

## Co-design in the architectural process

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### Abstract

**Purpose:** Despite the proven importance of co-design as a way of improving the social relevance of architecture, there is a lack of opportunity for meaningful co-design processes in the current professional Master of Architecture programme in South Africa as it is largely modelled on the professional work stages of the South African Council for the Architecture Profession (SACAP), which are based on the assumption of primary authorship and authority of the architect.

**Design/methodology/approach:** This problem has been investigated by way of ten workshops with high school learners in the Mamelodi East township in South Africa, as part of a professional master's degree in architecture.

**Findings:** The findings of the workshops indicate that the initial stages of design could benefit directly from the participation processes and could be critiqued constructively. However, increased resistance to the process by crit panels was experienced once the sketch design phase was completed and the expectation of primary authorship increased. Engagement of the learners in the latter part of the design decision-making process also diminished as levels of experience in spatial design became evidently further removed from the expected outcomes.

**Research limitations/implications:** In terms of co-design discourse and the evident value of participatory skills in practice, it is evident that the initial work stages of concept, brief and ideation are fairly easily assimilated into the pedagogical requirements of the degree programme and as such could enable a more socially relevant and responsive approach to professional practice.

### Practical implications

The South African standard of practising architecture leaves little space for the process of co-design, even within the educational environment. The value of co-design within this context lies predominantly in the values and conversations generated rather than the aesthetics of the end product. The process of co-design opens up the opportunity for new dialogues to emerge and for relationships to form.

**Social implications:** Co-design illustrates how architectural intelligence can be exercised in a much broader spatial field that acknowledges more than just the building itself but social, global, ecological and virtual networks, thereby changing how the authors design, what the authors design and who designs it.

**Originality/value:** It is in the realm of co-design that the beauty of architecture oscillates between strangeness and the ordinary. If the authors embrace the power of the collective and collaborative thinking, the authors are able to conceive new ways in the making of architecture. In order to arrive at this, however, the straightjacketed approach of modelling the master's programme on professional work stages and outcomes needs to be challenged so that true transformation of the profession can be enabled through its pedagogical instruments.

Keywords: Participatory design, collaboration, co-design, design research, placemaking, architectural authorship

## 1. INTRODUCTION

Until 1994, the majority of South Africa's population had been excluded from an official role in decision-making. The result was a society accustomed to top-down planning, labour exploitation and white minority domination, which lacked a tradition of democracy and public participation (Lyons *et al* 2001:276). The importance of community participation in urban renewal projects has gained currency over the last ten years as a means of empowering communities and making physical improvements more resilient in the long term (Teder 2018; Manzini 2015; Doucet & Coupers 2009:1; Lyons & Smuts 1998: 923).

In Awan *et al* (2011:38) it is stated that architecture, or more specifically space, affects and effects social relations in the most profound ways from the very personal, which includes the phenomenological engagement with light and space, to the very political which includes how the dynamics of power are played out in space. Users around the world are becoming more involved in the creative process. The extent of this involvement, however, depends on the way professionals practice design (Teder 2018:1). The key responsibility of the architect therefore lies not just in the refinement of the building, but as a contributor to the creation of empowering spatial and therefore social relationships (Awan *et al* 2011:38). This shift in perspective acknowledges that there is power in the collective and in collaborative thinking. If the fundamentally individualist nature of the architect shines through in the conventional process of design, current discourse on participatory design suggests that there are *other ways of making architecture* (Awan *et al* 2011, Sanya 2016) which embrace the power of the collective and of collaborative thinking.

Despite these developments in the discourse, the South African Council for the Architectural Profession (SACAP) continues to define its workstages according to the assumption of the architect as primary author and authority in the design process. As a validating body, it holds sway over the professional master's programme that is assessed by panels of examiners who mostly subscribe to the same assumption. For this reason, the programme is modelled largely on these processes, where a student is required to develop *an architectural product* from concept through to technical resolution, with full authorship implied (UP Arch MProf Study Guide 2018).

This paper argues that participatory processes ought to be accommodated in the professional degree programme in order to equip graduates with the skills required for meaningful social engagement in practice. As an empirical engagement with such a process, a series of workshops with school children was undertaken, modelled on the SACAP workstages. Reflection on the outcomes of the workshops and their impact on the design process of a student enrolled in the programme is presented to illustrate which aspects of codesign could be incorporated and critically evaluated by examiners.

## 2. LITERATURE REVIEW

### 2.1. *Architectural authorship in the discourse of co-design*

At the 2010 South African Design Indaba, Jo Noero (2010) commented that there is an alternative form of practice for architecture that breaks from the traditional 'cover image building'. He stated that this alternative form of practice is to create fine buildings that are socially relevant and make the world a better place. They harness the energy of the people and context to create purposeful architecture.

Through engagement and dialogue with people outside of the design professions, participatory decision-making is becoming increasingly significant (Sanya 2016) and design practice is

transforming into a 'creative common for ongoing change' (Teder 2018:2). Co-design is such a practice that encourages different thinking about meaning and significance of space.

Throughout the continuum of the architectural discourse, the problem of authorship in architecture has persisted (Adjaye et al 2011). The tension between the architect as an artist, and the architect as a social worker, demands that we broaden the issues to look at how buildings relate to their contexts and communities (Adjaye et al 2011). This becomes a provocative investigation according to Adjaye (2011), as it reflects on how the architect and the community connect in the practice of architecture.

Dating from the era of modernism, these two worlds of abstract space reserved for experts and concrete space for people were separated, with professionalism being held above, and people being treated as subjects for information. Rooted in the world of experts, design is seen as a sequential process in which the architect is singular, having sole authorship of the building (Lawson 2005:239, Mahmoodi 2001:82). However, when these two worlds re-join, a new in-between space is created, namely the 'realm of collaboration' (Lee 2008:33). How such collaboration manifests in terms of 'designing for the user' remains nuanced, in whether the users are merely subjects for analysis or active participants in the design decision making process (Lee 2008: 33).

### **2.2. Collaborative design approaches**

Reliance on the typically individualised authorship of architectural production contradicts the representation of a collective identity of a community (Combrinck 2017:215). Concrete space is the everyday world in which people live. Küsel (2018:41) states that somewhere in the making of our towns and cities, we have exchanged the human element for a number of zoning classes which are strung together around a number of roads and basic services. Currently, when human experience is taken into consideration it is understood as the experience that people are supposed to have rather than what they are actually experiencing (Lang 1987:16). Kotze (2017:2a) argues that, 'the language of the ordinary is more difficult to read, but if we uncover it, it offers a world of greater and lasting inspiration'. When architects begin to understand the rhythm of the ordinary, there is a realisation that although there are many problems with places, the sense of community is tangible and that it is missing in many of our cities (Küsel 2018:42).

Through collaborative design, the role of the everyday user can be exposed through facilitating agency. This is done by relinquishing the role of the primary author. The intention is not to abandon architectural intelligence. It is in fact the opposite. Spatial agency is used to illustrate how intelligence can be exercised in a much broader spatial field that acknowledges the social, global, ecological and virtual networks (Awan et al 2011:31, Mahmoodi 2001:80).

### **2.3. Significance of CoDesign**

Co-design is based on the belief that all people are creative in their own way and can contribute to design if provided with the appropriate setting and tools (Vaajakallio & Mattelmäki 2014:63). It is often questioned by professionals as according to Muir (1995), 'collaboration has been seen by many architects as the greatest single threat to their long-established position as the natural 'leader' of the team. The view is often expressed that designers must provide leadership and that if they do not the quality of the building, in both functional and aesthetic terms, will suffer' (Muir and Rance 1995 in D'Anjou 2015:38).

This question of authorship in architecture essentially looks at the relationship between client and designer. D'Anjou (2015:30) states that this relationship can be reduced to three categories. The first relationship views the designer as the professional who is in charge of providing the client with what they want without them being involved. The designer is the design expert who moves in the abstract space (Soja 1996:76). D'Anjou calls this model Design Paternalism (D'Anjou 2015:32).

The second relationship views the client as being completely in control in the decision-making process as he/she is the one that requested the design service. This is referred to as Client Autonomy (D'Anjou 2015:33). The designer is there to serve the client, operating in the concrete space. The third relationship falls into the realm of collaboration where both designer and client are equally involved in the design process. According to D'Anjou (2015:41) clients are rarely considered in architectural education as part of the real design pedagogy, however, design education is a good place where authentic conversation in the client-designer relationship could be implemented to ensure another ethical layer that moves beyond the strict codes of professional practice.

#### **2.4. Children in participatory design**

The evolution in design research from a user-centered approach to co-designing is changing the landscape of design practice, creating new domains of collective creativity and giving them new significance (Sanders 2008: 5). It is hoped that this evolution will support a transformation towards a more resilient way of living (Gilchrist & Kyprianou 2011). Young people aged 12-18 are the generation that will be most affected by all intractable challenges. Expert and government led initiatives have developed research capability that remains detached from the lives of the poor and the young, who are often most affected by the negative impacts of change. The consequence is that many opportunities are missed to allow people in poorer communities to develop skills, and to lead innovation in resilient development policy in ways that address the interconnectedness of environmental challenges, whilst reflecting local priorities, cultures and environments (GCRF 2017:2).

Inclusion of children and youth in participatory processes started in the 1970's with Lynch's 'Growing Up in Cities' (Birch et al 2017, Derr 2015). Participatory projects can be empowering processes resulting in empowered outcomes (Hussain 2010:99). Empowering children through participation is not about giving them the same role and responsibilities as adults in the design process (Hussain 2010:105). Typically, when children are involved in participatory design processes, the focus is mostly on development of concept, ideation and design development (Birch et al 2017). When designing for underprivileged children, participatory work is especially important since the cultural gap between the user and designers is usually large. User participation has the advantage in that the designer does not interpret the collected data from their own cultural vantage point in isolation from the users. Children can be empowered by gaining confidence through experiencing that adult designers are interested in knowing their opinions. The co- design process should enable children to become reflective practitioners who understand how to establish partnerships and communicate with people who hold diverse views (Derr 2015:120).

#### **2.5. Challenges of CoDesign**

Working with children in participatory design also involves several challenges. The first challenge of participatory design is how to recapture the aesthetic processing of design through participation in order to produce better designs. There needs to be clear arrangements and outcomes otherwise the task becomes ambiguous and uncertain and the resultant outcome becomes a laundry list rather than genuine needs of the community (Ho 2011:95). Secondly, participation projects can be empowering as well as disempowering, depending on how the participants are included and treated. It is the designers' responsibility to find methods that fit the skills and competence of the participants so that participants do not become discouraged and frustrated (Hussain 2010:108). Lastly, children do not usually have the time, knowledge or expertise to collaborate with designers as partners in the true sense (Hussain 2010:101). It is suggested that children are given the role of informants at several stages of the project rather than just the beginning or the end.

## **2.6 Pedagogical framework in South Africa**

Given the global considerations regarding the potential value of participatory approaches to the design process as discussed above, it is significant to consider how such experiments are viewed within the educational context. In a recent opinion piece on the Dezeen platform, Griffiths (2019) argues against the notion of 'training students for practice', responding to statements made by Patrik Schumacher, who expresses criticism against the focus on research in schools of architecture, suggesting that such research is unrelated to the realities of the profession. In his argument, Griffiths (2019) describes the type of research being undertaken as challenging current modes of practice that continue to emphasise a market-driven, individualist logic of production. He points to a 'need for new forms of socially oriented architecture' that may explore the possibilities afforded by collaboration rather than individualised competition and concludes that the academic environment ought to have the space to engage in such experimentation.

A study undertaken by Boudhraa et al (2019) reveals how one such studio in Canada is grappling with experimental ideas of coideation and how the critique process itself has afforded the students an opportunity to acquire an entirely different approach to design. Through a process of generating ideas between students and lecturers, the researchers could observe a shift in design process and thinking (Boudhraa et al 2019), a skill that is becoming increasingly valued in addressing the complex socioeconomic challenges of our time (Sanya 2016).

South African schools of architecture currently experience this tension between socially responsive research and the mandate regarding professional practice preparation (Olweny 2020). The professional exit year (masters), especially, as it is modelled largely on the workstages as described by the SA Council for Architecture (SACAP). Caught between the understanding that radical transformation of architecture education is required in response to our post-colonial reality through the inclusion of participatory and exploratory studios and the concern that students could be denied their title of 'architect', Olweny (2020: 728) explains that there are few examples of sub-Saharan schools of architecture willing to change their frameworks substantially, with those examples remaining 'islands of novelties within a sea of sameness'.

## **2.7. SACAP workstages**

The SACAP outlines certain work stages and outcomes for the architectural process based on such a sequential six-stage process that This six-stage process takes a project from inception to close out, with the architect being the primary author. The six stages include inception, concept, design development, submission to authority, construction documentation, construction and close out (SACAP 2010:5). The SACAP process is similar to both the Royal Institute of British Architecture's (RIBA) and the American Institute of Architecture's (AIA) traditional work stages. These work stages include pre-design, schematic design, design development, construction documents and construction administration. Where these two differ from SACAP's approach is that there is a work stage for post design and feedback. In these stages a post occupancy study as well as developing user manuals and evaluation research is done (Mahmoodi 2008:83).

The essential skills and knowledge required to practice architecture in a sustainable, socially responsible and financially viable way are grouped into ten specific outcomes (SACAP 2010:3). The ten outcomes include architectural design, environmental relationships, construction technology, building structure, contextual and urban relationships, architectural history and precedent, building services, contract documentation, computer applications and office practice and ethics. The higher the qualification, the higher the level of understanding needed to achieve the outcome. These groupings must allow for the professional to compete and operate on a local, as well as international level, therefore the SACAP learning levels are derived from RIBA's Outline Syllabus (1999). These

learning levels include awareness, knowledge, understanding and ability. Each of these learning levels is then applied to the work stage within the architectural process (SACAP 2010:4).

The fundamental implication of this framework is that the architect maintains sole authorship and authority over the creative process. It is in this context that current South African masters degrees in architecture are situated, where experimental design processes such as co-design are rarely accommodated. For the architectural profession to develop an increased social responsiveness, it is argued that this framework of single-authorship ought to be challenged within the bounds of the masters degree programme, by encouraging participatory design with distinct user groups.

### **3. MATERIALS AND METHODS**

The research was undertaken by a student enrolled for a masters degree in architecture at a South African university and entailed a synchronous approach to the proposed design of a high school for the purposes of the degree outcomes, while undertaking in parallel a series of codesign workshops with high school learners in the study area of the design intervention. A series of ten workshops, consisting of two hours each, were designed to simulate the work stages prescribed by SACAP and to reflect the same phases of design as required in the structure of the degree (UP Arch MProf 2018).

This research resorts under the interpretivist paradigm, as there was a series of interactive processes in which researcher and subjects engaged in dialogue, reading, writing and drawing where the viewpoint of the subjects being observed was given more emphasis than the viewpoint of the observer, attempting to understand their perspective on the world around them (Kivunja & Kuyini 2017).

The results of the workshops were described in terms of the SACAP learning levels of awareness, knowledge, understanding and ability. Such descriptive analysis is considered valid as a research product, such as 'when it identifies socially important phenomena that have not previously been recognized' (Loeb, S, Morris, P, Dynarski, S, Reardon, S, McFarland, D & Reber, S. 2017). These results were related back to the co-design purposes of research, building design competency, empowering users and engaging multiple stakeholders outlined by Vaajakallio & Mattelmäki (2014:65).

#### **3.1. Limitations**

Due to logistical reasons, it was necessary to use a participation group that was already connected with the university by way of bridging courses and after-school programmes. Grade 8 learners were used included as a as co-design group because the workshops would not be interrupting university applications or exams.

#### **3.2. Axiology**

The research represents a balanced axiology, where it is assumed that the 'outcome of the research will reflect the values of the researcher, trying to present a balanced report of the findings' (Kivunja & Kuyini 2017). Institutional ethical clearance for the study was obtained from the Faculty of Engineering, Built Environment and Information Technology Ethics Committee (2018: EBIT/39/2018).

## **4. RESULTS**

### **4.1. Inception and brief**

#### **4.1.1. Workshops 1-3**

The inception stage is the first work stage outlined by SACAP. In this stage information is collected about the client, brief and time frame (SACAP 2008). The first workshop was therefore designed to research and understand the context of the township and the secondary schools that the learners attend. This workshop was designed to allow the architect to not only understand the consequences

of the space in which the learners operate but allow the 'non-designers' to think critically about their environments therefore entering into the design process. Classroom spaces were identified as being problematic as they lack ventilation and light. Some schools in the study area have container classrooms which were identified in the workshops as being empty as they are too hot in summer and too cold in winter. The upper storeys were favourites of the learners as there was a view over the whole school and children could relax and talk with their friends. This relates to a safety issue where sight lines become important to create a safe environment. The food centre was identified as a favourite within the school. The learners stated, however, that there was no shade to wait in and no spaces to sit once they had received their food. This space is seen as an important social space which is reinforced by the outcomes of the online questionnaire. The lack of covered and gathering space was reported in the assembly quad.

Precedent and site analysis are part of the inception and analysis stage. An understanding of precedent as part of a wider social and cultural system is needed at a masters level (SACAP 2010:8). The second activity involved the investigation of spatial elements within a school in order to evaluate types of elements learners identify with. This design game, where learners were asked to divide their pages in twelve and choose from a series of design elements such as type of roof, wall material, colour for school, number of learners and extra activities needed, started to explore how design could be conceptualized by a non-designer. Lastly, learners were asked to design their dream school in groups of 4-5. They were given two pieces of A3 paper, pencils and coloured stickers. This was turned into a competition which was intended as a way to teach interaction and establish a social connection (Vaajakallio & Mattelmäki 2014:65). At the end of the exercise, learners had to vote for which school they would like to attend. Figure 4.16 (following page) indicates the school chosen as it had the most colour, a double storey classroom block, a sports field and a separate entrance for cars and pedestrians.

The chosen elements show a choice of both familiar and aspirational elements. The choice of familiar is a need by children to have something to fall back on to (Cunningham 1995, Hertzberger 2008:35, Jans 2004). The aspirational elements reflect the learners' desire want for a better environment.

The purpose of this workshop three was to explore how space is made by learners in the study area Mamelodi and to investigate what relationships they perceive in space. Vaajakallio & Mattelmäki (2014:65) classify this type of workshop under 'games to create scenarios and describe intended use'. Sixteen learners attended this workshop. Learners were first asked to close their eyes and imagine their favourite space. They were then asked to draw or write about the space they had pictured. This type of game helps to facilitate the learners in envisioning scenarios which in turns helps to conceptualize design. This exercise enabled the author to understand the types of spaces learners enjoy and therefore the quality of space that needs to translate into school design.

Next, learners were asked to fill in different everyday environments. Through the creation of everyday environments, the author could also understand social and spatial dynamics of the learner's everyday experience, another requirement for a candidate architect. As a reflection exercise, the author's proposed school was used as a base for the exercise. It is a requirement for a candidate architect to be able to design a building that is cultural, contextually and environmentally responsive therefore the author saw this task as a way to understand the context and create a base for discussion. Learners immediately filled in the cafeteria and sports spaces with objects indicating once again the importance of these spaces. If a school is a place to practice social behavior then sports and games are key in developing healthy, competitive attitudes (Hertzberger 2008:156). Learners also thought the classrooms were too small and moved them into the courtyard spaces to make them bigger. There was also a focus on display boards within the classroom. This relates back

to the online workshop where teachers wanted neutral colours in the classroom in order to have more display space.

Through these workshops, the student was able to gain significant insight into the learners' frame of reference, their perceptions of value, concerns regarding safety and social issues. This impacted significantly on the brief and concept, setting the course for further development of the proposed design of the high school.

## **4.2. Design development**

### **4.2.1. Workshops 4-7**

In the design development phase, the plans are further developed based on the concept (SACAP 2008). The environment has an influence on how children learn and occupy space and schools should be an ever-changing, stimulating environment that teaches learners to learn and explore (Hertzberger 2008). Workshop four explored how space influences the behavior and concentration of learners. This 'game' helps define the role of the co-design team – they are learners within a school therefore their experience as learners within a space is important (Vaajakallio & Mattelmäki 2014:65). First, the classroom was set up with traditional rows and learners were asked to design a house as an individual task. Next, the classroom was changed into table groupings and learners were asked to repeat the task in groups. Lastly, learners were asked to find a space outside and repeat the group task. A discussion was then held to understand which space the learners felt was the best learning environment for them and which they would feel most creative or relaxed in. According to the workstages, by observing how users occupy a space and the social dynamics within that space, the architect can 'prepare an appropriate concept' as well as develop each space 'to an ultimate and rational conclusion' therefore creating a school that encourages different learning in different environment (SACAP 2010:5). Through these exercises, it became evident that the learners preferred focused indoor spaces for heightened concentration, whereas spaces intended for creative activities could be opened to the outside. This became an important discussion point during mid-year reviews, where rigorous debate and reflection could be sustained regarding the ideal orientation of classrooms.

The design development phase is used by the architect to develop the design and the components within the design (SACAP 2008, Hofman Architects 2018). The author used this workshop five to investigate one component of space: thresholds as an element of spatial design. In order for the co-design team to be able to think about how a school is designed, it is necessary for them to understand how their space works currently and to understand what they do and do not like about it. This workshop was done to facilitate learners in envisioning space beyond what they know as important (Vaajakallio & Mattelmäki 2014:65).

The challenge in participatory design is to tease out the genuine needs of those and not just create a laundry list (Ho 2011:95). An important observation from this exercise was that the learners who had attended the previous workshops were able to formulate space with the shapes whereas participants who joined later left this activity blank or created laundry lists. This seemed to reinforce the observation that participants had gained confidence in design competency through the workshops, as predicted by Vaajakallio & Mattelmäki (2014).

The following workshop was focused on brick pattern making. Through the use of a local, known material, a common design language is formed (Vaajakallio & Mattelmäki 2014:65). The activity contributed to nurturing an understanding of what more a material can do (Wright 2017:27). Initially, learners were asked to design the wall behind the board in their dream classroom using the cut-out brick modules as a guide. They were encouraged to investigate alternatives to the commonly known stretcher bond. This helps facilitate learners in envisioning new situations rather than



	<b>SACAP</b>	<b>MProf MILESTONES</b>	<b>CO-DESIGN</b>	<b>AUTHORSHIP</b>				
	<i>Board Notice 121 of 2015</i>	<i>Barker 2018</i>	<i>Workshop Series</i>	<i>Measures of control: 1-5 (Participant to Designer)</i>				
<b>INCEPTION AND BRIEF</b>	<b>WORKSTAGE ONE</b>							
	Inception		1: Barriers	1	2	3	4	5
	Client's brief							
	<b>WORKSTAGE TWO</b>							
	Concept and viability	Conceptual approach	2: Identity	1	2	3	4	5
Prepare initial design	Conceptual generators	3: Space Making & Reflection	1	2	3	4	5	
<b>DESIGN DEVELOPMENT</b>	<b>WORKSTAGE THREE</b>							
	Design Development	Design Development	4: Concentration	1	2	3	4	5
	Review and develop design	Design solution	5: Thresholds	1	2	3	4	5
		Characteristics of the design	6: Materials and Pattern	1	2	3	4	5
		7: Spatial wrapping	1	2	3	4	5	
<b>DOCUMENTATION</b>	<b>WORKSTAGE FOUR</b>							
	Documentation and procurement							
	Submission to authorities							
	<b>WORKSTAGE FIVE</b>							
	Issue construction documentation	Technical concepts	8: Colour and Way Finding	1	2	3	4	5
	Construction oversight	Services	9: Artwork	1	2	3	4	5
<b>WORKSTAGE SIX</b>								
Close out and handover	Conclusion	10: Reflection	1	2	3	4	5	

Table 1. Levels of design authorship as experienced in the CoDesign workshop series in terms of the SACAP workstages and the MProf Milestones

creating known options (Vaajakallio & Mattelmäki 2014:65). Next, participants were asked to design the floor to the entrance of their schools. They could choose the material and pattern. In the third exercise, students were asked to design a gathering space in their school. Lastly, they were asked how they would show where to walk from the classroom to their gathering space using only floor materials. These exercises informed decisions regarding articulation of the materials in the proposed design project.

Workshop seven was focused on thresholds and space making, with two groups given two separate tasks. One was a paper-based task where learners were asked to design a series of thresholds to a school space. The other was a model building task where learners were given the six sides which make a box and asked to construct a space within it.

The 'wrapping' of space became a prominent theme, with the first group creating a curved roof to enclose space to protect it from the elements but also to allow the sound from their stage to be reflected out. There were more private rooms to the side which were darker. The second group created an inside shell with an outer protective skin. The third group created a triangle box with a flip down door. Inside there was a smaller stage area. The last group also created a curved roof with a smaller stage inside. The rooms to the left and right of this stage were enclosed for more private spaces such as change rooms and practice rooms. In all these examples there is a wrapping of space for protection and to create thresholds between spaces.

The evident importance attached to these spatial configurations influenced the form-making of the masters design project directly. The expressed value attached to particular roof shapes determined an approach that gave preference to familiarity of spatial expression, with due consideration for the aspirational values that could be derived from the activities.

### **4.3. Documentation stages**

#### **4.3.1. Workshops 8-10**

The last three workshops attempted to include the learners in aspects of the decision-making process that were concerned with detailed considerations such as material, texture and colour. It became increasingly difficult, however, to simulate the workstages and to navigate the boundaries of authorship at these more advanced stages of the design process.

D'Anjou (2015:38) states that communication in design has two important aims: to inform the client and to provide the client with support. The last workshop was intended to share progress of the design and to reflect on the series of workshops. This workshop was done to simulate the close out stage of the SACAP work stages.

Derr (2015:120) states that the co-design process should enable children to become reflective practitioners who understand how to establish partnerships and communicate with people who hold diverse views. This relates back to the argument by D'Anjou (2015:38) in which it is stated that revised relationship between the client and the designer is proposed in which they are able to interact on the ground of reciprocal recognition and valuation of individual subjectivity (D'Anjou 2015:28). The final workshop allowed the learners to be reflective on the design and express their opinions. Learners loved the outdoor spaces, especially those that were shaded. There was a request for more outdoor seating spaces that were sheltered. The cafeteria, at the heart of the school, was one of their favourite places. A suggestion was made to put serving hatches to the outside so that learners could easily collect their food. Authenticity of design should not be envisioned as the absolute will of the client or the designer but a shared decision-making process between the two in which the aim is common design. The subjectivity of both the designer as well as the client is recognised and respected.

## 5. DISCUSSION

By structuring the workshops according to SACAP work stages and the professional masters programme requirements, it was possible to simulate the value of co-design with a user group directly related to the design project. The value of collaborating with children in the design of a high school is well documented (Birch et al 2017) and through these workshops, it was clear that an insider's view could be accessed successfully to frame a more responsive view to the design.

During the first few workshops, the concept and brief stages could be easily simulated (Birch et al 2017). Here, the learners were animated, participated eagerly and could offer insights otherwise unknown through conventional desk-top research. The student was able to represent and assimilate these insights into the design process and was able to then support these contributions with additional theoretical perspectives. Critique of these first stages was supportive of the co-design workshops as an enrichment of the overall process.

The design development stage saw the levels of authorship shift towards a median of control, where the learners were able and prepared to experiment with certain spatial constraints. Besides the site and program ideas that emerged from the workshops, several major themes that underpin how the space is made were discovered. These themes considered how space makes the user feel and evoke a sense of attachment to a place. Without the co-design workshops, these themes would not have been explored. Mid-year reviews were more critical of the co-design workshops, with the student challenged on issues of authorship:

*“At the end of the year you’re going to be examined as an architect rather than a sociologist.”*

*“We’re examining space, not process.”*

Although one examiner expressed appreciation for the “amount of research” undertaken, the rest of the comments were solely reserved for spatial decision-making of the proposed architectural product. This reinforces the view expressed by Fisher, Lange and Nkambule cited in Olweny (2020: 728) that ‘the discipline of architecture is inherently conservative and any changes to its teaching [are] constrained by its international traditions, conservative attitudes and inertia in bureaucratic systems’.

As the year and the workshops progressed, it became increasingly difficult to simulate the processes required for detailed design and to apply findings from the activities to the iterations and technical resolution of the design project. Interim crits were now focused exclusively on technical detailing with expressed disinterest in contributions derived from the workshops. Collaboration is seen in literature as an opportunity to engage with the people whose lives the architecture impacts therefore there needs to be authentic dialogue for it to work (Vaajakallio & Mattelmäki 2014:75). However, it was clear that the emphasis was expected to revert to the primary author, with concern raised over the desire for collaboration rather than encouragement offered.

## 5. CONCLUSION

From this series of workshops and their influence on the design process in an architectural masters project, it is evident that important insights and perspectives may be gained by including co-design practices. Through relinquishing sole authorship and embracing the power of the collective, the student was able to explore alternative considerations, gaining an understanding of both concerns and aspirations within the participant group.

Through designing with children as the collaborative group, it was evident that both parties benefited the most in during the inception, concept and design development phases. In these

stages, collaborative thinking underpins and supports the traditional design process rather than competing with it.

Through the ten workshops, it was discovered that co-design activities that are focused and designed according to the user uncover information that supports the design process. The workshops introduced in this paper were an effective way of ideation at the beginning of the spatial exploration. In order for co-design to genuinely impact the design process throughout the work stages, there is a need for the workshops to not only delve deeper into specific aspects of design but also to involve more than one user group. The co-design process is a learning process, both for the architect and for the users.

As can be seen from the above research, the South African standard of practicing architecture leaves little space for the process of co-design, even within the educational environment. The value of co-design within this context lies predominantly in the values and conversations generated rather than the aesthetics of the end product. The process of co-design opens up the opportunity for new dialogues to emerge and for relationships to form. Co-design illustrates how architectural intelligence can be exercised in a much broader spatial field that acknowledges more than just the building itself but social, global, ecological and virtual networks, thereby changing how we design, what we design and who designs it (Sanders et al 2008:12). In order to arrive at this, however, the straightjacketed approach of modelling the masters programme on professional workstages and outcomes needs to be challenged, so that true transformation of the profession can be enabled through its pedagogical instruments.

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### **Further reading**

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### **About the authors**

Dr. Carin Combrinck is senior lecturer at the Department of Architecture in the Faculty of Engineering, Built Environment and Information Technology at the University of Pretoria. She is the director of the honours programme as well as the Unit for Urban Citizenship. The mission of the unit is to establish an interdisciplinary network of collaboration towards horizontal integration of interfaculty engagement with specific stakeholders, as well as vertical alignment of curricular engagement to embed a culture of participation in graduates. Dr. Combrinck's field of research is rooted in the role of architecture in community development, with an interdisciplinary view towards social innovation and urban citizenship. Engagement with stakeholders ranging from informal settlement leadership structures to City Improvement Districts has shaped her approach since 2010,

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Caitlin Jane Porter was born and raised in Johannesburg, South Africa. After a gap year in the United States of America, she returned to home to complete her undergraduate and postgraduate degrees in architecture at the University of Pretoria, graduating with her master's degree in 2019. The shift from traditional design practice towards a more collaborative approach underpins her interests. This approach was adopted in her master's degree with the focus on participatory design within the school network in Mamelodi (Pretoria). She is currently practising at a young architecture firm in Pretoria with a focus on commercial work. Her goal is to explore more of the architect's role through collaborative design.