

FOTOGRAFIA I HISTÒRIA DE L'EDUCACIÓ

How (un-)useful are images for understanding
histories of education?
About teacher centeredness and new education
in Dutch primary schools: 1920-1985
*Com són d'(in)útils les imatges per entendre
les històries de l'educació?*
*L'ensenyament centrat en el mestre i l'Escola Nova
als centres de primària holandesos: 1920-1985*

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Data de recepció de l'article: febrer de 2010

Data d'acceptació: març de 2010

ABSTRACT

There is debate about the usefulness of images for telling histories of education. Images can support stories that are told by written documents, but can they be used as primary sources that tell us things that written or oral testimonies cannot? We think they can. We have performed an analysis on a few hundred images of pupils and teachers in classrooms of primary schools for supporting this point of view. We show that by switching between an inductive and a deductive approach, by carefully selecting and coding images, by using multiple correspondence analysis, and by constantly making comparisons between (groups of) data, we can arrive at conclusions that cannot be

drawn on the basis of written documents alone. One of these conclusions is that, in spite of a mechanism known as the grammar of schooling, the image of main stream of Dutch primary schools – public/neutral and religious – has slowly changed from a teacher centred to a child centred one in the period 1945-1985. New education schools in the Netherlands did not change their child centred image in these years. The image of main stream schooling in the 1980's is comparable with the image of new education in the 1950's. There has been a convergence towards a child centred image of the classroom, with individual tables placed in groups, a teacher that can be found on the same level of the pupils, and a general atmosphere of freedom and happiness. The conclusion that Larry Cuban draws for primary schools in the USA where a teacher centred approach remained dominant in the period 1890-1990, does not apply to the Netherlands.

KEY WORDS: Images, history, education.

RESUM

Hi ha un debat per veure si les imatges ens són útils o no per entendre històries de l'educació. Les imatges poden ser un suport per a històries que ja estan recollides en documents escrits, però, poden utilitzar-se com a font primària, ja que ens proporcionen allò que els testimonis orals o escrits no poden proporcionar? Nosaltresensem que sí. Hem portat a terme un estudi d'un centenar d'imatges d'alumnes i professors dins aules de primària que dona fe de la nostra teoria. Mostrem que, passant d'una metodologia inductiva a una de deductiva, a través de la delicada selecció i codificació d'imatges, utilitzant múltiples anàlisis de correspondència i comparant constantment diferents grups d'informació, hem arribat a una sèrie de conclusions a les quals no podríem haver arribat si únicament haguéssim utilitzat documents escrits. Una d'aquestes conclusions és que, malgrat el mecanisme conegut com a «gramàtica de l'escolarització», la tendència majoritària a les escoles de primària holandeses, ja siguin públiques, privades o religioses, ha anat canviant lentament, en el període de 1945 a 1985, des del centrisme del mestre cap al centralisme de l'alumne. No obstant això, les escoles noves dels Països Baixos no varen canviar aquesta imatge d'un ensenyament centrat en l'alumne durant aquests anys. La imatge de la tendència majoritària dels anys vuitanta és comparable a la imatge de la nova escola dels anys cinquanta. Hi ha hagut una convergència cap a una imatge en la qual l'alumne és al centre, amb les taules agrupades, amb el mestre al mateix nivell que els alumnes, dins una atmosfera de llibertat i alegria. Larry Cuban va arribar a la conclusió que les tendències predo-

minants de les escoles de primària dels Estats Units, on l'ensenyament centrat en el mestre eren encara dominants durant el 1890 i el 1990, no són aplicables en cap cas a la situació d'Holanda.

PARAULES CLAU: imatges, història, educació.

RESUMEN

Hay un debate sobre si las imágenes nos resultan útiles o no para entender historias de la educación. Las imágenes pueden ser un apoyo a historias que ya están recogidas en documentos escritos, sin embargo, ¿pueden utilizarse como fuente primaria ya que nos proporcionan lo que los testimonios orales o escritos no pueden? Nosotros pensamos que sí. Hemos llevado a cabo un estudio de un centenar de imágenes de alumnos y profesores en aulas de primaria que da fe de nuestra teoría. Podemos demostrar que, pasando de una metodología inductiva a una deductiva, a través de la delicada selección y codificación de imágenes, utilizando múltiples análisis de correspondencia, y comparando constantemente diferentes grupos de información, hemos llegado a una serie de conclusiones a las que no podríamos haber llegado si únicamente hubiéramos utilizado documentos escritos. Una de estas conclusiones es que, pese al mecanismo conocido como «gramática de la escolarización», la tendencia mayoritaria en las escuelas de primaria holandesas, ya sean públicas, privadas o religiosas, ha ido cambiando lentamente, en el periodo de 1945 a 1985, desde el centrismo del maestro hacia el centralismo del alumno. No obstante, las escuelas nuevas de los Países Bajos no cambiaron esta imagen de una enseñanza centrada en el alumno durante estos años. La imagen de la tendencia mayoritaria de los años 80 es comparable a la imagen de la nueva escuela de los años 50. Ha habido una convergencia hacia una imagen en la que el alumno es el centro, con las mesas agrupadas, con el maestro al mismo nivel que los alumnos, dentro de una atmósfera de libertad y alegría. Larry Cuban llegó a la conclusión de que las tendencias predominantes de las escuelas de primaria de los EE.UU., donde la enseñanza centrada en el maestro eran todavía dominantes durante el 1890 y 1990, no son aplicables en ningún caso a la situación de Holanda.

PALABRAS CLAVE: imágenes, historia, educación

1. INTRODUCTION

Nowadays we live in an age that is strongly influenced by recent developments in information and communication technology. Innovations such as computer super highways, multimedia, video conferencing, multi-channel television, touch screens, etc. have their impact on our lives that at the same time are reshaped by trends like globalisation, individualisation and cultural pluralism.¹ Information has become a key feature of our world and the same can be said about images. Spanish sociologists have already labelled the 21st century as the century of the images and not without reason.² The rise of interest in the visual, to mention just one example, can be noticed in our universities, where we can see a growing attention for new studies like cultural studies, communication studies, media studies, etc. Students seem to be more and more intrigued by visual culture, and several textbooks and readers on the subject have been published to satisfy their interest.³ Youngsters consider images as sexier medium than words. But if images necessarily help us to increase our understanding of the world, that is a matter of discussion.

The image and science have always been closely related. Important and well known visual elements in the history of science are the drawings made by Leonardo da Vinci of his inventions, the geographical representation of the world in maps, or the *Orbis Pictus* of Comenius. It was not surprising that the French invention of photography in 1839 was embraced by many scientists. Finally things could be seen as they «really» were, not blurred by an imperfect handmade reproduction. The photograph was the model of veracity and objectivity. For illustrating this point of view sociologist Pierre Bourdieu quotes the *Encyclopédie Française*:

«Any work of art reflects the personality of its creator. The photographic plate does not interpret. It records. Its precision and fidelity cannot be questioned».⁴

¹ GIDDENS, Anthony. *Runaway world. How globalisation is reshaping our lives*. London: Profile books, 1999.

² MIQUEL, Jesús M. de; PINTO, Carmelo. *Sociología Visual*. Madrid: Centro de Investigaciones Sociológicas/Siglo Veintiuno, 2002, p. 1.

³ EVANS, Jessica; HALL, Stuart (eds.). *Visual culture: the reader*. London: Sage/The Open University, 1999. STURKEN, Marita; CARTWRIGHT, Lisa. *Practices of looking. An introduction to visual culture*. Oxford: Oxford University Press, 2001.

⁴ BOURDIEU, Pierre. *Photography. A middlebrow art*. Cambridge: Polity Press, 1990, p. 73 [1965].

In his book *The burden of representation* John Tagg gives an illuminating illustration of the way how photography was received by the medical sciences. He quotes a sentence of an article published in *The Lancet* on 22 January 1859:

«Photography is so essentially the Art of Truth – and the representation of Truth in Art – that it would seem to be the essential means of reproducing all forms and structures of which science seeks for delineation».⁵

While the natural sciences routinely used visual material, the social sciences developed a different relationship with images.⁶ Nowadays biology, physics, and astronomy are unthinkable without photographic evidence. However, a discipline like sociology, initiated by August Comte about the same time as photography was taking off, hardly uses visual data as a basis for empirical research. The focus is upon words, recorded in interviews or gathered by means of questionnaires. If numbers are involved, like in economics, images are usually not considered. In anthropology, however, thanks to its emphasis on qualitative field research, visual material is used more frequently.⁷

Following the rise of interest in postmodern thought and new fields like cultural and communication studies, the analysis of the visual has gradually gained importance in sociology and anthropology. Nowadays analytical models for the study of the visual are provided by several scholars that work in the field of social sciences. We refer to the work of for instance Chaplin,⁸ Collier & Collier,⁹ Prosser,¹⁰ Banks,¹¹ and Van Leeuwen & Jewitt.¹² We can also mention the activities of the International Visual Sociology Association and its international journal *Visual Sociology* that in 2002 was re-launched as *Visual*

⁵ TAGG, John. «Evidence, truth and order: a means of surveillance». In: EVANS, Jessica; HALL, Stuart (eds.). *Visual culture: the reader*. London: Sage/The Open University, 1999, p. 255.

⁶ LATOUR, Bruno. «Visualisation and cognition. Thinking with eyes and hands». *Knowledge and Society*, 6, (1986), p. 1 -40.

⁷ PROSSER, Jon. «The status of image based research». In: PROSSER, Jon (ed.). *Image based research. A sourcebook for qualitative researchers*. London: Falmer Press, 1998.

⁸ CHAPLIN, E. *Sociology and visual representation*. London: Routledge, 1994.

⁹ COLLIER, J; COLLIER, M. *Visual anthropology. Photography as a research method*. Albuquerque: University of New Mexico Press.

¹⁰ PROSSER, Jon (ed.). *Image based research. A sourcebook for qualitative researchers*. London: Falmer Press, 1998.

¹¹ BANKS, M. *Visual methods in social research*. London: Sage, 2001.

¹² LEEUWEN, Theo van; JEWITT, Carey. *Handbook of visual analysis*. Thousands Oaks: Sage, 2001.

Studies. In 2007 a special issue of this journal was dedicated to the visible curriculum with Eric Margolis as guest editor.¹³

Unlike sociologists, historians of art have always worked with visual data as a source. In 1994 the historian of art William Mitchell put the analysis of images in the centre of attention when he wrote about a so-called pictorial turn that was replacing the previous linguistic turn. Some historians did not need to be persuaded about the value of images as an historical source.¹⁴ According to cultural historian Peter Burke, for instance, the history of material culture for instance would be virtually impossible without the testimony of images, although he acknowledged the fact that images can be a treacherous source.¹⁵ Robert A. Rosenstone, to name another historian, is of the opinion that the visual media are a legitimate way of doing history.¹⁶ Furthermore, in the historical approach that is known as new cultural history, analysing images is considered a useful activity. In 1999 Sol Cohen would propose a new cultural history of education, in which also educational films could be objects of analysis.¹⁷

In line with the academic interest for the visual as a new field in historical research, the annual session of the International Standing Conference for the History of Education in 1998 organised by Depaepe and Henkens in Belgium, was centred on the theme of the visual. As a result of this conference a theme number of the International Journal *Paedagogica Historica* was published in 2000 about the challenge of the visual in the history of education.¹⁸ One year later the British journal *History of Education* would also pay attention to the visual in a special number. Two year before that Grosvenor, Lawn & Rousmaniere edited a ground breaking book on images in the history of education.¹⁹ Another book on the subject, edited by Mietzner, Myers & Peim,

¹³ *Visual Studies*, vol. 22, no. 1 (2007).

¹⁴ MITCHELL, William. *Picture theory: essays on verbal and visual representation*. Chicago: University of Chicago Press, 1994, p. 13.

¹⁵ BURKE, Peter. *Eyewitnessing. The uses of images as historical evidence*. London: Reaktion books, 2001, p. 9

¹⁶ ROSENSTONE, Robert A. *Revisioning history. Film and the construction of the new past*. Princeton: Princeton University Press, 1995.

¹⁷ COHEN, Sol. *Challenging orthodoxies. Toward a new cultural history of education*. New York: Peter Lang, 1999, p. 125-153.

¹⁸ DEPAEPE, Marc; HENKENS, Bregt (eds.). «The challenge of the visual in the history of education». *Paedagogica Historica*, vol. 36, no. 1, (2000), p. 1-505.

¹⁹ GROSVENOR, Ian; LAWN, Martin; ROUSMANIERE, Kate (eds.). *Silences & images. The social history of the classroom*. New York: Peter Lang, 1999.

would follow in 2005.²⁰ The attention for the visual stayed on the research agenda of the historians of education in the 21st century. Another theme number of *History of Education* edited by Catherine Burke appeared in 2007.²¹ Several articles would be published in *Paedagogica Historica*. Articles also appeared in the Spanish language.²² There were German books on the subject that were published in the eighties and the nineties.²³ The study of the visual in education became an international field of research with contributions from scholars all over the world.

All this attention for the visual, however, did not mean that there was a growing consensus on the usefulness of images for telling histories of education. Nor was there an agreement about the way we should analyse images. What especially comes to mind in this respect is the debate that was started by Catteeuw, Dams, Depaepe & Simon²⁴ in reaction to an article published by Margolis²⁵ in 1999. The point that the four Belgian historians of education want to make about visual sources is simple but clear:

«The source material is too limited in its content and number to be a representation of reality and can only really be used as a complement to the textual sources with which it has to be interpreted».²⁶

While Catteeuw, Dams, Depaepe & Simon are thinking that written text is still the best source material to understand the educational past; Margolis

²⁰ MIETZNER, Ulrike; MYERS, Kevin; PEIM, Nick (eds.). *Visual history. Images of education*. Oxford: Peter Lang, 2005.

²¹ *History of Education*, vol. 36, no. 2, (2007).

²² POZO, María del Mar del. «La imagen de la mujer en la educación contemporánea». In: MARIN, Teresa; POZO, María del Mar del (eds.). *Las mujeres en la construcción del mundo contemporáneo*. Cuenca: Diputación de Cuenca, 2002, p. 245-303. POZO, María del Mar del. «Imágenes e historia de la educación: construcción, reconstrucción y representación de las prácticas escolares en el aula». *Historia de la Educación*, no. 25, (2006), p. 291-315.

²³ MIETZNER, Ulrike; PILARCZYK, Ulrike. «Methods of image analysis in reserach in educational and social sciences». In: MIETZNER, Ulrike; MYERS, Kevin; PEIM, Nick (eds.). *Visual history. Images of education*. Oxford: Peter Lang, 2005, p. 111.

²⁴ CATTEEUW, Karl; DAMS, Kristof; DEPAEPE, Marc; SIMON, Frank .« Filming the black box: primary schools on film in Belgium, 1880-1960». In: MIETZNER, Ulrike; MYERS, Kevin; PEIM, Nick (eds.). *Visual history. Images of education*. Oxford: Peter Lang, 2005, p. 203-231.

²⁵ MARGOLIS, Eric. «Class pictures: representations of race, gender and ability in a century of school photography». *Visual Sociology*, vol. 14, (1999), p. 7-38.

²⁶ CATTEEUW, Karl; DAMS, Kristof; DEPAEPE, Marc; SIMON, Frank . «Filming the black box: primary schools on film in Belgium, 1880-1960». In: MIETZNER, Ulrike; MYERS, Kevin; PEIM, Nick (eds.). *Visual*

is examining the ways in which photographs can be used as primary source material in social and historical research.²⁷ At the moment we believe that the point is not that images as a source for understanding histories of education are not useful at all. They are always considered to be useful, but at least in combination with other sources. Every source — text, images or oral testimonies — has its advantages and disadvantages, and must be subject of critical reflection. That is why the concept of triangulation has become an important one in social science methodology.²⁸ That is why there is a growing interest in mixed methods, in combining quantitative and qualitative research strategies, and in applying both inductive and deductive methodologies.²⁹ The question that remains is if images as such can tell stories that cannot be told with written documents or oral history interviews. That is the question that we want to answer in this article.

2. AN QUALITATIVE ANALYSIS OF SCHOOL PHOTOGRAPHS

In this article we will analyse a few hundred historical images about education in the Netherlands. Starting point was a collection of recently digitalised classrooms images from primary schools that were found in the Dutch Museum for Education in Rotterdam. What stories do these pictures tell us? To answer this question we started with a qualitative analysis that consisted out of three steps: (1) describing the things we see; (2) explaining the things we see (and do not see); (3) formulating hypotheses about the things we see (and do not see). After this inductive approach we continue with a quantitative analysis with the following steps: (4) theoretical selection of images; (5) coding images; (6) constructing concepts on the basis of codes; (7) comparing concepts and testing hypothesis.

We begin with a rough description of the collected material. In this first stage, of course, countless observations can be made, but we think it is wise to focus on empirical statements with a general character to begin with.

history. Images of education. Oxford: Peter Lang, 2005, p.229

²⁷ MARGOLIS, Eric; ROWE, Jeremy. «Images of assimilation: photographs of Indian schools in Arizona». *History of Education*, vol. 33, no. 2, (2004), p. 199-230.

²⁸ BRASTER, Sjaak. *De kern van casestudy's*. Assen: Van Gorcum, 2000.

²⁹ MOSES, J.W.; KNUTSEN, T. *Ways of knowing. Competing methodologies in social and political research*. New York: Palgrave Macmillan, 2007.

These statements are the following: (1) the oldest pictures of pupils (the first decade of the 20th century) and the most recent one (the last decades of the 20th century) were taken outside the school. Most of the pictures in the intermediate period were taken inside the school in a classroom. (2) Almost all pictures show a group of pupils, of approximately the same age, together with a teacher, in a classroom, sitting behind school benches, writing or reading. Only a few pictures show situations in special rooms or around the school where children are more involved with activities like playing, drawing, gymnastics, gardening, and so on. (3) In many older pictures we see pupils simultaneously performing a school task, like writing down something in a school exercise book or reading a text book, while in the recent pictures the pupils are just posing without using any school material. (4) Many older pictures show a serious looking group of pupils, while recent pictures show much more happy faces. (5) Almost all pictures show pupils and/or teachers. There are few pictures without people, just showing a corridor or the inside of an office. (6) In general pupils and teachers are well dressed, especially in the older photographs where boys wear shirt and tie, and girls wear ribbons in their hair. In recent pictures children are more casually dressed. (7) With respect to school material we notice school benches in almost all pictures (with two seats in the older pictures, and with one seat in the recent pictures). In older pictures the walls of the classroom are filled with wall charts and/or geographical maps, in the recent pictures we see other illustrations, like children's drawings. We hardly see black boards. Nor do we see religious symbols (the cross, statues, etc.) reflecting the denomination of the school.

On the basis of only these observations we could conclude that in Dutch education black boards were not used, that religion was not important, that children – especially in the past – were not happy to attend school, that they were dressed quite well, and that they were only busy with reading and writing. But this conclusion would be totally wrong. Describing alone is not enough to understand photographs. For every photograph we need to know who was taking it, why it was taken, and in what circumstances. Or, to phrase it differently, we need to know the context to interpret the content. There is need for an iconographic and an iconological analysis.³⁰ In case of Dutch school photographs, we must begin with making a distinction between at least two types.

³⁰ PANOFSKY, Erwin. *Meaning in the visual arts*. Harmondsworth: Penguin, 1970.

The first type of photograph is part of an album with a limited number of pictures of different educational situations in only one school. These pictures were made at the beginning of the 20th century by professional photographers at the request of the authorities of a school with the purpose to show other teachers how education was organised in that specific school. These albums were available in the Dutch Educational Museum that — in their early days — had the function to inform about new pedagogical practices. Therefore, the schools that were subjects of these pictures did not belong to the main stream of education. What was shown was a progressive image of education.³¹ The purpose of this first type of photographs was to inform a selected group of people with a professional interest in education about what was happening in schools at the time.

The second type of photograph is not part of a series. They were in the possession of the people that were portrayed in the pictures. These photographs were taken inside or outside the classroom by a professional photographer for commercial purposes. The reason why these pictures were taken was to sell them to the parents of the children that were attending school. This commercial practice was commonplace during most of the 20th century. The purpose of this second type of photographs was primarily to entertain. Also these pictures showed educational situations, but it were situations that parents were expecting to see: a traditional image of education, or, in other words, an image of education that was culturally accepted by a majority of parents as the way schooling should be and how it should look like.

Picture 1 is an example of a photograph from the first decade of the 20th century that was part of an album. It is one of the few pictures that show the black board. Picture 2 is from the same period and was made for commercial purposes. It also shows the black board, but in a rather awkward place — in the back of the classroom and in front of a door. It seems to be there to remind us of the fact that this is a classroom where children are supposed to learn lessons. In this case the lessons were about reading: all children have a text book in front of them. That it does not represent a «real» teaching situation, may be clear from the fact that the children standing in the back of the classroom are holding the text books in their hands. This brings us to the limitations of the camera at the beginning of the 20th century. Some children are standing in the back of the room because — if they were sitting in their seat — the camera

³¹ BURKE, Catherine; GROSVENOR, Ian. «The progressive image in the history of education: stories of two schools». *Visual Studies*, vol. 22, no. 2, (2007), p. 155-168.

could not capture them because it did not have an appropriate wide angle lens. We also know that the shutter speed of camera's in those days was rather slow, which meant that the pupils had to stay motionless for a few seconds, because otherwise their faces would become blurred. That is exactly what is happening with some children in picture 1 that tries to be a representation of a «real» teaching situation, and where it seems to be more important to show the technology of the classroom (black boards, wall charts, geographical map) than the faces of the pupils. In picture 2 the faces of the children are the most important elements of the picture. They look quite serious because they could not move for a moment, but the girl on the top-right proved that you could still smile without getting out of focus. Her smile also proved that being inside a classroom is not necessarily an unpleasant experience. Rousmaniere make the same point after comparing two photographs of a group of school children: the «real» one with pupils posing, and a snapshot taken directly after the official picture. The serious looks in the first picture turn into smiles when the act of posing is finished.³² Sadness in school pictures seems to be an expression of photographic conventions and is not necessarily a reflection of daily life in school.

Knowing the context in which the picture 1 and 2 were taking, it does not come to us as a surprise any more that the children were rather well dressed. Beforehand all participants were informed about the fact that a photographer was coming to take pictures. So children were dressed up by their parents for this special occasion. Giving the commercial function of school photographs it also became clear that the oldest pictures of pupils in a school were taken outside the classroom: inside the light conditions were just not good enough to take a decent shot. It also explained why in the last decades of the 20th century pictures were again made outside the classroom: the result was a picture in which the faces of all children were about the same size. A composition like this was satisfying the needs of all parents. A picture with children sitting behind their seats in a classroom was less satisfactory, because the pupils in the back were less visible than the ones in the front.

Let's look at another set of three pictures [picture 3-4-5]. They are all made in the 1930's by professional photographers for commercial purposes. All three pictures were taken from the perspective of the black board that, like in many other pictures, remained invisible. The first thing we must comment

³² ROUSMANIERE, Kate. «Questioning the visual in the history of education». *History of Education*, vol. 30, no. 2, (2001), p. 109-116.

is the social composition of the classroom. In picture 3 only boys appear, in picture 4 only girls, and in picture 5 we see boys and girls together. In the Netherlands coeducation was common practice in public and protestant schools during the 20th century, but in Catholic schools boys and girls were separated until around the 1970's. Even without any additional information about these photographs, we could be quite certain that picture 3 and picture 4 were taken at Catholic schools. The information we have about these photographs is not clear, but we do know that they were taken at schools in the city of Rotterdam. It is also clear that these pictures show no sign of any religion whatsoever. That appears to be true for most of the classrooms in denominational schools that after the 1920's were making up the largest part of the Dutch educational system. The invisibility of religious symbols can easily be explained by the fact that most classroom pictures never show the area around black board: if the holy cross was placed in the classroom, it was probably found exactly there. In other cases the denomination of the school is quite clear because the teacher is a nun, but also in these cases religious artefacts are hardly present in the back of the classroom.

There is another observation to be made about pictures 3, 4 and 5. It concerns the question: Where is the teacher? He is clearly visible in picture 3. In fact, it looks like this picture is all about the teacher! That feeling is a result of the teacher's position that both vertically and horizontally is determined by the so called «divine division», an idea about composition that dates back to the 5th century B.C.³³ The distances between the face of the teacher and the edges of the picture are 1 and 1,618. The last number is known in mathematics as the number phi. There is nothing divine about putting the teacher in exactly that spot; it is simply a trick known to photographers (the so-called rule of 2/3). It adds a bit of excitement to the composition. At least it contributes to a more dynamic picture than putting the face of the teacher in precisely the centre of the picture. Even amateur photographers have learned not to place the sun in the exact centre of the photograph if they are recording a sunset or sunrise.

In picture 4 and in picture 1 as well, the position of the teacher is determined by another convention: there are placed just above the centre of the photograph, at the top of a triangle. This may be interpreted as a position of power: in the classroom teachers are placed in a higher position than their

³³ TUFTE, E.R. *The visual display of quantitative information*. Cheshire, Connecticut: Graphics Press, 1983, p. 189

pupils, although we must admit that this effect is also determined by the fact that they are taller than their pupils. In picture 5 it looks if the teacher does not appear at all. Close inspection of the back of the classroom, however, leads to the conclusion that the female teacher is actually there, not looking at the photographer, and sitting next to pupils instead of standing behind them. What does it mean? Is it the expression of a pedagogical change of view, of a transition from a teacher centred approach to a child centred one? It is difficult to say on the basis of only three pictures from the 1930's, the years in which we should expect to see some influences from the new education movement that started at the beginning of the 20th century. At least we need more indicators than the position or the visibility of the teacher to give a judgment about the teacher or child centeredness that may be expressed in a classroom picture.

Picture 3, 4 and 5 present some clues about what kind of indicators we can look for. First of all, in picture 4 we notice a completely different way of organising tables and chairs in the classroom. All this furniture does not even look like school material; it could just as well be found in a living room. In fact, we know that picture 4 depicts a classroom in a school in Amsterdam based on the pedagogical principles of Maria Montessori, one of the leading figures of the new education movement. Pictures of new education schools never show school benches of wood and cast iron that are fixed to the floor with bolts and that are placed in three rows facing the black board. They show a different pattern that coincides with group work instead of simultaneous classroom instruction. It can be seen as an indicator of the difference between a child centred and a teacher centred approach to education. The position and the type of benches in picture 5 do not seem to indicate a child centred approach. But the humble position of the woman teacher sitting next to a pupil does indicate such an approach, and so do the children drawings at the back of the classroom. These signs of individual expression are quite rare in classroom photographs from the beginning of the 20th century; wall charts are much more common phenomena, although they seem to be missing in picture 3. The fact that there are hooks on the wall to hang these charts, indicate that they were part of the classroom technology. And we also assume that the photographer did not hammer some nails in the wall because wall charts look well on a photograph. Of course, we cannot deduce from the presence of wall charts that they were actually used in the period that the picture was taken. Nor can we deduce from the absence of children drawings that pupils were not making drawings during school time; the important fact here is that

in some schools they were permanently on display, apparently stressing the importance of the individual expression of the child.

Let us look now at four pictures made after World War II [picture 6-7-8-9]. Picture 6 and 7 are both from the 1950. Picture 6 shows a group of young children working in group with a woman teacher (in a position determined by the divine division) looking at them. Again we see a black board and especially we notice the high windows that illuminate the room quite well. Picture 7 shows an older group of children in a position that we have seen before at the beginning of the 20th century; the difference in atmosphere could be explained by the different in age of the pupils in both pictures. Other pictures from the same period with a younger group of pupils, however, look very much like picture 7: school benches facing a black board, serious looking children, all performing the same school task, with a teacher in a dominant position. Therefore the explanation for the differences is not the age of the pupils, but the fact that picture 6 is part of a report of the municipality of Amsterdam that promoted a new type of school building that was based on the concepts of light and air.³⁴ In a way this photograph can be seen as a propaganda picture for a new educational model: a child centred approach in a school with a new architecture. The majority of schools, however, did not have such wonderful buildings yet. Picture 6 represented the ideal model, picture 7 the traditional one, which again was a school photograph made by a professional photographer for commercial purposes.

Picture 8 and 9 shows classrooms in the year 1969. In many ways they look like the pictures from the period before World War II. That is in part because they were both made for commercial purposes like most of the other pictures we have commented. Photographers clearly did not change their way of working. The children, however, are looking different. They are dressed less formal, they seem to be more relaxed, and many of them are smiling now. But we must also observe that there are still pupils in the 1960's that are sitting behind their benches with their arms crossed: a well-known sign in Dutch schools for showing obedience. In the pictures from the 1920's and the 1930's we see exactly the same pose, but in these years all children had their arms crossed, without any exception, or they were all pretending to perform the same school task. The uniformity from the previous periods seemed to have vanished in 1969. Another change is the disappearance of the wall charts: in

³⁴ GEMEENTE AMSTERDAM. *Het nieuwe schoolgebouw voor kind en gemeenschap*. Amsterdam, 1950.

their place we find individual works of students now. Furthermore we notice that in both photographs the teachers seem to be just a part of the group; in picture 8 the teacher of the public school is even sitting on a bench next to a pupil. This particular bench is clearly an old one. The school furniture in the Catholic school is new. We see individual benches that have the clear advantage of being moved around in the classroom to form different patterns: rows, a square, or small groups. What we see, however, is the same pattern we have seen from the moment the benches were bolted to the floor: three rows with in every row two benches close to each other. We wonder why. Is this formation especially chosen because it represents schooling in the way parents want to see it, or were the benches already in this position? Both options are possible in theory, but we find it hard to believe that the photographer rearranged the formation of the tables and chairs from small groups to rows. But whatever was the case, the end result is a representation of a teacher centred approach (at least if we consider the position of the benches, other indicators may tell a different story).

The description and explanation of the nine pictures does not lead to definite conclusions, but it does lead to a number of new questions. An important one is the question about the change in pedagogical approach: is there a shift from a teacher centred towards child centred educational model? If we are able to «read» classroom images in terms of pedagogical orientation, can we detect differences between periods of time or between denominations of the school? These are just a few of the questions that rise after our inductive analysis of a small number of school photographs: questions that can be answered by formulating theories and hypothesis about what we expect to find if we would study a large set of photographs more systematically.

What directly comes to mind is the «grammar of schooling», a concept coined by Tyack & Tobin in 1994.³⁵ It was also used by Tyack & Cuban in their book *Tinkering towards Utopia* as an explanation why it is so difficult to accomplish educational reforms.

«Practices such as age-graded classrooms structure school in a manner analogous to the way grammar organizes meaning in verbal communication. Neither the grammar of schooling nor the grammar of speech needs to be

³⁵ TYACK, David; TOBIN, William. «The grammar of schooling. Why has it been so hard to change?» *American Educational Research Journal*, vol. 31, (1994), p. 435-479. Also see: KRESS, Gunther; LEEUWEN, Theo Van. *Reading Images: The Grammar of Visual Design*. London: Routledge, 1996.

consciously understood to operate smoothly. Indeed, much of the grammar of schooling has become taken for granted as just the way schools are». ³⁶

In our case we can take a sample of photographs of age-graded classrooms and analyse if changes have occurred in terms of a shift from teacher centred towards child centred education. Cuban did the same with photographs of classrooms of American primary schools in the period 1890-1990, and found no significant differences. ³⁷ He also showed that the introduction of technological innovations in classrooms, like film, radio, television, did not fundamentally changed the way schooling was organised. The concept of child centred education did not strike root. A teacher centred approach is still the dominant way to educate. Dianne Ravitch concludes the same after studying a century of school reform. ³⁸ Jeanne Chall explains the failure of child centred education because it did not proved to be as effective as teacher centred approaches with respect to the achievement of pupils. ³⁹ But what does an analysis of Dutch classroom photographs tell us about the presumed dominance of teacher centred education?

3. A QUANTITATIVE ANALYSIS OF CLASSROOM PHOTOGRAPHS

For answering the question above, we change our methodological perspective from an inductive to a deductive one. We focus on the hypothesis that a teacher centred approach has been the dominant way of organising schooling in the 20th century. The next steps are the selection of images, the measurement of the concept «teacher centred education», and the analysis of the relationships between teacher centred education, period of time, and type of school. We start with the selection of our data.

The fact that there were several types of school photographs forced us to make a choice about which images we were going to analyse. Like Christine

³⁶ TYACK, David; CUBAN, Larry. *Tinkering toward Utopia. A century of public school reform*. Cambridge, MA: Harvard University Press, 1995, p. 85.

³⁷ CUBAN, Larry. *How teachers taught. Constancy and change in American classrooms, 1880-1990*. New York: Teachers College Press, 1993 (2nd edition). Also see: CUBAN, Larry. *Hugging the middle. How teachers teach in an era of testing and accountability*. New York: Teachers College Press, 2009.

³⁸ RAVITCH, Dianne. *Left back. A century of failed school reforms*. New York: Simon and Schuster, 2000.

³⁹ CHALL, Jeanne S. *The academic achievement challenge. What really works in the classroom*. New York: Guilford Press, 2000.

Walls, we preferred to study pictures that were comparable.⁴⁰ In our case images were selected if they were taken with the same commercial purpose: selling them to the parents of the pupils that were photographed. A large collection of these photographs were available on the website <http://www.schoolbank.nl>. The main purpose of this internet site was to connect people with their old classmates. Putting old classroom photographs on line was one way of exchanging information and looking for friends from the past. This way of finding data resulted in 193 useful photographs in the period 1945-1985. Pictures taken outside the classroom were eliminated; photographs taken in schoolrooms without any school furniture were also deleted. Unfortunately we did not have much context information about the photographs before 1945 that were found in the collection of the Dutch Education Museum. The major problem was that we did not know the denomination of the school (public, protestant, or catholic). Our final analysis is therefore limited to the post War period: 1945-1985.

Every photograph was coded by two researchers.⁴¹ They used a list with the following indicators for teacher centeredness: (1) direction of the benches (one-versus multi-directional); (2) type of benches (two seats versus one seat); (3) individual work on the wall (present versus not present); (4) pupils discipline (discipline versus freedom); (5) pupils happiness (serious versus smiling); (6) vertical position teacher (higher versus lower). In a great majority of cases the coding of the photographs was done without any problems of interpretation. The next step was therefore to look for patterns in the coded pictures: what were the relationships between the six indicators? For answering this question we have used a statistical programme known as multiple correspondence analysis, developed by the Data Theory Scaling System Group, Faculty of Social and Behavioural Sciences, Leiden University (The Netherlands). It is available as a part of SPSS, version 17. It can be seen as a data reducing technique that looks for a limited number of dimensions in a larger set of categorical variables. A major result of multiple correspondence analysis is a two-dimensional plot of the categories of all variables involved: six in this case. This plot is shown in figure 1.

Figure 1 shows the six indicators for teacher centeredness plotted in two dimensions. The first (horizontal) dimension can be interpreted in terms of

⁴⁰ WALL, Christine. «Picturing an occupational identity: Images of teachers in careers and trade union publications 1940–2000». *History of Education*, vol. 37, no. 2, (2008), p. 317–340.

⁴¹ BRASTER, Sjaak. *De klas in beeld*. Utrecht: Utrecht University, 2005 (Inaugural lecture).

teacher centeredness. On the left side of the plot we find categories that indicate a teacher centred approach: serious faces, discipline, two seats benches directed towards the black board, a teacher in a higher position than the pupils. On the right side of the plot we find the opposite categories: freedom, smiling faces, one seat benches pointing in different directions, teachers in an equal or lower position than the pupils. On the basis of this logically consistent pattern we can conclude that the six indicators together constitute a concept that can be named teacher centeredness. The advantage of multiple correspondence analysis is that it assigns a numerical standardized score to each photograph (object scores) on the basis of the transformed category scores for the six indicators. This make it possible to calculate a correlation between the teacher centeredness expressed in a photograph and the year the photograph was taken. This correlation was negative (-0,34) and statistically significant ($p < .001$), which indicated that teacher centeredness in Dutch primary schools was substantively diminishing in the period 1945-1985. But what we can say about the changes in schools with different denominations? Figure 2 gives an answer to this question.

Figure 2 shows the linear relations between the teacher centeredness of a photograph and the year in which the photograph was taken for schools with five different denominations: (1) public and private-neutral schools; (2) new education schools, according to the pedagogical principles of Maria Montessori, Helen Parkhurst (Dalton), Peter Petersen (Jenaplan), Celestin Freinet, and Rudolf Steiner (Free school); (3) Catholic schools; (4) main stream protestant schools; (5) orthodox protestant or Calvinist schools. The pattern of relationships indicates that both public/neutral and religious schools in the Dutch education system seem to experience a shift from teacher centeredness towards child centeredness in the period 1945-1985. This is illustrated by the correlations that are -0,63 for Calvinist schools, -0,57 for Catholic schools, -0,50 for protestants schools, and -0,47 for public and private-neutral schools. All correlations mentioned are statistically significant ($p < .01$). A shift towards child centeredness can be seen in all images from main stream Dutch schools, public/neutral or religious. The images of classrooms of new education schools, however, do not show such a shift. The images of these schools could never be characterised as teacher centred: not before and not after World War II. The correlation between teacher centeredness and year is +0,29. It suggests that images of new education schools became slightly more teacher centred in the period 1945-1985; the correlation mentioned, however, is not statistically significant. The conclusion therefore must be that the images of Dutch main stream schools in the 1980's are looking like the images of new education schools

in the 1950's. There has been a convergence towards a child centred image of the classroom, with individual tables placed in groups, a teacher that can be found on the same level of the pupils, and a general atmosphere of freedom and happiness. The conclusion that Cuban draws for the USA does not apply to the Netherlands. Even if we limit our definition of teacher centeredness to the position of school benches that are facing the black board, we still find significant changes for public/neutral and religious schools towards more child centred images, and no changes whatsoever for new education schools.

4. CONCLUSIONS

We started this article with a discussion about the question if images are useful for telling stories that cannot be told with other sources. In general social scientists and historians seem to agree that images are a treacherous source. Jean Braudrillard wrote about images the following:

«if they fascinate us so much it is not because they are sites of the production of meaning and representation – this would not be new – it is on the contrary because they are sites of disappearance of meaning and representation, sites in which we are caught quite apart from any judgement of reality».⁴²

His position coincides with postmodern insights that images are social constructions of a reality that lacks reality. Postmodern and cultural studies emphasize an approach that is based on critical theory and semiotics — the science of signs — that has its roots in the work of the American philosopher Charles Peirce. Swiss linguist Ferdinand de Saussure,⁴³ and French theorist Roland Barthes.⁴⁴ Sociological and anthropological studies of the visual have a more empirical orientation; the use of qualitative methods or quantitative techniques to understand images is not something unusual in these disciplines. For telling histories of education, we think that we can use semiotics on one side, and — for instance — quantitative content analysis on another.⁴⁵

⁴² BRAUDRILLARD, Jean. *The evil demon of images*. Sydney: University of Sydney, 1988, p. 29.

⁴³ SAUSSURE, Ferdinand de. *Course in general linguistics*. Chicago: Open Court Publishing, 1988 [1915].

⁴⁴ BARTHES, Roland. *Elements of semiology*. New York: Hill and Wang, 1972 [1957].

⁴⁵ BELL, Philip. «Content analysis of visual images». In: LEEUWEN, Theo van; JEWITT, Carey. *Handbook of visual analysis*. Thousands Oaks: Sage, 2001.

Every method has its advantages and disadvantages. The same is true for every source: written, oral, or visual. The analysis of images is complex but not impossible. And we believe that an analysis of images can reveal things that would remain hidden if we would only rely on written or oral sources. That goes especially for an analysis that is focused on constant comparison of (groups of) data. It also goes for a careful theoretical selection of images: applying an experimental logic can strengthen causal conclusions. It goes for a constant switch between inductive and deductive approaches: methodological pluralism can be enlightening. And finally it goes for the analysis of large number of images: the concept of statistical significance is nothing more than a helpful tool to attach weight to our statements.

Figure 1. Spatial relationships between the codes assigned to 193 classroom pictures from the period 1945-1985: Multiple correspondence analysis.

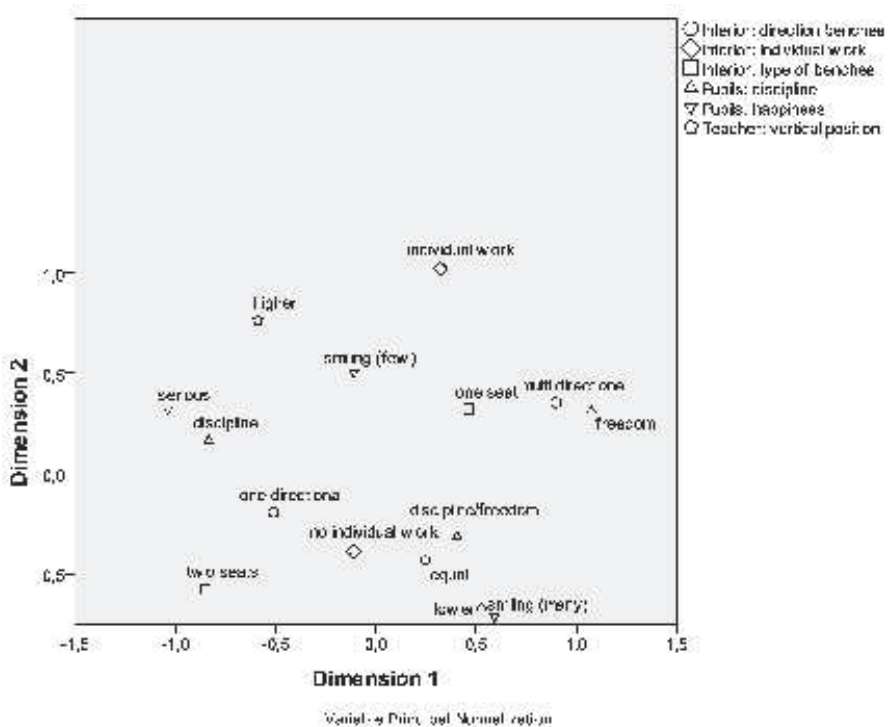
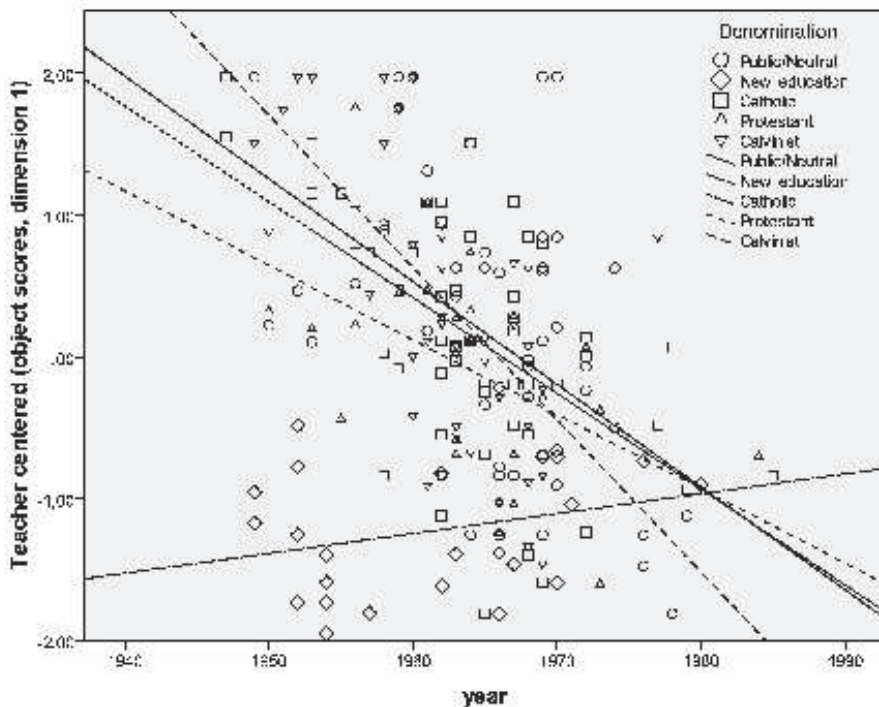


Figure 2. Scatter plot of teacher centeredness (first dimension of the multiple correspondence analysis) by year with separate regression lines for denomination of the school.





Picture 1. Amsterdam, 1920. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 2. Amsterdam, 1920. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 3. Rotterdam, 1930. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 4. Amsterdam, 1930. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 5. Rotterdam, 1930. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



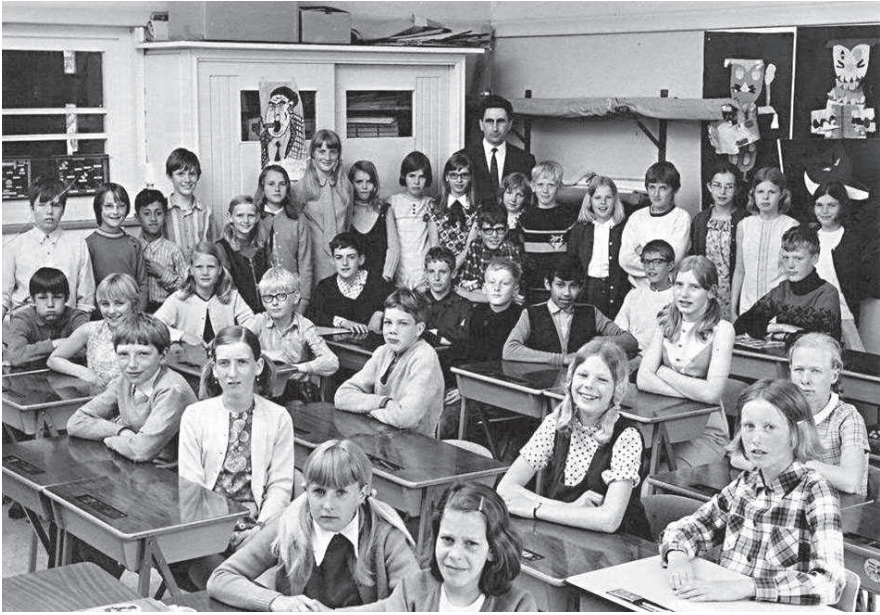
Picture 6. Amsterdam, 1950. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 7. City unknown, 1950. Nationaal Onderwijs Museum, Rotterdam (The Netherlands).



Picture 8. Public school, 1969 (www.schoolbank.nl).



Picture 9. Catholic school, 1969 (www.schoolbank.nl).