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“It felt as if one was there” Visitors’ response to an interactive museum exhibition as an example of learning in informal settings



Abstract

The purpose of this paper is to discuss some theoretical tools in order to analyse data from visitors’ response to an interactive museum exhibition. The theoretical framework combines notions from socio cultural perspective and multimodality, as an approach to learning. The methods used are observations and focus group interviews with students and museum staff. The results show that the visitors response to the exhibition content imply that the interactive technology is a forceful mean to mediate learning. This informal setting makes the visitors feel “as if one was there”.

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The Aim

The purpose of this paper is to discuss some theoretical tools in order to analyse data from visitors' response to a museum exhibition using interactive technology¹. Visitors' response as we argue contains aspects of an informal learning process, an individual competence as well as collective. The theoretical tools derive from both socio cultural theory and from a multimodal perspective and offer contributions for thinking about learning in informal settings. The socio cultural framework emphasizes the concept of *intersubjectivity* as an approach to *learning*. In a learning setting, intersubjectivity is the act of negotiating meaning in a dialogue. In the light of a socio cultural perspective, the artefacts of the museum exhibition are seen as *mediating tools* of inner transformation, which responds to different levels of understanding such as *mastery* and *appropriation*.

We would also like to broaden our focus in order to pay equal attention to other communicative resources, which will have consequences for our understanding of learning. An exhibition, such as 'China before China', consists of a large number of modes; its meaning is made in different ways through artefacts, texts, photos, images, moving images, colour, light, sound, music and so on. We therefore adopt the notions of *representation*, *interest* and *signs of learning* from a multimodal social semiotic perspective.

We recognize that within both these domains, there are several concepts that can serve as analytical tools. Here we have chosen but a few; that we find useful when discussing museum learning.

Question

How can a *socio cultural perspective* combined with a *multimodal approach* contribute to the analysis of learning in an informal setting?

Theoretical framework

The *socio cultural theoretical* perspective (Wertsch, 1998) relate speech to thinking, and focus on mediated action as a link between historical, social, cultural and institutional contexts. Mediated action involves cultural tools such as semiotic signs used when writing, reading, painting etc. With new social cultural tools mediated action is changed. We deepen our understanding and insights in the development from *mastery* to *appropriation* (Bakhtin, 1984). From a socio cultural perspective the *dialogue* therefore is essential. In the dialogue there is a dynamic tension between alterity and *intersubjectivity*. Between the self and the other there is heterogeneity and alterity as to different perspective and voices. It is the dynamic of them which makes alterity to develop man and by that challenge intersubjectivity (Wertsch, 1998:116). A certain amount of intersubjectivity can be considered for granted in order to communicate (Rommetveit, 1985). But you can also reach intersubjectivity by communication. Intersubjectivity at full length is fiction according to Wertsch (1998). Linell (1998) argues that intersubjectivity can't even be the ideal target of human communication.

In the light of a socio cultural perspective, the artefacts of the museum exhibition are seen as *mediating tools* of inner transformation, which responds to different levels of understanding such as *mastery* and *appropriation* (Wertsch, 1998). The theoretical notion of intersubjectivity

¹ We take as a starting point a study performed in 2005 at the Museum of Far Eastern Antiquities in Stockholm. Gottlieb, H., Geijer, L. & Insulander, E. (2005) *Det kändes som man var där. En studie om några elevers och utställares upplevelser av utställningen Kina före Kina*. Opublicerad rapport (Unpublished report).

as Rommetveit (1979) argue is a process in which negotiation may lead towards agreement and the participants' acceptance of the perspective of one another:

The basic problem of human intersubjectivity becomes [...] a question concerning in what sense and under what conditions two persons who engage in a dialogue can transcend their different private worlds. And the linguistic basis for this enterprise, I shall argue is not a fixed repertory of shared "literal" meanings, but very general partially negotiated drafts of contracts concerning categorization and attribution inherent in ordinary language (Wertsch, 1998:12).

Multimodality is described by Kress & van Leeuwen as:

[...] the use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined [...] (Kress & van Leeuwen 2001:20).

Since multimodality is linked with social semiotic theory, its' core terms and concepts consequently derives from semiotics. Here, the *sign* is an obvious starting point. The perspective emphasizes how the producer of a text chooses between several semiotic resources in order to communicate with the reader. What is at focus here is the way people engage with the resources of a context, in order to make meaning (Kress *et al*, 2001:2). Learning is regarded as a transformation of the resources of representation of an individual. In this process, signs (or concepts) are made as an internal process, but are also made outwardly. We can not study the signs that are made within one person, but must instead look for external signs of learning.

Kress and others have emphasized the individuals' *interest* in the learning situation. Interest can be understood as the connection between a person's choice between one resource over another and the social context of making that sign (Kress, 2003:43). A sign made outwardly represents the 'position' from where he/she looks at the world in the particular situation. The interest directs his/her attention, so that a selection can be made from what is being offered (Kress 2004). *Representation* implies both making a reproduction of something, but is also considered as a social process that adds meaning and thus create something new. This means that the sign-maker has to decide what communicational modes to use and in what way. (Kress *et al*, 2001:2). Kress (2004) also stresses that the individual always chooses the most apt means for representing what is to be represented. A representation is always partial; since the representation of an event or an object is not the same thing as the event or the object itself. In the representation, a person represents the things he or she think is significant (Kress & van Leeuwen, 2001, 2004). The process where the learner makes a sign as a response to a situation can be understood as a sign of that persons' interest and also as a *sign of learning*. In this sense, representation is also the same as signs of learning (Kress, 2004).

Method

Collection of data - observations and focus groups

The study was conducted at *The Museum of Far Eastern Antiquities* at the exhibition *China before China*. Data consisted of observations and focus group discussions. Observation is by definition an approach to a field where the researcher designs his research object. To observe activities of a museum visitor is to investigate actions and to interpret these actions in a

setting, a field of rules, routines and conventions that in a sense can be defined as “a domain of work which in practice we distinguish from the rest of the life by means of various devices” (Amit, 2000:54).

Data was also collected in focus groups in one of the museum’s seminar rooms. First, the groups of pupils from a 5th grade elementary school class were given a short presentation about the exhibition by a museum educator. In this presentation the pupils were told that the objects they were about to see were originally from prehistoric China and that further information was available in the exhibition. The informants visited the exhibition for approximately an hour during which their actions were studied. Their action and response were observed and compiled in note form. Afterwards the informants were shown into another room where focus groups were conducted. The pupils were asked questions of how they experienced the exhibition. The interviews were recorded.

The idea of the focus group is to let the participants carry the discussion without all too much interference by the moderator. Focus groups were mostly used in market research but have since the 1980s been used in applied social research to examine individual’s attitudes, opinions and habits in several areas (Geijer, 2003). Focus groups can be used as a foundation for several different kinds of analysis such as the analysis of the actual interaction in conversations (Wibeck, 2000, Geijer, 2003). In this evaluation we have used the data from the focus group discussions for an analysis of the competence of informal learning in an interactive exhibition.² Here, the aim and the central questions of the evaluation (and even the interview guide) have directed what we have chosen to examine. However, other subjects that are referred to, have also been included as they have emerged in the quest for general patterns and unities in the material. The focus group conversations were analysed with regard to the questions mentioned above. They were also analysed with regard to *response, multimodality, intersubjectivity, mastery and appropriation* and of *representation, interest and signs of learning*.

Museums today have an ambition to evaluate the visitors’ response by qualitative research methods in order to get a descriptive account of the visitors’ interaction with the exhibition (Insulander 2005). Therefore the results from this study are discussed in depth in order to test analytical tools from two different domains or theoretical fields; socio *cultural theory* and *multimodality*. Concepts from these different fields complement each other, and suggests that learning in museums can be discussed and understood from a linguistic point of view as well as acknowledging that communication encompasses a multiplicity of modes of communication, which contributes to the meaning making of the individual. Both fields focus on practices in concrete social contexts. In the focus group, the young visitors talk about their visit. Their statement can in this case be considered as *representations* of their visit in the exhibition. Here, they make deliberate choices in order to make meaning and communicate with the moderator.

The researchers

In this paper, we wanted to broaden our perspective in order to try to approach communication. This is one way to approach learning in museums. One explanation for this is that we have our background within educational science, and have in earlier studies worked within a socio cultural theoretical framework. In this case, it has been very natural for us to approach communication from a linguistic point of view. Since we considered this to be a pre-

² Geijer, Gottlieb & Insulander 2005 Unpublished report, *ibid*.

study we regard the method as one *example* of several, when it comes to studying communication. Under other circumstances this set of data could have been complemented with other forms of data, in order to cover more aspects of the learning situation in the exhibition. Even though multimodality holds that communication depends on a multiplicity of modes, it does not leave out language.

Result

This paper discusses how a *socio cultural perspective* combined with a *multimodal approach* can contribute to the analysis of learning in an informal setting of an interactive museum exhibition.

The interactive installation and storytelling

The exhibition is built upon a dramaturgic/thematic foundation: the people, animals, shamans, music, death, handicraft and everyday life in the Yangshao area. The knowledge department at *The Museum of Far Eastern Antiquities* was responsible for this part. The visual and dramaturgic elements were distributed into six interactive installations that were integrated nonlinearly in the exhibit room in which a couple of traditional exhibition cases also could be found. The storytelling plays a leading role in the exhibition. The text and graphical elements complement and facilitate this to create an entirety.

The exhibition is arranged in the form of an interactive installation and consists of stations that are placed so as to “dress” the walls in an oblong room. Two of the IT artefacts/stations, *The peeking cabinet* and *The pot mountain* are both visual/auditory and interactive and aim to invite the visitor into the interaction. The other four IT-artefacts/stations are only visual and auditory. The whole exhibition is controlled by a computer, a media player for audio as well as a freestanding system for the projection wall. The steering system controls (via sensors) all interaction and media in the exhibition except for the projection wall that is connected to a separate system. At the entrance of the exhibition the visitor is welcomed by two child voices that create a feeling of expectation. The children are hosts/guides of the whole exhibition. The *introductory texts* informs us that there was a china before china, and that we are about to make a journey in time.

The *pot mountain*-installation is navigated by three hands; drawn silhouettes/symbols. When the visitor pushes each hand a program is started which consists of voice and lighting effects that are connected to an interactive system. The information is presented in short bursts (a maximum of 1 min) and the lighting has the ambition to place the objects in a playful context. The children’s voices tell the story about different individuals that made the pots and the light guides the visitors’ view; in order to focus on one group of pots at the time. The texts gives information about techniques, different types of ceramics, a few ceramic traditions and about patterns and symbols in the ceramics.

The night is a dome-shaped construction where the visitor can enter and sit down to listen to stories. Two child voices tell the story about the people who lived in the area and present some philosophical thoughts about shamanism and death. They also tell ghost stories. In the dark room an animated eye of a tiger appears in order to dramatize the situation. You can also hear the sounds of a tiger and the rattling of seashells.

The yellow river is a 12 m long projection wall intended for artistic pictorial shows that contain documentary information about how the pots reached Sweden. It also presents animated graphical elements such as animals and handwork from the collection.

Inside *the storytelling pot* (1 m tall) the visitor can watch a film, showing a travel in time. First we see earth focusing northern Europe. As the time runs backwards (from 2005 to 2500 B.C.) the earth spins in order to focus China. We can see an animated boy waving his hand to us. The next time we look down into the urn, we can see that the time stops a 1920 and the time when the collection was discovered and excavated. Here, an animated film shows the archaeologist, Andersson.

The Peeking Cabinet is a cabinet with 8 drawers with accompanying sounds that are used to illustrate the objects in the exhibition cases. The sound is both authentic and arranged depending on what is being illustrated. There are several themes as to the material presented. The texts in the drawers tell the story about the people that lived in the area and what they did; themes like beauty and agriculture. Each object has a number and in the drawers below. In a traditional *showcase* there are also objects like tripods, axes and knives. Each object has a number, and a text next to the showcase, showing the names of these objects and a date. In another *showcase* there are more pots, and a reconstruction of a grave with pots and a skeleton. The text tells the story of “those who wore masks”, and about life and burials. The text also includes a kind of a plan-drawing of the grave with the names of each object. In the exhibition, there is also various *sounds*; birds singing, the sound of waves in the ocean and the barking of a dog.

Analysis

Visitors response

A multimodal and a socio cultural perspective combines the notions of theory to analyse the visitors' response to an interactive exhibition. What can a group of young visitors' response to the exhibition account for? What feedback do the youths' experiences leave signs of in the exhibition? Here we asked ourselves the following question: what can we, as researchers, learn from this and what can we measure? We *could* investigate how many times “the hands” were pressed in the interactive installation. This would give us the answer to how frequently the visitors pressed “the hands”. Instead, we have chosen to examine the qualitative aspects of the exhibition by describing, analysing and interpreting the response of some young visitors.

A socio cultural and a multimodal perspective

The *Night*, referred to in the text, is the installation used by the informants as a situation of *intersubjectivity* negotiating the exhibition with fellow visitors. The students investigate each other in a dialogue. Asking each other questions like “Did they sell the pots for a living?. Maybe? There are pots out there (relating to the installation *Pot Mountain*) Did you see them? Come! Did you see the pots?” This dialogue, we argue, is a negotiation of how to understand the content of the exhibition by using language-as-speech. If the visitors reach a mutual understanding, we can use the term *intersubjectivity*. Learning happens as a consequence of the meeting with accompanying friends in an informal setting. By putting questions to each other and answering and by suggesting actions, the visitors show competence of communication. An example of response is how they interact both with the objects and resources of the exhibition but also how they negotiate meaning. This is observed when two informants leave the “night” and walk up the “pot mountain” where there is a yellow “hand-label” attached to the glass.

Informant P: (...) there is a touch mark of a hand you should put your hand on to it and something happens (...)

Informant P touches the hand and “a voice” starts telling them about the “pot mountain” content. The two informants are listening and looking around and leave the station but do not comment. To understand the own response to the exhibition and an informal learning situation, a kind of utterance or *sign of learning* is needed, in order to analyse the interaction and by that the accessibility. The response on a mastery-level would be to be able to repeat a content and on an appropriation level would be a visitors/informants response to a wider communication with his social, cultural and historical consciousness on a discursive or practical level. In this case the accessibility seemed not to have activated this system and as a consequence grades of accessibility were low. The voice in *the Night* did not actually answer the question raised in the dialogue of intersubjectivity, in the negotiation of meaning between the informants. Here the exhibition has a subtle task to handle. On one hand, the information in written text and the objects plus voices means that a multimodal display can't foresee the possible questions that rise on an informal learning level. But on the other hand, this might lead to the negotiating of meaning from mastery to an appropriation level where the informants express “it feels as if one was there”. The written information that combines the artefacts and the voice used in the interactive exhibition display a large variety that opens up the dialogue of intersubjectivity and meaning that leave signs of learning. These qualities were expressed as competence by the informants in the focus group discussions and as signs of accessibility.

In our view, a *representation* can be made in different modes such as speech, writing, or a drawing. In our case, talking about the exhibition is to make a representation of it. In the focus group, the young visitors tell each other about their visit. The moderator asks the question: “-What have you seen? What did you think the exhibition was about?” Their statement can in this case be considered as *representations* of their visit in the exhibition. Informant S responds: “There are many vases and such”. Here, the informant makes a deliberate choice in order to make meaning and communicate with the moderator. “Vases” (or pots) seems, in his view, be something that is significant in the exhibition. This selection is guided by his *interest*.

Another example is when informant P is asked the same question, he tells the moderator and his friends that there was “ a pot that you could look into ... there was a black and white picture ... a military man”. This is his representation of what he saw as a response to resources available. It gives us some kind of evidence of what his thinking might have been like; he saw someone with khaki clothes which probably matched his earlier experiences and the place from where he looked at the world. In our view, this also means that the individual can only choose from the resources of representation that are accessible to him/her. The film is actually about the archaeologist Andersson in the 1930s, but this was perhaps not a word/term that he was familiar with. We do not wish to say that it was a failure to read the message in the exhibition in this way, but instead that this “reading” is an expression of the visitors' *interest* in the process of making meaning.

As the visitor walk through the exhibition, he makes a selection from available resources according to his *interest* which in this case is represented in the focus group interviews. The interest determines what is regarded as important about the thing or the situation in question. The persons' interest can also be said to have been realized in the representation; as in the example above with the “vases”. In the interviews we can analyse certain sayings as signs of learning. In this way, the signs of learning are only parts of what has been offered to the audience in the exhibition.

In the focus group interviews, we can notice that the young visitors the use of concepts that can be identified in the exhibitions. Using these concepts, or behaving differently, we believe are *signs of the visitors' learning*. An example is when informant S makes a comment on something he saw in the Peking cabinet; a knife which he thought was just a stone. “-it was that stone it looked like a stone but it was a knife”. He had read the text about the artefact in one of the drawers, and had learned that it was a knife. When he uses the “right” term, or when one of the other informants says that “-it was four thousand years ago”, we consider this to be a sign of learning. We can also notice that the action itself; to connect the number next to an object with a drawer below the showcase, in order to find out more about the object, is also a sign of that learning.

Discussion

This paper discusses how a *socio cultural perspective* combined with a *multimodal approach* can contribute to the analysis of learning in an informal setting. It is not an easy task to study learning. We can make conclusions about that people have learned, from the things they say or from problems they have solved, but it is extremely difficult to tell exactly when and how it happens. What can be studied are different traces of peoples learning in the form of “externalisations”, for instance through artefacts (Säljö 2005:16). This is in a way similar to what Kress calls “signs of learning”. In this respect, it is likely that we can only study learning in the form of representations; for instance in pictures or through the way people talk (Kress 2004). We agree with Säljö (2005) as he states that learning is an aspect of every human action, and can not be thought of as a phenomenon separated from the activity. In a social semiotic perspective, interest is directed towards the way people engage with the *resources* of a context, in order to make meaning. (Kress *et al* 2001:2).

An exhibition at a museum can be characterized as a “semi-formal” educational setting, where, just like in school (and in the textbook), the teacher/curator has made a selection of what to teach/show and in what way this is to be done. When the visitor comes to the museum, a certain selection has thus already been made, and from this selection the visitor may choose what he wants to see. In both cases, there is also a political agenda that frames the operations at the two institutions. A difference is that the student does not have the same freedom as the visitor, as the student has to read all the text included in a certain chapter of a text book. In the museum there is no demand to evaluate or assess the knowledge (Selander, 2003).

Response

We use the concept of *intersubjectivity* (Rommetveit, 1979) as an approach to *learning* to analyse data of visitors' response to an exhibition. Intersubjectivity is the act of negotiating meaning in a dialogue, in for instance an informal learning setting. The notion of intersubjectivity, as we argue, performs a dialogue between the exhibition and the visitor. This dialogue we see as a communication between the visitor and the artefacts displayed in the exhibition, but also a process of learning as the visitor confronts the language used in a dialogue with for instance a fellow visitor or kin. But to learn and make meaning means to share values and norms following the story of the artefacts. Here we argue that the *notions of mastery and appropriation* guides us, whether the visitor merely can identify the object, that is repeating the objects name or function (mastery) or whether the visitor actually learn and process the meaning by using his or her formal (school) and informal knowledge (appropriation) to make meaning. Intersubjectivity stands for reciprocity, that the participants share perspective. An intersubjectivity situation definition leads to a relatively symmetrical

communication. In order to obtain intersubjectivity, shared focus is demanded, that is the visitors are aware of an inner speech and of speaking to each other and that they speak about the same topic. But they must also engage in the norms of one another and the way of picturing the world as well as the intention of the exhibitioners.

Data discussed in this paper show that the informal learning in an interactive exhibition bring about affinity and identity with the exhibited life of the pot-makers 4000 years B.C. “It felt as if one was there”. The informants went into the “night” to make small talk to their pals. Listening to the voices of the Chinese children, as we interpret data, show how the values and norms in the spoken words are picked up by the visitors as they question “if the Chinese children sell the pots for a living?” If this is what the visitor responds, the learning process is first to interpret the exhibition as the feeling of exchanging the now-life for a then-life. To ask existential questions like this, can be interpreted as learning on appropriation level. The visitors in the study address their questions to the exhibition like “what are the pots for?” A skeleton is placed next to a pot, and the students ask: “did they bury their people in urns?”, “Then this body does not fit in”.

The interactive exhibition can be viewed as a kind of reconstruction or staging of the past. Through sounds, voices, pictorial presentations and pictures of landscapes the past is depicted; it’s really about exhibiting that “which cannot be exhibited”. The visitor gets a *feeling* for the physical place, which one cannot convey, through just objects. The reconstructions make the visitor a participant and not just a spectator. At the museum other means of communication have been used to facilitate the conveyance of for example spatial relationships.

Learning in the museum

As an institution the museum and its’ staff display an intention by the way they arrange an exhibition of artefacts, but also how they expect to detect the response of the visitors, as we argue, can be analysed as meaning-making and learning. As Säljö argues, how learning actually proceeds can’t easily be detected. Yet learning could be as we argue the process of an intra- and inter reflection as a dialogue of intersubjectivity.

Museums may be seen as institutions due to their rules and routines as both restraining and accepting what is reflected upon. The visitor and the producer of this interactive exhibition partake in a collective description as a work challenging the notion that learning is primarily a linguistic accomplishment that can be stretched beyond language. To be able to reflect upon something as your own action requires a language. An example of this is for instance the interactive communication where the visitor touches the yellow hand and listens to a voice from the pot-mountain and then runs to the night to talk to pals about the experience – to run back to the pot-mountain again and continue. We argue this is in a way to go past mastery level and to get into appropriation level of language, and discursive consciousness. By reflecting language on the level of discursive consciousness the kind of evaluation helps the institution to discover and develop operations otherwise just taken for granted (Geijer, 2003).

The interactive exhibition offers ways of communication, as a dialogue in intersubjectivity and as negotiating levels of mastery and appropriation. Here the two ambitions meet that of the museum and that of the interest of the visitor. And both parts are there to respond in a learning situation. But the complex process of learning requires taking into consideration, both an informal and a formal learning setting. Due to this complexity research in learning processes requires the combination of multimodality with theories that attend to the social at a

macro level. We argue that the two perspectives of socio cultural theory and multimodality and notions attended here can be applied to analyse qualitative data from observations and focus group interviews. In the focus group conversation, competence is accomplished as a response to the visitors learning process within the exhibition. What actually can be said about response and competence? This highlights the macro level of formal and informal learning. The museum makes both formal and informal learning accessible by arranging this interactive exhibition. That means that the curators and the producers offer in the exhibition texts knowledge based on research where as the other professionals contribute with interactive design and a multitude of communicational forms. The latter makes the visitor "feel as if one was there", which can be interpreted as learning on a appropriation level. To reach a level of appropriation requires a possibility to discuss the exhibition, to make representations of the exhibition as a response in a dialogue of intersubjectivity where the meaning is negotiated. All this summarizes learning as a formal or informal process where the interest of the learner is represented as signs of learning.

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