RECONCILING COMPUTER AND HAND: The Case of Author Identity in Design Presentations

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Abstract. As computers were newly emerging in the field of architectural design, it was claimed that the impact of computers would change the way architects design and present. However, within the course of computer use in design, although the field of architectural practice might have been altered extremely, in architectural education there still seems to be a bond to conventional mind–hand–paper relation. One of the reasons for that bond is the fact that although being related to many technologies, architecture essentially positions itself around an artistic core that is still fed with conventional modes of creation. Architectural education aims at adopting and working on this very core. One of the major contributors in the formation of this core is the presence of author identity. This paper makes a critical approach to computers in terms of expressing author identity in design presentations especially during design education. We believe that the author identity is important in design education in terms of identifying the potential and skills of the student. Especially in design education the final step of design process turns out to be the presentation, unlike architectural practice where the presented design is actually built. Within this conception, two different studies were held in an educational environment with 160 design students and 20 design instructors. The results of both studies pointed at the fact that the digital opportunities that exist for design education should evolve around preserving and underlining the author identity in design presentations.

1. Why Can't Computers Fully Take Over the Academia?

The computer radically changed various aspects related to design from aesthetic tastes to the way information is coded and exchanged; from demands of the market to the ways of design communication; from appreciated designer skills to production flow. No doubt, today computers are indispensable, powerful components of design education that have shown new opportunities and led to re-definitions of many aspects within the academia; yet, a radical shift towards total digitalisation does not seem to be easy for such an institution that has deep roots historically and traditionally.

This paper points at one of the issues generated by the integration of computers to design education. Unlike the situation in professional practice, computers do not seem to have taken over the design and drawing tools in the academia.

One of the major factors in the resistance of the academia in totally surrendering to computers, is the powerful dependence on author identity. In final presentation, design students' preliminary sketches turn to precisely drawn and attractively rendered boards, in a sense similar to the architects' refined presentations for their clients. Some discussions indicate that the final presentation should not be the substitute for the actual building (Ferrar, 1996), yet what other choice does the academia have? In design education, the final product may only put forth its existence in the final presentation. Whereas, in practice, design presentation is not the product, but an essential step in fulfilling the requirements before the product is obtained. Thus, in design education, tracing author identity in final presentation boards is crucial in identifying the student's capability. It is not only important in assessing the student's capabilities, but in self-representation as well. During the process of externalisation of design ideas in design education, the author takes pride in putting forth her identity.

Although different modes of approaches to design may be adapted in design studios, the role of presentation remains basic in design education. While the power of this role is mainly reinforced by architecture's pre-occupation with visual display, its ongoing validity is assumed to be preserved in the necessity of assessing the work. Within this process of assessment it is possible to judge a design work according to some criteria of spatial, formal and functional purposes. However, the (educational) satisfaction starts only if this assessment is done with a certain author identity, which can be read from the originality and uniqueness of the presentation. The originality and uniqueness can be incorporated with the student herself. It becomes a question of a trap of disorientation when author identity is not clear. The evaluation of the presentation then becomes a struggle in terms of constituting insights special to the student. The search for individual touch may be inspected in two (opposite) directions; both to determine the skilfulness of the student or her incapacity. Therefore the requirement for this touch is by no means a pure reflection of aspiration to artistic and romantic devotion. It is moreover functioning as a helpful framework or mechanism of evaluation process where the capacity of the student is assumed to find its final expression. Yet, this suggestion still has room for the conviction that within this demand for personal touch/author identity, there is a straight determination not to divert from the traditions of architectural presentation, though it may not be sincerely disclosed. Because of this two-fold barrier—evaluation of the assessment and the tradition of visuality—computers could not fully alter the field of education, although they were revolutionary in practice.

2. Author Identity

Author identity, as referred to in this paper, is the differentiation agent against the standardisation/alikeness/sameness/uniformity/similarity/equality/resemblance and anonymity of design presentations. Simply stated, it can be defined as the traceable features in a drawing that distinguish the author from others (Basa and Senyapili, 2005). Author identity can be traced, for instance, in the 'line values', 'line qualities', 'spatial composition', and 'selection and representation of colours, textures and surface character', unique to the student.

Current discussions in design education revolve around the problem of tracing the mentioned author identity in hand drawings and in computer-assisted drawings. Earlier, it was argued that since creation is a personal and emotional act, hand drawing reflects these aspects, whereas they do not appear on the screen (Albrecht, 1989). Interestingly, it may be observed that current arguments still highlight the same problem, even to the extent of pointing out instructors taping tracing paper on the monitors (Laiserin and Linn, 2000).

In most commonly used software in design education, aspects pertaining to the author identity are present, yet not unique. They can only be selected from a pre-determined set, not always enabling the student to create her own. The software that allows the user to mimic as if drawing by hand (Budd et al., 2001) leads to another level of simulation. They not only simulate the design, but the act of design drawing as well. Actually, the author identity in computer-aided presentations is existent (Akalin, 2003), but it is hidden to the naked eye, unless the student is masterly skilled in using the medium. Moreover, the digital image requires cognitive interpretation (Bassanino and Brown, 1999), thus a skill on the reader's side, to be able to read this identity. Since author identity is more apparent in hand drawings even to an unprofessional, the conventional way of presentation does not lose its authority. This following research projects the digital opportunity of benefiting from this so-called authority.

3. Study and Findings

Within this framework, we have conducted a study comprising two phases. The study was aimed at testing the validity of the assumption that author identity is regarded as fundamental for design education. The study was carried out in an educational environment, where both students and instructors were involved.

3.1. STUDY WITH THE STUDENTS

In two separate studies with the students, we have tested the approach towards presentation media (computer and hand). One of the studies aimed at understanding

the factors that affect the students' preference in choosing the presentation medium, while the second study was carried out to recognise the existence of author identity in both media. The first study was held with 70 second-year design students; the second study was carried out with 90 fourth-year students.

The reason for preferring second-year students to carry out the first study was that they were newly introduced to both media for design representation through special courses. This not only enabled us to learn their initial preference before they became experienced, but also to learn the genuine factors affecting this preference.

Similarly, working with fourth-year students enabled us to understand their presentation media after they became experienced and skilled. Moreover, we could trace whether author identity is important and in which medium author identity is more apparent, through the eyes of matured students.

In the study carried out with the second-year students we had a more experiential methodology. Since these students were newly introduced to both presentation media, it would not have been fair to ask their preference straight away. Instead, we had a small exercise, which required them to draw and to render simple 3D objects with hand and on computer, following which we inquired about their preferences.

For the younger students one of the dominating factors indicated for choosing 'hand' versus the 'computer' was the existence of author identity in hand drawings. It should be noted that although students did not pronounce author identity as a phrase, they came up with implications such as 'to show my style', 'to display my ability', 'all are similar when done with computer', 'by hand it is not monotonous, reflects character and effort'. When inquired about which media made them feel more like a designer, the majority favoured the hand (Figure 1).

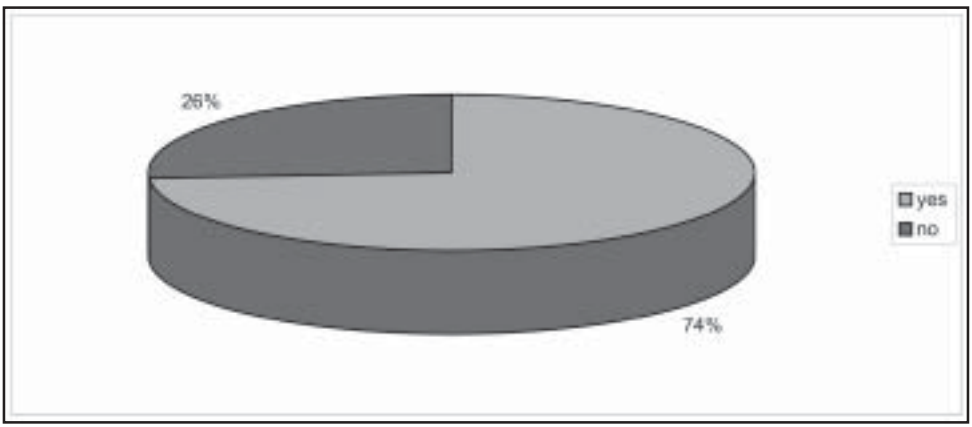

Figure 1. Student responses to whether they felt more like a designer when drawing by hand compared to drawing by computer.

With the fourth-year students, however, we were more direct. As they were experienced in using both media, they were directly asked in which medium they thought author identity was more apparent. The majority favoured hand drawing. We also inquired as to which media they favoured for design presentation. As this group of students was more advanced in presentation skills, we had to be more specific in presentation types. Therefore we specified the types of presentation techniques that combined hand and computer. In this framework, the results interestingly showed that only a small group of students favoured computers solely. Rather, their preferences were hand, or hand and computer combined (Figure 2). A solid 43% preferred hand drawing and 3% did not have a significant preference. Out of the remaining 54%, only 10% favoured computer-assisted drawing, while 37% went for the combined technique, employing both hand and computer on the very same drawing, and 7% preferred to do some drawings by hand, and some by computer.

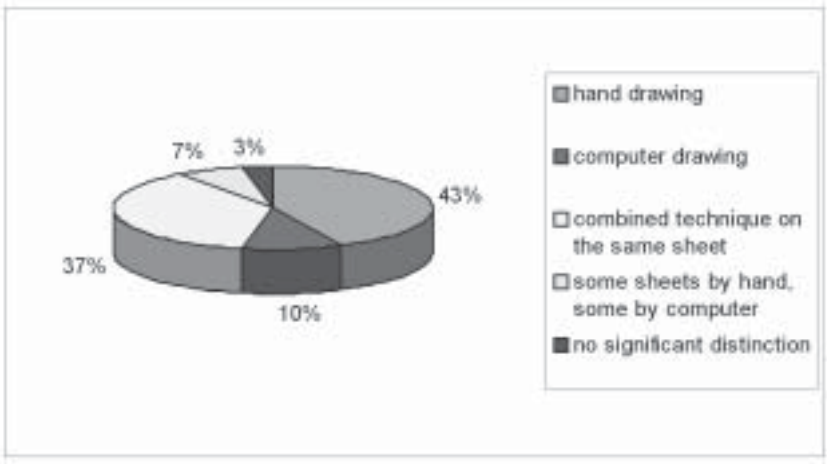

Figure 2. Student responses in terms of preferred for presentation.

The results of this study revealed that students may choose either media for different sets of reasons. Students acknowledged the advantages of computers in many aspects over hand drawing. Yet, this did not result in a blind preference for computers. Figure 3 clearly states this situation. When inquired about the capability of expression of design information, majority of the students selected computer-assisted drawings, yet when it came to the warmth of the drawings the majority favoured hand drawings.

Finally, when asked about whether the students believed that hand skills would preserve their value in the future, a majority of the students agreed with the comment (Figure 4).

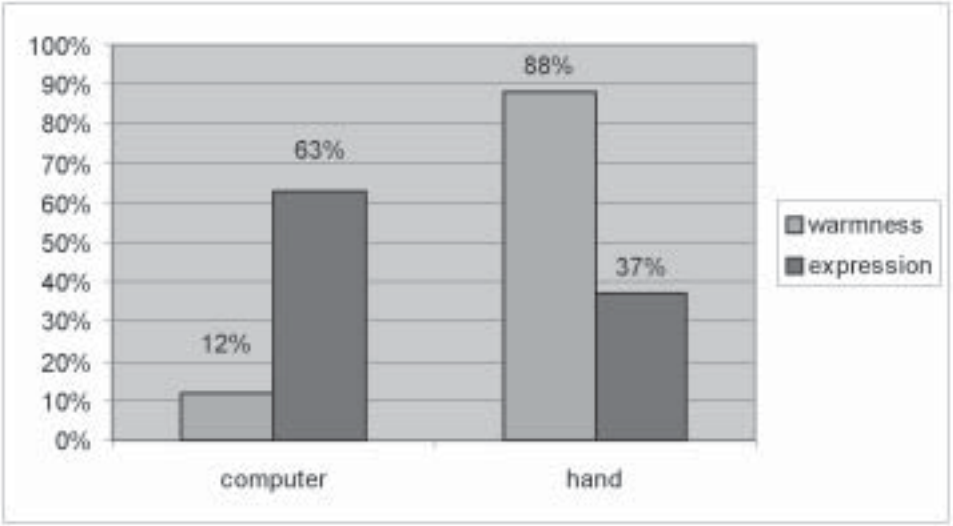

Figure 3. Students' evaluation of hand-drawn and computer-drawn design presentations in terms of warmness and expressing more information.

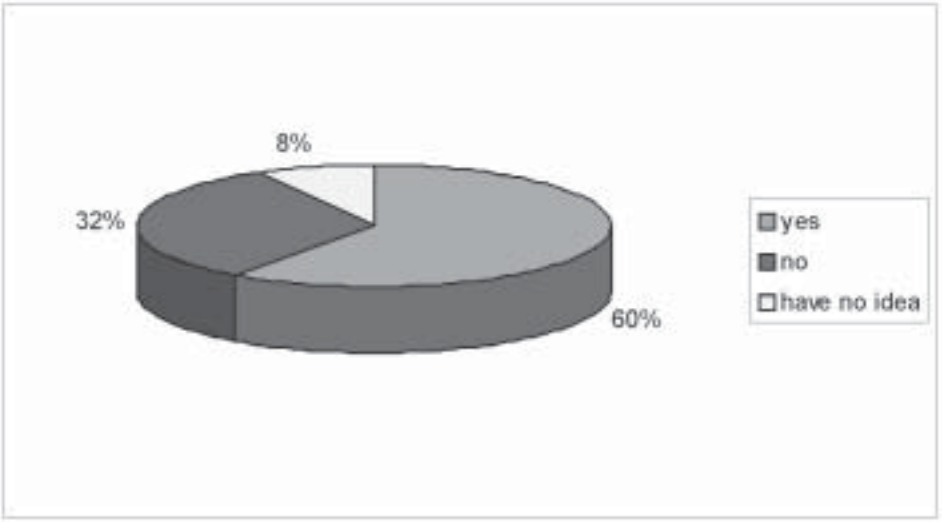

Figure 4. Students' view on the comment that hand skills would continue to preserve their value in the future.

3.2. STUDY WITH DESIGN INSTRUCTORS

An extensive interview was held with 20 design instructors, all experienced in design studio. We concentrated on finding out which medium they thought reflected

author identity more and we aimed at observing whether there existed a correlation between their preference and their age, background and educational experience. They indicated hand drawing to reflect author identity more and there were no significant correlations between the profile of the instructor and their preference.

We asked the instructors whether they regarded the lack of author identity as a problem in computer-assisted drawings, and the results showed that majority of them (Table 1).

TABLE 1. Instructors' view on lack of author identity in computer assisted drawings

	always	**often**	**sometimes**	**never**
Facing the problem of lack of author identity in computer-assisted drawings	**1**	**7**	**9**	**3**

With an extensive set of questions throughout the interview, we followed the tendencies of the instructors in evaluating the role of both presentation media in practice as well as in education. The responses confirmed to a great extent our view that in practice computers are dominant, but such is not the case in the academia. Instructors pointed out that in the academia, hand skills are still (and should be) priority, because it is believed that hand skills will continue to be valuable in the future did (Table 2).

TABLE 2. Instructors' view on hand skills and computers in practice and in education.

	Priority of hand skills in education	Preservation of the value of hand skills in future	Dominance of computers in profession	Dominance of computers in education
Agree	19	18	12	5
Not sure	0	1	6	5
Do not agree	1	1	2	10

4. Conclusion

In many cases, computers are presumed to be of aid in design presentation more than in any other stages of the design process. It is a fact that design education makes use of computer-assisted exclusive architectural presentations that give a realistic effect and meticulous details. Computers also enable students with weak hand skills to make presentations that they might not have been able to do with their hand (Tweed, 2001). But the question is: does it also give such a strong clue about who the author is, or, even more important: does it matter?

The emergence of computer aids which tended to replace the traditional drawing methods has been perceived as an "invasion" by some in the field of architecture

(Shu, 2000). No doubt, computers have enabled and are still enabling ways of design, which would not be possible without their assistance, and certainly this generation of designers versus the previous must and already does have relatively different skills based on computer applications. It is also a fact that design education is rapidly and willingly orienting itself to host and to teach abilities of computers. Yet, not all curricula within design education are letting themselves go with the strong flow of computers. Academia has its own concerns, one of which is positioned around the self-sufficiency of the designer, enabling her to work independent of tools when necessary.

Obviously, the market is demanding students who are graduates and can become practitioners with high computer skills. But at the point where hand skills will be required, the market will not keep back from demanding the practitioner to come up with adequate hand skills either. No practitioner can be a complete architect without being able to quick-sketch for the client at a meeting table, or for the workmen on a construction site. For communicating with the others as well as for spontaneous self-communication such ability is essential. As such, the designer can transfer spontaneous ideas and images to a communicable platform, independent of where and when they come to mind.

Also, what and which computer skills are taught at school constitute another problem. Some schools may choose production-oriented software, whereas others may prefer modelling/animation packages, their choice influencing the factors that are encouraged in their education (Snoonian, 2001), thus resulting in different educational styles. The success of such styles is yet to be determined as new generations take up their roles as practitioners.

We have analysed the results of our studies within this framework. Our approach to this analysis is through understanding, not based on blind rejection of digital media and romanticising the hand touch, rather on inquiring as to how the computer may be better associated with the current concerns of the academia. The digital challenge to the traditional way of drawing confronts the problems of how the ‘warmth’ of hand will be transmitted; whether it is possible to bring spirit within the digital capacity; and whether the unique character of the author may become apparent in computer-assisted drawings.

Most of the arguments opposing computer drawings in design presentation point out the ‘coldness’ of such drawings. Computer-assisted drawings are often criticised as being insufficiently conversational and rather imperative statements (Lawson and Loke, 1997). How these drawings fail to impress the viewer becomes as crucial a problem as whether they can adequately inform the viewer. In other words, although drawings may give information about the design, which by itself not satisfactory are still expected to stir the viewer’s attention with the unique author touch. The vast variety of treatment of colour, texture, light, etc. that is possible through computers to simulate the image of reality, interestingly, cannot satisfy the demand for a specific character.

Therefore the digital opportunity for design presentation seems to have its roots in integrating author identity with the digital drawing media. It is pointless to imagine that digital tools will completely alter the criteria that academia demands from design presentations. The basis of these criteria lies in the awareness that, when stripped from artistic attributes, the architect will lose her professional and even social authority because these authorities are conform to the existence of the artistic, and thus creative potency. It is this potency that constitutes an invisible armour for the architect whose profession is very prones to attacks by non-professionals. Academia acts with the instinct to preserve this armour and render it continuous, because academia is supposed to be the place where the formation of the architect is accomplished. For the sake of this accomplishment, the student is expected to own creative potency and (although it may not be crucial in the market) to be able to represent it with appropriate author identity. Thus, it is not the hand skills that academia insists on preserving, but the author identity. Yet, since so far computers cannot provide this the academia continues out to hold on to the reliable hand skills. Computers in design education will be better welcomed and adapted in the academia if it holds capabilities of integrating author identity. However, it is obvious that integrating author identity, and reconciling computer and hand may not be achieved by naively transferring the characteristics of hand drawing to the digital medium. Rather, a new set of criteria should be developed in order to establish and trace author identity in computer-assisted presentations in terms of innovation and uniqueness in using the capabilities of the digital tools. Our study attempts to evoke awareness on the problem of author identity by indicating its validity through a specific analysis.

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