involves access through many servers.

Through this already detailed description of Mingoville, a multiplicity of issues can be brought to readers’ minds. We would like to focus on issues that may relate to and include research methodologies, researchers’ movements, Mingoville, and teaching and learning English. Describing a phenomenon like Mingoville is relatively difficult to do because many potential points of departure could be taken. One could, for example, enter Mingoville as a teacher or as a pupil (a girl or boy). Each of these points of departure would grant access to three different versions of Mingoville. Describing Mingoville in an all-encompassing way would neither be possible nor desirable in this article. Mingoville does not stay the same at all times and in all places. As we will show in the remainder of this article, what Mingoville is, and becomes, shifts in relation to its constitutive entanglements.

The implication is that any engagement with Mingoville becomes a specific engagement with a number of possible moments of bifurcation (Strathern, 2009). Moments of bifurcation should here be understood as situations where certain passages to and from Mingoville and English education for beginners enact various consequences. In ANT, such passages are manifold, and the very heart of the theory is to try to understand what makes them. A central point is made by STS researcher and social anthropologist Marilyn Strathern (2004), who states that any connection is another disconnection. This means that it is what makes a connection a connection (or not), and the forms of (dis-)connections that are being made, that should be researched.

Researching What Constitutes Entanglements of Mingoville and English Education for Beginners

In this article we discuss the processes of translation that have been involved in our own research through the **Serious Games on a Global Market Place** project, which was originally formulated and began in 2007. At that point, Mingoville consisted of the Mingoville school part and was initially...
launched in Denmark. The Mingoville school part is stable in the sense that it contains the same activities today as it did when launched in 2006. It is partly for this reason that Mingoville could, at the time, easily be understood as a particular container of things. In other words, it could be viewed as an educational actor with certain educational potentials to be realized, or embarked on, in various cultural contexts. A fairly straightforward conclusion was that Mingoville was an easily describable and delineated autonomous object. Such a conclusion was also in line with the comparative education approach on which the Serious Games project was founded. The two serious games participating in the project at the time (i.e. Mingoville.com and globalconflicts.eu) were both developed in Denmark. These games were already developed, and in that sense were viewed as finished products with which we could engage. The project aimed to investigate examples of serious games in a diversity of cultural contexts.

Overall, the purpose of the study was to generate knowledge about basic and general educational design principles. The view was that such knowledge could be taken into consideration when developing and designing serious games for a global marketplace using a Scandinavian pedagogical approach. The two serious games actors that became enrolled in this project therefore also initially became enrolled in three particular constructions:

1. that serious games were to be understood as bounded and individual objects/technologies;
2. that therefore the object of investigation was to see how they would/could become part of different educational contexts (in schools) across the world (with a focus on Scandinavian and European countries);
3. that serious games could be understood as carriers of pedagogical approaches.

The initial point of departure for studying Mingoville was to compare how particular ways of arranging English teaching activities that used it would unfold in different primary schools in selected Scandinavian and other European countries.

The original formulations and intentions in the project influenced our comparison between Mingoville and its relationships with English education for beginners. For example, there was an attempt to hold constant the conditions in relation to which Mingoville should be understood as an educational actor. However, we argue that a particular way of thinking in terms of comparability and Mingoville as a research object emerged. This way of thinking can be viewed as partially connected with the Euro-American (Strathern, 2004) tendency to think in terms of objects/ICTs as autonomous entities, or, as previously mentioned, as platforms. As such, they exist in, and move across, culturally distinct contexts. The entanglement approach to understanding objects/ICTs involves the acknowledgement that Mingoville and its cultural contexts do not exist in such autonomous relationships with one another. Rather, they can be viewed as much more mutually inclusive (Mol, 2002).

With inspiration from Strathern (2004), we shall argue that rather than taking comparability to be a matter of establishing ‘the same conditions’ to be studied under different cultural circumstances, comparison can be understood as being at the heart of any research process. Comparison (i.e. enactments of alternatives), we suggest, is not something avoidable. Indeed, it is a particularly important condition with which to engage. As the following examples will show, comparison is deeply entangled in the processes of understanding how Mingoville becomes an actor in different teaching and learning situations of English for beginners. This shift in approach from comparison as a way to engage with research to researching the practical framings of alternatives (De Laet & Mol, 2000) involves efforts to understand how practices, actors and their ‘contexts’ are multiply situated and shifting. Studying a moving phenomenon like Mingoville requires a research design that can grasp the various sites of construction in which Mingoville acts in English education situations for beginners. Acts of description entail establishing (dis-)connections (Strathern, 2004) between things in the process of trying to understand the phenomena in question. There is therefore, we argue, a stark difference between thinking in terms of comparison and thinking in terms of enactments of alternatives. Comparative thinking involves consciously establishing multiple sites for investigation, as can be seen in variations of comparative education and multi-sited ethnographical approaches (e.g. Marcus 1995; Sørensen 2008). A different approach is thinking in terms of enactments of alternatives as a fundamental condition in research that takes part in enacting the phenomena we are researching. Furthermore, as Strathern notes (2004), if comparison must indeed be viewed as a fundamental condition in the activity of
description, then researchers must attend to two main aspects. First, they should tend to the collations made through research. Secondly, and perhaps even more importantly, they must learn to be affected by the collations made in the practices that are being researched. The implication is that an entanglement approach must deal with the double move of always simultaneously constructing sites of investigation and constructing the phenomena in question.

Through four short stories from our empirical work we show that what partially contains Mingoville and what Mingoville partially contains moves inside variations of socio-material chains of association (Latour, 1999b). One could say that when chains of association are shifted, the contexts of knowledge and engagements also move (Hansbøl, 2010). Thus, what appear to be the identities, agencies, forms and matters of Mingoville hang tightly together within their momentary constitutive entanglements (Orlikowski, 2007).

In our telling of these short stories we discuss how to gather information on the phenomenon we as researchers set out to research. We have already presented some of the processes involved in putting Mingoville in formation. Through our movements and engagements with Mingoville, we started to gather Mingoville in the form of descriptions. Given that any description is also a form of explanation (Latour, 2005), such explanation puts Mingoville in a script. In other words, Mingoville is placed into forms that partially contain both Mingoville and its relationships with teaching and learning situations of English for beginners.

In the following section we turn to four examples of the research engagements involving Mingoville that are represented in our research project:

1. Mingoville + English teaching + computer lab + primary school + Denmark
2. Mingoville + English teaching + computer lab + primary school + Portugal
3. Mingoville + English teaching + portable computers + primary school + Denmark
4. Mingoville + English teaching + private home + Denmark

Several shifts are implied in these four stories. One shift is that they illustrate how Mingoville can become different and partially contained in English teaching activities in school. Another shift is that Mingoville, as a socio-material actor, moves between different teaching and learning situations. Through these examples and modified [6] stories of what we call the shifting platformations and agentizations (Hansbøl, 2010) of Mingoville, we wish to convey two methodological points:

• First, when we initially set out to investigate so-called serious games products like Mingoville in schools, our research became prejudiced towards those relationships which really mattered to Mingoville, as well as towards where these could/should be found. However, in our further investigations of engagements with Mingoville, a central component became to try not to start with prejudices towards which relationships really mattered, what constituted educational relationships, as well as where these could/should be found.

• Second, when we started our research into serious games by making a so-called platform analysis, we created a ground for understanding how this phenomenon became a matter that mattered. In our further efforts we followed how Mingoville went through different metamorphoses as it was further developed by the developers, but also as it became attached to (or not attached to) different educational situations in schools and homes. This led us to the entanglement approach emphasizing Mingoville and its shifting platformations.

1. Mingoville + English teaching + computer lab + primary school + Denmark

The first Mingoville studies in Danish schools in Denmark took place in 2007. Mingoville was at the time considered a new technology that had not yet been engaged in primary schools. The schools and teachers that volunteered to try Mingoville and participate in our research thus became the partial grounds against which Mingoville and its possible relationships with English education were understood. Since Mingoville was originally developed for Grade 3 and 4 English teaching in Denmark, the pilot studies therefore involved engagements in English lessons with Mingoville in those forms. As such, engagements with Mingoville moved the English lessons from the classrooms to the schools’ computer labs. In Denmark, going into the computer lab is not an
unfamiliar approach in primary school when integrating IT into the teaching activities. Thus, it appeared to be a natural setup for the engagements with Mingoville in school. Additionally, based on our initial intention to create a comparative setup in different schools, the teachers in these schools were asked to work with the Family mission in Mingoville as their starting point, as viewed in Figure 5. Only certain elements could be held and maintained stable by the researchers across the studies, for a number of variations existed in the situations. These included, among others: the schools; the teachers; their classes; their backgrounds in English; the constitution of the student groups; and the ways in which teachers would approach Mingoville. Figure 5 depicts the example of the Family mission. One teacher told the pupils to engage with the Family mission and let the pupils choose freely to work with and move sporadically between all twelve activities represented in the Family mission. Another teacher asked the pupils to work with the activities in a more systematic manner, emphasizing the sequence of activities, starting with Activity 1.

It was further evident in these examples that several pupils would sit at each of the computers working with Mingoville, as there were not enough computers for everyone. The sporadic and systematic approaches represented fundamentally different approaches to Mingoville, and were options which the Mingoville developers had consciously built into the design. Many pupils gathering around one computer, however, was not something particularly built into Mingoville, as it was primarily conceived as a digital resource for individual children. Differences in enactments of how Mingoville is approached take an active part in enacting what becomes the grounds for working with the platform, and thus how it is concretely realized as a platform providing certain teaching and learning opportunities for beginners in English.

The first experimental setups of Mingoville in Denmark were arranged as if one engaged with it by sitting down at a stationary computer in a computer lab and engaged with English and Mingoville thematically. While this example underlined Mingoville as a particular kind of actor belonging to teaching English in schools’ computer labs with stationary computers, the next examples illustrate that this may not be the default setup for engagements with the platform.

Figure 5, Screenshot of the Family mission with 12 activities.
2. Mingoville + English teaching + computer lab + primary school + Portugal

In Portugal, teaching English in what they call the first cycle, including Grades 1-4, is voluntary and therefore takes place during after-school hours in the afternoon. In contrast, in Denmark teaching English in third grade is compulsory. In the Portuguese school, English classes took place in classrooms where the teacher had a stationary computer with Internet access and an interactive whiteboard. The after-school classes in this school included, among others, IT classes, English classes and physical education. As a result, on a day-to-day basis, the school computer lab was occupied by the IT class during after-school lessons. In other words, at this school at this time in Portugal, the experimental setup of Mingoville that we used in Danish classrooms turned out to be less conducive to day-to-day engagements with English. While the setup could be arranged and we could observe the activities with Mingoville in the computer lab, the relationships between Mingoville and English teaching did not appear to be particularly related to the constitutive entanglements that would ‘otherwise’ engage Mingoville (if they could!) in this school.

The contexts for engaging with Mingoville in the Danish schools and in this Portuguese school were fundamentally different in a number of ways. On the one hand, the articulations of Mingoville could be made to appear more or less the same in different schools (i.e. in both Denmark and Portugal Mingoville became periodic, research-related, first-time-experience events, involving a thematic approach). On the other hand, it became clear to us that such an articulation may in fact not be representative of the way in which Mingoville becomes (dis-)engaged in different places. This acknowledgement was made quite clear when one of the teachers participating in the project wrote the following email a year later:

I hope everything is alright with you and your team. Unfortunately neither I nor Imanuel are at the same school anymore. As you know, it was a good example of a school because we had good work conditions – the computers, the interactive boards, the net ... I used Mingoville while I was there to teach my students some vocabulary and to allow them to learn on their own, without help to give them some autonomy. This year I still didn’t use it – not because I didn’t like it or didn’t find it useful ... You know we all loved this project.... now I work in three different schools and I have to run from one to another... Only in one of them do I have access to the net. I only have one class there and most of the time the pens of the interactive board are not charged and we can’t work. It’s really a pity ... As far as the other schools are concerned, in one of them there are computers and interactive boards but there isn’t internet, and in the other, we only have a CD player in the classroom and we still write with chalk ... As you can see, it is not easy to work with Mingoville in these conditions.... (Email from Portuguese teacher, 4 May 2010)

So far, examples 1 and 2 have illustrated possible ways with which to engage with Mingoville that positions the universe in a number of particular relationships, including: school spaces (e.g. computer labs); materialities (e.g. stationary computers); English teaching activities (e.g. as a short and fun extra addition to working with particular themes in English); and pupils (e.g. in both Denmark and Portugal, several pupils would gather around each computer, as there were not enough for everyone).

Example 3 illustrates that while these ways may appear possible and even natural under certain circumstances, in other entanglements different relationships are produced. During 2009 it became particularly clear to our research group that there was a need to reorient our research towards the emerging circulations and establishments of Mingoville in the world. Two main developments in this period were: (1) the launch of Mingoville virtual world (Play Now); and (2) the announcement by the developers that several hundred thousand users worldwide were then registered. The third example is therefore reflective of the change in our research orientation which we call the move towards an entanglement approach to studying Mingoville.

3. Mingoville + English teaching + portable computers + primary school + Denmark

An Internet search for ‘Mingoville’, generated a video [7] of an interview with an enthusiastic primary school teacher in Denmark. The teacher had worked with Mingoville in one of his Grade 3 English classes in the school year of 2008/2009. Two Grade 3 boys were sitting/lying on the floor with a portable computer and were engaged in singing an English song. In the pursuit of
circulations and establishments of Mingoville, we came across a number of descriptions of engagements with Mingoville in English in Danish primary schools. These enacted Mingoville – its appearances as well as its agencies – remarkably differently from the previous mentioned setups.

In the first two examples, Mingoville was represented as a brief supplement to the ‘ordinary’ English lessons in the classroom. From these arrangements, Mingoville appeared to be easily positioned as a possible fun variation and different teaching resource to turn to occasionally if appropriate and if the computer lab was available. As such, this type of use fitted with patterns of engagement with educational technology or educational media in schools over many decades (Cuban, 1986). The video interview with the Danish teacher portrayed a different story. In this case, Mingoville was engaged with as the source of teaching and learning English in Grade 3. It could be compared to using an English book as a foundational resource in teaching activities. Rather than being represented as a possible minor actor in working with themes in English, Mingoville became a central actor – a point of departure. In the video, the teacher described how the pupils’ engagements with Mingoville turned his teaching activities upside down, because rather than having teaching at the blackboard as the central element in his English lessons, learning around computers became the centre of attention in his third-grade class.

It was not possible to tell from a video what, and how, students learned from this way of working with Mingoville. Nevertheless, it was interesting to pursue further the notion that in schools Mingoville could take on different enactments. On the one hand, it could become enacted as a sort of brief event – a happening – in the larger event of teaching and learning English. On the other hand, it could become enacted as a foundational actor taking a central part in enacting the constitutive entanglements of what it meant to engage with English education.

4. Mingoville + English teaching + private home + Denmark

Engagements with Mingoville can be characterized as partially existing variations of more or less full (dis-)engagements (Hansbøl, 2010) with the universe. However, as briefly touched upon in example 1, it is one thing to position Mingoville as a more central or peripheral actor, but it is another to assemble the parts and pieces of Mingoville to engage with different circumstances. As previously noted, the research approach in example 1 took as its point of departure for engagements with Mingoville the missions (Learn Now) and activities (something which is supported by the teacher guide to Mingoville). The following example illustrates a different scenario.

Mingoville is marketed for parents, teachers and children all over the world, and this means that different actors and relationships make up the constitutive entanglements of Mingoville. Whereas examples 1-3 were focusing on Mingoville in school contexts, the fourth example illustrates the use of Mingoville in a home context. This last example further highlights that there is a variation in both the human and non-human actors that become involved with Mingoville. Mingoville, as we have seen, can be engaged on both portable and stationary computers. Furthermore, it is possible to engage with Mingoville using speakers, headphones and a microphone. These circumstances were influential in the other examples, particularly in the third story, where pupils were engaged in singing English songs together. Of central importance in this last example is sound, and the available materialities of sound.

The fourth example is based on a telephone interview with a parent who had recently bought a membership for her eight-year-old son. The mother noted that he was only in Grade 1 of primary school in Denmark, and therefore could not write in Danish. Indeed, he had only recently begun to know how to read in Danish. In her view, it was central that they found an English resource that emphasized the audio aspect of what it meant to teach and learn English. In Denmark, as already mentioned, English is obligatory from Grade 3. This boy and his family were moving to Singapore a few months later, and therefore they wanted to help their son get started with learning English. We talked to the mother approximately 10 days after her son received his password and username to Mingoville, so it was too early to consider the progression in her son’s language development. Furthermore, it is a rather complicated issue to determine whether learning (e.g. of vocabulary) stems from a particular source. In spite of this, it was of interest to the research team to hear the
mother describe how her son (at this point) was becoming particularly engaged with, and interested in, working with the phrasebook in Mingoville as demonstrated in Figure 6.

![Figure 6. Screenshot of the Phrasebook, where users can read, listen to and record sentences.](image)

The mother explained that the boy enjoyed sitting listening to the sentences and repeating the sentences. He would also do so on his own, without his parents. His mother laughed and noted that one way which demonstrated his interest and engagement was that he would come into the living room and say: ‘Good night, Mother.’ She further explained that they had promised that they would buy a microphone so that he could also record his own pronunciation, words and sentences.

From this last, and admittedly brief, example, it also appears there are manifold ways that may constitute the point of entrance for engaging with Mingoville. In this case, the Phrasebook, rather than the missions and activities, had become the initial point of engagement. Another difference between the first three examples and this last one can be noted. While the first two examples involved ‘testing Mingoville’ and its possible ramifications in terms of pupils’ learning options in English, the third example illustrated that Mingoville could become an active ingredient in everyday English activities. Furthermore, the third story involved a processual perspective on engagements with Mingoville over time, rather than studying the brief encounters and immediate engagements of pupils in front of computers with Mingoville, as was the case in examples 1 and 2.

The fourth story adds to these examples by associating home training/education with Mingoville. Furthermore, the fourth story adds human actors and their subjective approaches to Mingoville as active ingredients in what constitutes Mingoville and its possible relationships with teaching and learning English. All four stories have constituted the relationship whereby Mingoville moves and become moved in and across heterogeneously constituted English education situations.

*Partially Closing and Opening Up …*

Throughout this article we have tried to both partially describe and explain the phenomenon of Mingoville, as well as look at how we may research engagements with such a multiple phenomenon. We have presented variations of (not at all all-inclusive) ways to articulate Mingoville and its manifold, heterogeneously assembled constitutive entanglements and space-timings. The presentations of Mingoville in this article of course only include a few examples. They should be taken as partial and momentary accounts of some of the partially co-existing and co-evolving ways to partially contain Mingoville as an actor in English education. The interpretations
articulated in this article should also be acknowledged as being in the midst of things. We have used Actor Network Theory-inspired accounts of Mingoville’s forms of being. Particular grounds for understanding Mingoville are thus enacted and result in variations of compositions of relationships between the platform and what it means to teach and learn English.

We have only briefly touched upon another centrally important actor in the ways Mingoville may become (dis-)engaged inside certain chains of associations: English as a language. English as a language also contains multiple identities and agencies; these have only surfaced briefly in relation to the different presentations throughout the article involving engagements with:

- English as a mandatory or voluntary subject in primary schools;
- English as a fundamental ingredient in ‘nation-building’ and establishing a country as globally competitive;
- English as a first, second or foreign language;
- English as a matter of speaking, writing, listening and reading.

In this article, Mingoville and its agencies have been presented as varying inside the shifting relationships and positionings of both Mingoville, English and English education. There has been an underlying focus on the moving ontologies of what it means to engage with English, English education and Mingoville. Several actors have been inscribed as actors that play different parts in the constitutive entanglements of Mingoville: the Mingoville company, national agencies and governments, municipalities, schools, individual teachers, parents and children, IT access, computer labs, classrooms, portable computers, etc. None of these, however, have been thoroughly elaborated here.

The intention with this article has been to present some of the methodological concerns and challenges that became articulated during our engagements with Mingoville as a research object. We have argued that to pre-position Mingoville as either a new technology to be researched in computer labs or as a pre-existing platform with which to be engaged may result in certain methodological problems. Instead, we propose that a central focus should be placed on the emerging circulations and establishments of Mingoville, and on its shifting constitutive entanglements, agencies and platformations, if the purpose of research is to understand the ways in which ways Mingoville becomes an actor in English education. This raises awareness of the heterogeneous processes of establishing relationships between education and ICTs that need to be addressed in the field of e-learning research.

We engaged with a research methodology that emphasized the processes of agentization of Mingoville by focusing on the shifting spatio-temporally defined roles attributed to the platform as it was translated through various socio-material entanglements. These took place in many different kinds of schools and in private homes. While it is impossible to describe Mingoville and its functions in one all-encompassing way, we have selected a few empirical resources to engage in descriptions throughout the article. It is important to keep in mind that we have worked to describe the specificities of the socio-material entanglements of Mingoville as part of our argument for the value of an entanglement approach. In so doing, we have drawn resources from a rather diverse assemblage of heterogeneous materials. Furthermore, not only have the stories involved a shift in the socio-material constitutive entanglements of Mingoville in English education, but this move includes a dedication to shifting methods (Hansbøl, 2010). Among other methods, we have included formal interviews and conversations with teachers, parents and children, (video) observations of teaching activities in English classes, home visits and conversations with children and parents in their private homes.

Through these descriptions, Mingoville is understood as a relational articulation. Its human actors (e.g. pupils and teacher) engage with the platform on a number of different occasions, and for a number of different purposes. This article only engages a few aspects of how Mingoville is multiply situated as an educational technology and how it is entangled with the specific practices of the localities in question. Addressing the metaphor of space from an entanglement perspective means focusing on how entanglements partially form spaces and practices at the same time as being partially formed by them. In our research, engaging with an entanglement approach, for instance, has also involved looking at how movements between ‘spaces’ such as classrooms and the school computer lab were enacted as part of pupils’ and teachers’ engagements with Mingoville. Furthermore, it also involved examining how these spaces were redefined as Mingoville became
involved in movements within and between them - for instance, when experiencing ‘technical problems’. These ‘technical problems’, all too familiar to any teacher or pupil using ICTs in school, are active ingredients in defining the ontologies of teaching and learning English, and also in defining what may be the relational contributions of Mingoville as an actor in English education activities, as it becomes enacted in different circumstances. The primary aim of this article was to illuminate the entanglement approach. The fact that engagements with Mingoville involve various opportunities and challenges for different human actors was not its central focus.

Mingoville can be conceptualized as perpetually mobile, but simultaneously holding certain momentary stabilities. In other words, it is only partially mobile and partially stable. There is a constant shift in what appears mobile and stable (as the empirical examples have illustrated), and the agencies of those forms of being (that is ‘being mobile’ and ‘being stable’) do not stay the same. Such a finding is both the challenge and the contribution of this research. It questions the ease of forecasting the general strengths and weaknesses of ‘educational technologies’ or ‘digital media’ and – in this case – serious games. This finding, however, can be viewed both as the Achilles’ heel and as what makes ICTs such as Mingoville so distributable.

An understanding of shifting mobilities and stabilities also presents a number of challenges to the educational contexts inside which Mingoville is supposed to contribute to English education. If the agencies of Mingoville are somewhat unclear, then how can we approach phenomena like Mingoville in education? Another important question is: how can Mingoville be described as something that actually contributes to teaching and learning English? For instance, at the moment it is only accessible via the Internet, and, furthermore, one needs to be a registered user to access it. Under what circumstances does Mingoville become a useful actor in English education? How is it possible to research its usefulness when, according to the developers, there are more than one million registered users? Who are they? Where do they come from? How do they engage with Mingoville? Mingoville is marketed for both school use and private use, but what characterizes the challenges that different users might face? As this article suggests, engaging Mingoville in school use may be something entirely different from engaging it in private use. Private users, for example, may engage with Mingoville ‘just for fun’, while teachers may impose Mingoville on pupils for serious engagements with English education.

In many ways, Mingoville can be characterized as an emerging technology and a multiple phenomenon (Mol, 2002) which does not hold together in the same way at all times, in every place and for every person. The contexts of Mingoville are shifting, and all in all, the constitutive entanglements of Mingoville are changing. Such a conceptualization raises the question of how to characterize fruitful engagements with Mingoville, and whether they require particular approaches and socio-material arrangements to be present. It raises an additional question regarding how we can decide on the nature of appropriate engagements if we are not taking an ethnocentric and/or learning strategic approach. These and other questions need to be explored further. The entanglement approach presented in this article does not provide final answers to questions concerning the epistemological and ecological ramifications of new media such as Mingoville. Instead, it opens up and recasts issues for further studies.

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Notes
[1] Sometimes referred to as Science, Technology and Society Studies. The content of this paragraph can be found in elaborated form in Hansbøl’s PhD thesis ‘Researching Relationships between ICTs and Education: Suggestions for a Science ‘of’ Movements’ (Hansbøl, 2010).
[2] Latour (Crease et al. 2003) defines himself as an empirical philosopher, and he also calls himself a sociologist (Latour, 2005). For more knowledge about Bruno Latour and his manifold writings, we can recommend visiting Latour’s homepage: http://www.bruno-latour.fr/biography.html
[3] We do not explore in detail the large amount of critique aimed at ANT in the past. In Reassembling the Social, Latour discusses some of the past critique, which according to Latour, is connected with different interpretations of what ANT should be about compared to what e.g. Latour intended. John H. Zammito (2004) also discusses especially Latour’s contributions to ANT and the consequences his understanding of science may entail.
[4] ‘ANT is not, I repeat not, the establishment of some absurd “symmetry between humans and non-humans”. To be symmetric, for us, simply means not to impose a priori some spurious asymmetry among human intentional action and a material world of causal relations’ (Latour, 2005, p. 76).
[5] This section about the generalized symmetry concept in ANT is written with reference to Olesen & Kroustrup (2007).
[6] We emphasize modified here because these examples serve as simplified/simplifying analogies and not as representations in the sense that they mirror the complexities involved in the setup of the actual research. Furthermore, we want to emphasize that we do not see a progression from the snapshot stories 1 to 3, in the sense that none of these engagements should be considered a priori and generally better than others. We wish to convey how they each produce Mingoville and its relationships with English education differently.

References
Shifting Ontologies


MIKALA HANSBØL and BENTE MEYER are researchers from the Danish School of Education, Aarhus University, who are currently involved in a project called Serious Games on a Global Market Place (2007-2011), funded by the Danish Council for Strategic Research. They are part of the language project within the Serious Games project. The purpose of their research is, among other things, to study the different uses of a virtual universe called Mingoville (http://www.mingoville.com). The virtual universe provides an online environment for students beginning to learn English in schools and at home. Mingoville currently has more than one million registered users globally (according to the developers). Hansbøl and Meyer primarily use ethnographical methods in their research, and have conducted fieldwork in schools and homes in Portugal, Finland and Denmark. Correspondence: Mikala Hansbøl & Bente Meyer, Research Program Media and ICT in a Learning Perspective, The Danish School of Education, Aarhus University, 164 Tuborgvej, DK-2400 Copenhagen NV, Denmark (mhan@dpu.dk; bm@dpu.dk).