DRS // CUMULUS 2013
2nd International Conference for Design Education Researchers
Oslo, 14–17 May 2013

A “filing system” for teaching research skills in interior architecture education

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Abstract: *Creating physical environments for humans, more specifically the design disciplines of interior architecture/design, involves a wide variety of aspects to be considered: material, technical, cultural, psychological, artistic... It is therefore important to provide students with the necessary tools (research skills) not only to address the different types of problems and questions that arise during this creative process, but –ultimately- also to ensure the continuing development of interior architecture as a profession and as an academic discipline through the development of its proper research methods. However, we have been coming across a number of obstacles and challenges in our effort to integrate the teaching of research skills in our interior architecture educational program. Here, we report on our experiences in an ongoing project in which we have tried to tackle these issues by providing students, starting in their first year, with a type of “filing system” in which we have specifically structured the information on relevant research approaches and methods.*

Keywords*: interior architecture, research skills, Design curriculum, Research informed designed education - Design education informing research.*

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The general context – the ideal of the academic student as researcher-designer

Successfully creating physical environments for humans, the core business of the design disciplines of interior architecture and design[1], requires a considerable time and energy investment in order to develop the ability to synthesize at the spatial level the wide variety of aspects to be considered: material, technical, cultural, psychological, aesthetical, semiotic... The reform process of higher education in Europe, initiated by the Bologna Declaration in 1999 (European Union 2010), has had a profound impact on the teaching and training of interior architects in Flanders (Belgium). As of the academic year 2013-2014, the academic degree programs for interior architects, more specifically those programs consisting of three bachelor years (of 180 ects-credits) and one master year (of 60 ects-credits), will migrate into a university context. This integration is the culmination of a process of 'academisation', in which the research component of these educational programs has been gradually developed. Indeed, the overall vision on the relation between research and education at the academic level is quite clear: although the primary aim is not to educate researchers per se, the core argument is that "it is only by being embedded in scientific research and by actively doing research that students attain the higher order cognitive skills necessary in the performance of high-qualified professions […] Through the confrontation with researchers and a research environment, students attain the scientific habitus and drive to attain and apply knowledge" (based on Van Damme 2010). Applying this to the domain of interior architecture, the objectives are clear: at the level of the individual, the interlacing of research and design should lead to improved performance, while at the more general, collective level, this integration should ensure the continuing development of interior architecture as an academic research discipline and, ultimately, as a profession.

A decade ago, the curriculum of our school, as did many others, did not visibly include research as a necessary competence or separate set of skills. In the course of the 'academisation' process during the last five years, the curriculum has been adapted to incorporate explicit research skills. More specifically, the idea was to introduce first-year students to research and different research methods in a separate course, i.e. allocate some space in the curriculum to give them a conceptual framework and some basic research skills, and then to rehearse and to retake these skills in various forms during the two remaining bachelor years in the context of their work in the design studio and in other courses. For example, in the second bachelor year students have a group assignment in a course on human sciences in which they address a particular topic (e.g., emotional and behavioral effects of atmospheric lighting) by doing some form of empirical research (e.g., observing or interviewing customers in store). In the same year, they also have a course on cultural theory, in which they are asked to write a paper or create a website to present the results of their specific artistic and/or art historical research. In the third bachelor, research skills are linked to the four themes in which our master students can specialize: they have to develop and present an innovative out-of-the-box concept for a *retail environment*, to analyze functionally and historically a given piece of *furniture*, to assess the specific typology of an historical

[1] Although interior architecture and interior design have different connotations in some situations, for the present context they are interchangeable, so both terms will be used.

building in the light of a possible *re-use*, and to give a phenomenologically inspired account of a museal or theatrical *scenography*. Mastering these diverse research skills should allow them to be incorporated in students' work and research in the design studio. All of which should then accumulate in the master year in which students should demonstrate to be able to conduct research in the domain of interior architecture (resulting in a so-called 'master thesis') and also to execute a design project (the 'master project') under supervision, but largely independently. The general idea here is that the research in the master thesis should inform and guide the design project, i.e. the results of the master thesis should be "translated" in the master design project, hereby exemplifying the ideal of the researcher-designer.

The reality – obstacles and challenges

Reviewing our experiences regarding the integration of explicit research skills in our educational program of the last five years -starting with the appearance of research skills as a separate entity in the curriculum- a number of issues have emerged that somewhat nuances the ideal picture as sketched above. Although in general the development of the research component in our curriculum has definitely been positively evaluated, we have been confronted with some obstacles and challenges in this respect:

- *Limited possibility for deep processing of research*. As is the case in many a design discipline, the design studio and surrounding practice-based courses (e.g., sketching) constitute the core of the educational program and take up the majority of available time (and ects-credits). Moreover, given the holistic nature of a discipline simultaneously addressing multiple criteria (e.g., functional, technical, aesthetical, psychological…), it is important to provide students with the necessary background knowledge to understand these criteria (i.e., theoretical courses on construction, art history, human sciences…). Consequently, there was relatively limited time remaining for thoroughly focusing on research and research skills per se and this time was scattered throughout the curriculum. This limitation made it simply not feasible to explicitly address all the different research approaches that could be relevant for designers or to discuss in detail the underlying philosophical and epistemological frameworks. For the same reason, existing textbooks on research methods for interior designers (e.g., Botti-Salitsky 2009; Dickinson & Marsden 2009; Groat & Wang 2002) were rather difficult to fully integrate in the curriculum.
- *Compression of the range of research possibilities*. Students have many opportunities during their four years to actively engage in research: autonomous research projects in theoretical courses, specific assignments in the framework of studio projects, and most notably of course in their master thesis. However, we observed that many students, with regards to research assignments or design projects with a significant research component, lack a sense of exploration in this regard: they tend to stick to what they know. That is, although students in principle have a myriad of options with regards to research approaches and methods, from a technical, material study to artistic exploration, they tend to shy away from using methods that were not explicitly touched upon in the context of specific courses on research methods. In combination with the previous point,

this of course results in a considerable compression of the range of research strategies our students actually employ.

- *Decoupling of research and design*. In this paper, we do not attempt to address the issue of the exact relationship between research and design (e.g., is design in itself research?) or even impose a sharp distinction between the two. However, it is assumed that, regardless of the fact that the two components are to some degree autonomous and have different end goals, research in the domain of interior architecture should be at least minimally relevant for the design process. Of course, ideally they should entertain a strong, maybe even symbiotic relationship. Unfortunately, the direct link of explicit research and the design process, with as a prime example the "translation" of master thesis results into the master design project, is not always interpreted as such: in many cases, students do not fully grasp the relevance of research components to the design process or fail to recognize that many activities during the studio work can in fact be considered research activities.
- *Lack of knowledge accumulation*. Across the years, students regularly work on similar topics and research questions. Some repetition is of course inevitable and in some cases even advisable, but one does expect some knowledge accumulation to occur in that the experiences and research findings of the older generation of students are being "used" by the newer generation. However, students do not easily find the relevant knowledge generated by the students in previous years.

In our opinion, these obstacles and challenges mirror to a certain extent the current state and identity of the academic discipline of interior design itself. As a fairly young discipline it is still in the process of establishing a stronger body of theory, including the relationship of design versus research, and of looking for appropriate 'designerly' research methodologies (e.g., Clemons & Eckman 2008; Dickinson, Anthony & Marsden 2009).

In sum, given the tight curriculum, the wide variety of types of projects and so the broad range of issues students as researcher-designers have to deal with, and the current lack of a solid conceptual, methodological and communicative framework of interior architecture as an academic discipline itself, additional efforts seem to be needed to ensure an appropriate teaching of research skills to future interior architects.

The dream – ambitions and requirements

To address some of the obstacles that we have come across over the last years, a number of initiatives have been set into motion. The overall ambition – the dream – remains the same: to provide students at the individual level with all the necessary skills to produce ever more qualitative and innovative interior designs and in this way also to ensure the steadily increase of the discipline. Here, we want to briefly discuss the specific goals and assumptions underlying our new approach to teaching research skills. It is important to note that what we describe here is a meta-level approach: we do not focus on specific ways to teach any particular research skill, but rather provide the overall strategy or system in which research skills can be integrated throughout the curriculum.

- Students need structure; from a didactical point of view, the goal is to prepare students for their master thesis from the first bachelor year onwards, by giving them first a relatively simple and easy to use framework to tackle the wide variety

of (research) questions that arise while designing and then by consistently using and expanding this framework in the following years.
- Students learn from examples; to stimulate inductive learning students should have an archive or organized overview of examples of actual research. By including relevant examples of other student research in this review, knowledge accumulation can be stimulated.
- Students should have a list of references to standard works where they can find more extensive and detailed information. This is especially important for research strategies that cannot be discussed in the regular courses.
- Students should be made aware of the very different research approaches and methods at their disposal and, ideally, it should also stimulate them to start using a broader variety of approaches and help them to recognize research opportunities while designing. This implies that the system should be closely attuned to the design process.

Translating these strategic assumptions and ambitions into more specific, operational requirements, the following aspects emerge. First, the system should be both *exhaustive*, i.e., able to accommodate all the different types of research strategies and tactics relevant for interior designers, and *open-ended*, in terms of being able to incorporate new methods and techniques. Second, the system should be able to function as a *meta-reference guide* by providing pointers to relevant sources. Third, a *modular* system can be both easily adapted and extended, but can also stimulate novel combinations. Finally, it should be relevant for designers. This not only implies entertaining a close relation to the design process, but it should also be accessible in the way students work. Traditionally, a researcher is expected to start from a finely tuned research question embedded in a solid theoretical framework and then to carefully select the most appropriate research method to find the most suitable answer. In reality, students, including design students working on their master project/thesis, tend to work with a much more "I want to do something with photography"-type of attitude. In other words, even in an autonomous research project – a research project in which the topic or research question can be independently determined, so does not originate from questions in an ongoing design project – the entry point into a research cycle, can be pretty much in any of the different stages comprising the traditional research cycle.

The filing system – framework and implementation

Taking the previously described ambitions and requirements into account, we have tried to develop a framework and an accompanying implementation to introduce and integrate research skills in the curriculum.

Framework

The basic idea is to establish a (fairly) simple, modular, open-ended framework that can function as both operational support in guiding research and structuring device for a body of relevant examples. In essence, our suggested approach is to impose a type of *faceted classification* onto the research process, involving three components: i) carve up the research process into distinct attributes, hereby focusing on research activities, ii) reduce the complexity in each attribute by making explicit the type of potential

implementations, and iii) use this reduced matrix as a coding system to categorize existing research.

The starting point is at the lowest level of the 'research activity', i.e. what the student-researcher actually *does*. Whether it is searching the internet for the technical specifications of a certain material, interviewing a wheelchair-user on the accessibility of restaurants, or simply playing around with the color palette for their proposed design for an airport lounge bar, regardless of how small-scale such an activity might be, it can always be interpreted as being embedded in a structure in which five elements are involved: a question, an approach, a data collection technique, a method for data analysis and a way of communicating. Clearly, not all elements are necessarily explicitly defined as such or executed equally thoroughly (e.g., a quick google search versus a full-fledged literature study or a written report versus a short conversation).

Next, for each of these five attributes the same principle applies: the element can be operationalized or specifically implemented in many ways, but there are in fact only a very limited number of *types or categories* of possible implementations. By adding this abstraction to the framework, i.e., by explicitly introducing a superordinate level, we arrive at a fairly simple framework with five attributes, each of which can be realized by two or three types of content. The idea is, then, that by training students to view research and their research activities through this lens, including relevant activities during their work in the design studio, this limited framework can provide a support during the process of actually implementing and executing a research.

We will briefly discuss the elements in the framework and will illustrate the framework by a sequence of examples that all center on the same topic: Le Corbusier's Villa Savoye.

1) FOCUS: PROCESS, DESIGN, USER

The driving force behind each research activity is a research question, although in daily practice this question typically remains implicit. A designer "just trying something" can be interpreted as doing research, but without the label and without consciously formulating a research question. In the domain of interior architecture, any research question has a focus on one of three relevant aspects: the design Process (P), the Design itself (D) or the Users of the design (U). These aspects are of course reminiscent of the triad Process-Product-Performance. Obviously, there is research that can be relevant for a designer but that does not directly focus on these three aspects. For example, research on the history of a company when working on their new store concept or on the developmental stages of children for a designer of school furniture. These research topics can indeed be relevant to designers, but they primarily reside in other research domains, not that of interior design.

Villa Savoye: a focus on…
(P): the general design philosophy of Le Corbusier or on the specific process leading up to this particular building.
(D): the design itself, for example in relation to other modernist buildings of that time or on the materials and colours that were originally used in the interior.
(U): how the first users appreciated the building or on how and why it developed into the architectural icon it has become.

2) APPROACH: DESCRIBE, ACT, CREATE

The research approach is the basic structure of the research activity: how do you proceed? Regardless of the epistemological framework, there are only three standard approaches in research: i) to Describe (D), i.e., you observe "the world" as it is, ii) to Act (A), i.e., you actively interfere and change something specific in "the world", be it real or virtual, and iii) to Create (C), i.e., you design or create a new "world". The approach that is used, is of course intimately tied up with the research question and thus the kinds of statements that one wants to make.

The basic approach of 'describing' is one in which the researcher attempts to somehow map the world. This can occur in many guises but the important part is that the researcher does not willingly interfere in the world: you look, you observe (directly or indirectly), you measure, you question, you interpret, but you do not intervene.

The basic approach of 'acting' also has many appearances, but the essence is always that the researcher willingly imposes a particular change in the existing world (or in his or her relationship to the world), be it real or virtual, and tries to capture the consequences of this change. This change mostly involves a specific part or element of a larger whole.

Finally, in the basic approach of 'creating' the researcher will design, or will try to design, a completely new "world". In the case of interior architecture, this 'world' is in most cases some kind of spatial design (which again can be virtual or real). This approach resembles the approach of acting because the researcher actively acts upon our existing world, but where 'acting' is focused on a particular aspect (fragmentary), this approach focuses on the whole design (holistic).

***Villa Savoye*: an approach of….**
(D): charting the effects of architectonic principles in later modernistic designs or an evaluation (e.g., by a random sample of the public) of the esthetic qualities of this building compared to other buildings of Le Corbusier.
(A): systematically changing construction parameters in a software model to investigate how the original design could be improved with respect to comfort and energy consumption.
(C): creatively reappraising the building by trying to translate the insights of Le Corbusier into a contemporary design.

3) DATA COLLECTION/GENERATION: EXISTING, DIRECT, INDIRECT

Whether they are images (e.g., sketches of pictures), words (e.g., in interviews or your own ideas and theories jotted down in a notebook), numbers (e.g., surface measures), or complete designs, in each type of research (i.e., in each of the three research approaches) some sort of data collecting or generating is involved. The actual techniques to do this are both numerous and radically different in nature. Here, we propose to classify the possible types of techniques in terms of the involvement of the researcher in the actual generation of the data. More specifically, there are three ways to go about data collection and generation: i) making use of Existing data (E), e.g., sampling an existing picture archive, ii) Direct collecting or generating of new data (D), i.e., generate the data yourself such as a researcher who photographs the most important constructive elements to document a site, or iii) Indirect collecting or generating of new data (I), i.e., having other people generate the data, such as in the

technique of photo elicitation in which users of an interior are asked to take pictures to capture their experience of the space.

Together with the next attribute, this forms the core of our approach. Whereas the former two attributes of Focus and Approach are more conceptual, this attribute concerns a very concrete action. Indeed, here, only actual activities and techniques appear (i.e., the things the designer-researcher actually *does*). Examples of data collection/generation techniques are:

- Artistic creation
- Photography
- Audiovisual registration (film)
- Image manipulation (e.g., Photoshop)
- Interview
- Literature study
- Designing (logbook)
- Sketching
- Questionnaire
- Behavioral observation
- Case study (technically, a case study is not a data collection technique per se, but is an example of a descriptive research in which, by definition, a combination of different data collections techniques is being used)

Villa Savoye: data collection via…
(E): a systematic inventory of all existing publications in architectural journals that refer to the villa Savoye.
(D): the creation of different renderings of the interior by manipulating the colour palette or conducting interviews with leading interior designers on the influence of Le Corbusier on their own work.
(I): asking a class of design students to capture the genius loci of the place through sketches or the creation of a short film illustrating the *promenade architecturale*…

4) DATA PROCESSING: OPEN, CLOSED

Collecting (or generating) data is the first performative act, the second is to analyze these data through one or more specific methods, depending on both the research question and the nature of the data collected. The many specific methods that exist can roughly been categorized in Open methods (O), in which a certain amount of flexibility is possible (i.e., the analysis can be adjusted to the data) and Closed methods (C), which must proceed through distinct, pre-defined rules.

Again, this step involves effective actions the researcher-designer performs, although the illustrative list of methods of analysis here remains fairly abstract because the actual execution will of course depend on the type of data. The added level of classification for this attribute, Open versus Closed, is also quite abstract (in fact, the most abstract of all attributes), but it does force students to reflect on the nature of their interaction with the data they collected. Examples of techniques of data analysis are:

- Phenomenological analysis
- Analysis by means of the NARA-grid

- Narratological analysis
- Semiotic analysis
- Statistical analyses
- SWOT-analysis
- Comparative analysis
- Visual essay

Villa Savoye: data analysis via…
(O): a semiotic analysis of the texts and designs of Le Corbusier (collected previously) in order to determine the basic syntax of modernism or a phenomenological analysis of the sensations and perceptions of a first-time visitor to the Villa.
(C): a frequency analysis of the academic versus practice-oriented publications referring to the Villa Savoye to assess the relative importance for theory and practice or determining the most interesting vantage point to observe the interior by ranking photographs taken during a previous visit.

5) COMMUNICATION: LANGUAGE, IMAGES, DESIGNS

In educational or academic settings, research usually needs to be communicated in some way or another. Moreover, even in daily design practice, in which communicating the results of the research activity is mostly implicit or informal, there seems to be an increased demand for the arguments supporting design choices – in other words, making results and conclusions of the prior research explicit. It is important to stress that research in interior architecture can also be communicated in different ways: i) through Language (L), i.e. text and numbers, as they appear for example in traditional research report comprising of verbal descriptions, graphs, and tables; ii) through Images (I), i.e., a visual essay consisting of a carefully designed sequence or superimposition of images, and iii) through Designs (D) themselves: an exhibition, models, installations, …

In sum, we want to present students with a framework in which a research activity, no matter how small-scale, is always a combination of the following elements: Focus (Process, Design or User), Approach (Describe, Act or Create), Data collection/generation (technique + Existing, Direct or Indirect), Data analysis (technique + Open or Closed), and Communication (Language, Images, Designs). Next, we discuss how this framework will be presented to students.

Implementation

Our implementation of the framework has led to the development of a "filing system" that consists of two parts: a "manual", i.e. a bundle of texts with details on how to interpret the different attributes and values, and a (virtual) "filing cabinet", i.e. a coded inventory (currently still a simple excel file) listing an ever growing body of examples of relevant research labeled with a code identifying the values of different attributes and for each study in the inventory a one-page description of these values.

PART I – THE MANUAL

In keeping with the idea of a simple and usable framework, the manual is intentionally very basic: a one-page introduction with the goals and context of the

framework, followed by one page for each of the five attributes, i.e., detailing the basic concepts of focus, approach, data collection, data analysis and communication. Next, there is one page per data collection technique (e.g., sketching, photography, interview), divided in three parts according to how the technique can be used (Existing, Direct, Indirect) and including references to standard works on the topic. A similar set-up is used for data analysis: one page per method (e.g., content analysis, statistical analysis), with an indication of the applicability of the method (Open, Closed) and including references to standard works. This bundle will be added to an online guide that was set up for our students as a collection of relevant, practical information they will need in their educational career (e.g., with information on plan conventions, on the formal requirements of a jury presentation, on how to refer correctly in papers etc.).

PART II – THE FILING CABINET

The "filing cabinet" consists of a coded inventory of existing, relevant research (e.g., journal papers, master theses, exhibitions, …). For example, in a simple excel file, each row could represent an existing study with a value for each of the five columns representing the five attributes (Focus – Approach – Collection – Analysis – Communication). By searching for a specific value for a given attribute (e.g., 'sketching' for data collection or 'Nara-grid' for data analysis) students could quickly find some relevant examples. Moreover, by simply sorting according to one or more of the attributes (e.g., showing first all examples in which an Acting approach is combined with a phenomenological analysis) and scrolling through the list, students can immediately be confronted with different approaches. Finally, accompanying the inventory, an online (virtual) catalog (currently a simple pdf-file) will collect for each study one page with some general context for that particular study, some basic information on the five aspects and a link to where the actual study can be found.

The two-part system is currently being introduced and explained to first-year students as a way to interpret existing research and as a supporting device to initiate and execute their own research. By also using this system in assignments (e.g., locating a study with particular combination of attributes), we hope to encourage students to recognize different aspects in research and also notice the opportunities of research in the context of the design process. An evaluation of the impact and effectiveness of the system will be performed at the end of the year.

Some final remarks

To reiterate: we have described a proposed minimal framework and implementation focused on actions as a didactical tool to integrate research as a separate skill in a design curriculum. To conclude, we would like to formulate some final remarks on the (potential) use of the system.

First, a note on the modularity and the accessibility of the system. The *modularity* implies that these five aspects can occur in (almost) any combination. Although it is obvious that some combinations occur more frequently than others, there are hardly any a priori constrictions: a descriptive approach can be used with any of three research focuses (P-D-U); sketching as a data collecting technique can be useful both in mapping (describing), but also in acting or creating (designing); a narratological analysis can be employed for the analysis of a group dynamic in a design studio, the

scenographic routing through a museum or the representation of living scenarios in magazines through the decades… The *accessibility* of the system relates to the starting point of a research activity. Although the description of the five attributes is ordered as the traditional steps in the classic research cycle, in reality, the order in which the value of these five attributes is determined is not fixed. For example, the method of analysis can determine which data needs to be collected (e.g., a researcher who wishes to use the NARA-grid, will have to collect specific kinds of data) or a data collection technique (cfr. the "I want to do something with photography"-attitude) can affect the focus in research question… Both properties of the system enhance its flexibility and thus, hopefully, the usefulness for designers.

Second, although the (theoretical) framework makes clear distinctions between the different components, in practice this is not always feasible or even possible. In some cases the data collection and analysis methods or the analysis and communication methods are completely intertwined. For example: the visual essay is both a way to analyze a given set of images, but also a way to communicate this; sketching an interior is way to collect information from this space but can be simultaneously a way to analyze it. This is, however, not problematic for the intent of the system.

Finally, by putting the emphasis on the research actions and including designing as an approach, it is hoped that the perception of the artificially inflated distinction between research and design for our students effectively vanishes. As mentioned, in this approach we refrain from addressing the more philosophical discussion of the exact nature of research versus design: a designer-researcher who is experimenting with a particular architectural attribute (e.g., the colour palette or choice of material) is designing, but is also performing a research activity. Whether this experimentation deserves the label of actual *research* is in the present context less relevant. What is important, is that students learn to recognize that this "playing around" is indeed also a research activity and that they become aware of the potential (and limitation) of this activity in their design process. This is of course a hypothesis that needs further investigation. In addition, because of this 'bottom-up' approach we did not touch upon many concepts that traditionally occur in contributions on research skills: the traditional dichotomy of quantitative versus qualitative, epistemological frameworks, "designerly ways of knowing", etc. This does not mean we regard these as irrelevant or dismissed: these concepts can of course be integrated where appropriate. We have described in this paper the basic version of the system as it is presented to our first-year students; if successful, expanding and extending the system by embedding it in existing conceptual and theoretical framework can prove to be an interesting next step.

References

Botti-Salitsky, Rosemary. 2009. *Programming and Research: Skills and Techniques for Interior Designers.* New York: Fairchild Books.

Clemons, Stephanie, and Molly Eckman. 2008. "Toward a common language: proposed index categories to enhance dissemination and retrieval of interior design scholarship". *Journal of Interior Design* 30(2): 13-30.

Dickinson, Joan, and John Marsden. 2009. *Informing Design.* New York: Fairchild Books.

Dickinson, Joan, Anthony, Lori, and John Marsden. 2009. "Faculty perceptions regarding research: are we on the right track?". *Journal of Interior Design* 35(1): 1-14.

European Union. 2010. The EU contribution to the European Higher Education Area. Luxembourg: Publications Office of the European Union.

Groat, Linda and David Wang. 2002. *Architectural Research Methods*. New York: John Wiley and Sons, Inc.
Van Damme, Dirk. 2010. De toekomst van de academische hogeschoolopleidingen in het Vlaamse hogeronderwijslandschap – Synthesenota op vraag van de Vlaamse Regering.