OBE: The only way forward for design education?

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Introduction
This paper will look at the conceptual understandings of design education in South Africa with reference to the Fenwick monogram (2001). Learning, according to Fenwick, is categorised into five perspectives: constructivist, critical cultural, psychoanalytic, situative, and enactivist. The focus of this paper will be on the first three perspectives. Constructivist theory underlies Outcomes Based Education (OBE), which is the system prescribed for education in South Africa. The essentials of OBE and constructivism will be analysed within a design education environment. The critical cultural perspective will be discussed because of the importance of critical thinking in design education. The pshycoanalytic perspective is discussed because of its social relevance in a South African society. The other two perspectives are debated shortly. I will conclude with the argument that OBE refers to important aspects of learning, but in a design environment in South Africa, it is necessary to identify specific focal points needed to move design education forward.

Constructivism and OBE
In this section I will look shortly at the historical background of constructivism and OBE. I will also consider the theoretical aspects, and examine the classroom practices used in these theories. As a practical example, I am referring to one specific project to demonstrate the different possibilities within a single project. Mostly I will refer specifically to graphic design. Many of these proposed concepts have been implemented at institutions in the Netherlands, and I will particularly refer to the Gerrit Rietveld Academy (GRA) in Amsterdam.

Numerous authors have interpreted learning theories in various different ways. Confusion arises because, according to Killen (2000), theories could be viewed "as a theory of education, or as a systemic structure for education, or as classroom practice". A theory expresses a certain set of beliefs and assumptions about learning. The activities of learning take place in a systemic structure. In this paper I will concentrate on theory with references to classroom practices.

Constructivism is based on John Dewey's philosophies and shaped by Jean Piaget and Lev Vygotsky. Dewey (Dewey, 1933) pointed out that learning takes place by doing, and refers to two aspects: *continuity*, where a student would connect new knowledge with previous experience, and *interaction*, where the student will be actively involved in learning in her/his environment. Individuals construct their own meaning through reflecting on their interaction with their surroundings. Piaget (1975) believes that previous experience or knowledge has an influence on generating meaning in learning. Vygotsky (1978) believes in the development of the person's own consciousness through what he calls *inner speech*. Fenwick (2001) puts the main focus of constructivist learning on reflection. Schön's (1987) interest lies in what the actual triggers are for reflection. A trigger could be a surprise or an experience of discomfort. Schön refers to reflection that is closely bound up with action, and instead of applying theories and concepts to practical situations, he suggest that students should learn to frame and reframe problems they are facing, test out different interpretations, then modify their actions as a result. Kolb (1984) on the other hand, believes in integrating emotional experience with reflection. This concept connects with the psychoanalytic perspective that will also be discussed.

Mezirow (1996), in his paper *Contemporary Paradigms of Learning*, sees self-reflection as a central element for adult learning, its aim being to react to social and political circumstances that hinder the learning of adults. Educators help students to become aware of the broader socio-cultural dynamics, shaping their thinking, and encourage them to reflect on the aspects that shape their lives. Reflection is a process that can be learned. But reflection and maturing learning takes time. Collins, Brown and Newman (1989:481-482) developed a *cognitive apprenticeship model* of modes of teaching. They argue that the *reflecting* model occurs where students debrief and critique their own performance by comparing their approaches to problem solving and critical analysis with those of other students or those of the teacher. It is very different from the *modeling* method where the lecturer puts his or her mind on display, walking through all the aspects of problem solving, critical analysis, or creative development without involving students themselves. Knowledge without reflection is limited, and it is restricted to a certain context and cannot be used metaphorically. Motivation is also improved when questioning and reflection are encouraged.

My argument is therefore that reflection is one of the main aspects that design education should focus on. But what is meant by reflection? The Encarta World English Dictionary describes reflection as: careful thought, especially the process of reconsidering previous actions, events, or decisions. Dewey (1938) indicates that reflection may be seen as an active and deliberative cognitive process, relating a series of interconnected ideas to previous knowledge. He also argues that reflective thinking should allow for doubt and perplexity before possible solutions are reached. It also links with the critical cultural perspective which will be discussed further in relation to critical thinking.

The forming of the OBE philosophy, on the other hand, has been mainly the work of William Spady. According to Cretchley & Castle (2001) OBE was influenced by the behaviourist tradition in psychology, which focuses on external, observable behaviour. In South Africa, OBE is not limited to behaviourist concepts, but includes knowledge, skills, attitudes and values which underlie performance. In OBE the quality of learning is measured by the outcome (success of learning) versus the input of the facilitator. According to Cretchley & Castle (2001), OBE has been challenged on several points, which focus on difficulties in defining competence, ignoring the role of classroom inputs, oversimplifying grading categories and the uncertain status of generic competencies. Two types of outcomes are emphasized in OBE; *specific outcomes*, which are subject or content related, and *generic* outcomes, which refer to broad outcomes and are relevant for all programmes. *Generic* outcomes refer to Critical Cross-Field Outcomes and include working effectively with others, and collecting, analysing, organising and critically evaluating information. To establish the overall outcome of a course and subject is vital. But there are certain occasions where a specific outcome will not be conducive for creativity. Social constructivists have found that unpredictability of multiple competing voices in a class situation is what makes discussions an effective teaching tool (Bearison, Magzamen, & Filardo, 1986).

Knowles (1975:18) developed an *andragogical* model where he accepted OBE as one of many approaches suitable to adult education. His focus is not on outcomes but on the relationship between student, lecturer and learning materials. OBE incorporates aspects of other theories and previous educational systems. The test for success of the combined principles of OBE in South Africa is to look at the results in future. Malan (2000:28) predicts that with "the socioconstructivist base that makes allowance for stakeholder input, OBE may become a living educational model, adapting to new demands and needs".

The OBE system has also been introduced in countries like the United States, Canada and New Zealand. The South African version of OBE (the underlying philosophy behind South Africa's *Curriculum 2005*), points to a variety of practices like contextualised learning, student-centred, collaborative and interactive learning, critical thinking skills and problem-solving, self-empowerment, integrated skills, reflexive competence and the processes of learning. My aim is to point out the most important aspects relevant for design education. In the next few paragraphs I will specifically look at contextualised learning, student-centred learning and interactive learning. Critical thinking, integration and the dual aim of learning will be discussed under the critical-cultural perspective. Collaborative learning will be looked at from the situative and enactivist perspectives.

In contextualised learning it is important to relate the learning to previous experience, like life experience, fears or prejudices. Experience has an influence on generating meaning and we cannot divorce our learning from our lives. It is not possible to assimilate new knowledge without having some structure developed from previous knowledge to build on. To use the example, a topic of a project could be to investigate a power relation issue in the student's immediate surroundings that he/she can relate to, but then compare it to global concerns.

Student-centred learning in design education could be interpreted as an individual approach to learning. The Gerrit Rietveld Academy is using the self-directed learning approach, where students direct their own learning to a large extent. Students from second year level are given more scope to identify their own problems and choose the suitable medium for the message. Students are also given several topics to solve at the same time over a longer period, and they then have to manage their own progress. This leaves more space for creativity because the one idea influences and enhances the other. The Gerrit Rietveld Academy has abolished the traditional grades system, which originated in the constructivists theory. Knowles (1975) argues that the act of a teacher giving a grade is incongruous with the adult's self-directedness. The individual approach is possibly more suitable for

higher than primary and secondary education, because adults are capable of taking charge of their own learning, and drawing on the resources of their prior experience.

The next important aspect is interactive learning, where the student is actively involved in the learning process. Students and lecturers should engage in lively dialog, i.e. *Socratic learning*. The construction of ideas comes largely from discussion and debate. The topic and the flow of the class debate emerge from both teacher and student. Exchange student programmes are valuable because students gain information from fellow students and not only from the lecturer. Information is widely available on the Internet and lecturers are not the only source of information. By discussing examples students learn how to distinguish between more and less valuable information. The lecturer gives elements of structure to *scaffold* the co-construction of knowledge. The term *scaffolding* is used by Bruner (1975) to describe the support given in order to construct and extend skills to higher levels of competence. Both student and lecturer should be involved in the assessment process.

Critical cultural perspective
In the previous section we looked at the emphasis on reflection in constructivist perspective. The focus in the critical cultural perspective is on critical thinking. Reflection is the crucial basis of critical thinking. A combination of reflection and critical thinking is crucial for design education.

The critical cultural perspective, according to Saddington (1998) falls into the category of radical educational practices. It focuses on societal and individual liberation, through questioning of cultural assumptions and aiming for transformation. It addresses power relations and assumes a critical reflection of the political and social powers at play in society. Foucault (1998) says that people are regulated by socio cultural processes that make them knowable and thus controllable and warns that people start to regulate their behaviour to conform with pre-established ideas. This regulated behaviour then becomes the norm. In a class situation, the lecturer is already in a power position and that in itself could cause complications. This viewpoint will also force the lecturer to open him/her self to criticism. Foley (1999) describes four stages of learning that translates into action: an awareness of the problem, collective discourse in community, seeing connections between aspects, and then taking action. According to Keedy (1998:90) graphic design is "both a problem solving profession of information architecture as well as a socially responsible art form". A broader scope is needed and designers should seek other alternatives and communicate their views through visual communication. Exposure to discourses of critical theory is therefore necessary for a designer to react to perceived and hidden needs in society.

Learning in a design programme has a dual purpose, where the student *learn how to learn* as well as how to manage the content of the subject. Coles & Robinson (1991) express the idea that "thinking in a subject is not the same as thinking about a subject". Thomson (2005) highlights the importance of not only *learn how to learn* but *think how to think*. Thinking does not necessarily equal critical thinking. Critical reflective thinking, is essential to both teachers and students. It engages moral and ethical principles (Gore & Zeichner, 1991), and analyse action within wider socio-historical and politico-cultural environments (Smith & Lovat, 1991). Critical thinking is judging in a reflective way what to do or what to believe. According to Facione (2006) is critical thinking a liberating force in education and a powerful resource in one's personal and civic life. McPeck (1981:7) calls critical thinking reflective skepticism. Paul (1985:2,3) suggests that students could be taught informal logic, and to locate arguments in a broader cultural context, to recognize their own personal prejudices and the prejudices of the society, and to evaluate arguments in a broader context. The program "Reason!Able" (Van Gelder & Bulka, 2000) assists students in formulating arguments and using argument mapping for constructing opinions. Critical thinking could be analysed in further detail, but it is not within the scope of this article to do so. Apart from design discourse and critical theory studies (like postmodernism, post-colonial theory, feminism), the possibility of introducing critical thinking as a learning module in design education could be beneficial.

Dewey calls the activities that involve the mind and the hands, reflective activities. Kolb (1984) refers to knowledge creation by integrating thinking and doing. Schön (1987) refers to it as knowing in action and the development of a reflective practitioner. Gitterman (1988:33) makes a distinction between students "knowing that" and "knowing how" and also emphasises encouraging students to find the fleeting connections between the abstract and the real worlds. In contrast with other fields, the design environment is threatened by over-emphasising practice relative to theory. The integration of theory

and practice is one of the problematic areas in design education. Design students would jump to practical solutions without thorough research and theoretical background. The integration of critical theory with practical subjects would enhance their understanding of contemporary society. For example, when students discuss Foucault and the subjectification by the State in theory, let them do a project on the theme of power relations and refer back to the lecture.

There is a movement towards integration of art fields. The value of a fine arts approach to design teaching is invaluable. It means that students are given the freedom to identify and explore issues in their society, and communicate their message in the same way that fine artists would do. It is just the medium that will differ. Designers do not have to wait for a client. This is also why the issue of authorship has become an important topic in the design world. These empowered positions of design students should allow them to have an own entrepreneurial voice.

Psychoanalytic perspective

Foucault (1998:67) identifies three important themes in his discussion of the Alcibiades of Plato: the relation between the care for itself and ones political life, the care for itself and the shortcomings of ones education, and thirdly the care for itself and self-knowledge. Where the psychoanalytic perspective focuses on the inner struggle, the critical cultural perspective focuses on the struggle that is embedded in society. The psychoanalytic perspective draws on the theories of Freud and Jung and opens up the area of the unconscious, which could cause repression or resistance inside the individual towards themselves, learning and the outside world. Lacan (1978) stresses that the person's identity is divided between the conscious and the unconscious. This tension could generate anxiety, which causes resistance to knowledge. Learning, according to Fenwick (2001:31), takes place while "working through" the psychic conflicts.

For learning to take place according to the psychoanalytic perspective, people have to be "deliberate experimenters in their own learning, and willingly engaging in traumas of the self" (Fenwick, 2001:33). The reference is to both lecturers and students. The psychoanalytic perspective could be of great value in a South African milieu. People's confidence in the past has been injured because of inadequacies in social status and race. Personal issues like guilt or low self-confidence might be an obstruction to learning. The psychoanalytic approach could open up and reconcile matters. The educator would not take the role of the psychologist, but would enable the educator to analyse situations. Becoming aware of obstructions in one's own teaching could become, according to Chappell, Rhodes, Solomon, Tennant & Yates (2003:3), a way to free oneself from "social situatedness".

Fenwick (2001) also refers to Ellsworth (1997) who suggests that how something is said is more important than what is said. The tone of one's voice could affect communication negatively. Tennant (2000:6) says, "A large component of the practitioner's skill consists of the ability to anticipate, recognize and compensate for a range of variables operating in a given context. Chappell et al. (2003:2) refer to another dualism of the individual and society, where the social processes "interpenetrate the psyche" and the "outside gets inside". Exploring one's own identity could be a useful tool for understanding oneself in our context of teaching and learning. For Tennant (2000:9) it is not for the "purpose of discovering who one is, but for creating who one might become in a strategic, tactical and political sense: a kind of entrepreneur of the self". Identity is the mechanism used to look at the world and to influence the way you act and react. Educators themselves would be able to reflect on issues. In the South African context this type of self-reflection might be invaluable.

Foucault (1998) refers to public confessions and looks at the Stoic's interest in self-discovery. The Stoics had to listen to the teacher for five years without asking questions or say anything. That forced a lot of inner conversations, which is probably good for self-reflection. Today we share ideas all the time with maybe too few quiet moments spent in conversation with ourselves.

The psychoanalytic perspective links with the Phenomenography tradition of Boud and Schön, where the student's way of observing, thinking and acting is analysed. The studies done by Marton (1999) focus on what it means that some people are better at learning than others. It evolves further into describing different ways in which people experience, understand, conceptualize and make sense of various kinds of phenomena in the world around them. Phenomenography distinguishes between deep and surface learning, where analysis of new information, instead of simply recalling facts, is

crucial to critical thinking. Critics of the critical cultural theory, like Saltman (1997), propose that too much emphasis on personal issues could divert the attention from the socio-political and the crucial power dynamics of material culture in which people need to learn to act effectively. This argument refers back to the importance of critical thinking in the critical cultural theory.

Situative and Enactivist perspective
The situative and enactivist perspective will be discussed briefly. I will look at the value and dangers of students learning collectively and the value of educational institutions working together with the industry.

The situative perspective claims that learning takes place while you are in the process of participation in a community or with objects like technology. The focus is on meaningful interaction. Fenwick (2001: 35) states that the value of 'meaningful' should be negotiated between the "individual's desires and the community's changing requirements. Computer technology has changed the design environment, where students have moved from an interactive creative studio environment to a less inspiring computer lab.

The enactivist perspective maintains that the person and its context cannot be separated, and the focus is on the binding of person and environment together in a complex system. People participate and influence each other to form a complex system, and learning takes place when aspects of the system interact or collide. Fenwick (2001:49) remarks that "individual knowledge co-emerges with collective knowledge". The educator helps to identify and record these shifts and creates awareness, but his/her role is also to make sense of these patterns in society and encourage students to act accordingly and collectively.

Wenger (1998) has put forward the idea of learning collectively and introduced the concept of "communities of practice". For a community of practice to function it needs to generate and appropriate a shared repertoire of ideas, commitments and memories. Wenger (1998) proposes that learning is not entirely an individual endeavor, but a "fundamentally social phenomenon". It is thus not a gathering of information by an individual alone, but more a participation in the social environment of learning. The advantage of working in groups is that knowledge is collectively shared, and there is a participation in generating of meaning. Brainstorming or mind mapping in groups are valuable for design environments. The danger is, though, that an individual could be overpowered by a few that dominate the discourses of the collective interaction. Individualism is not necessarily developed in collective interaction, and in a design field this could be problematic. The designer is expected to come up with original and fresh ideas. Working collectively in a design environment results in good ideas, but that means that some in the group take the lead and others learn to follow. By leaving the support of the creative group the individual that followed might find it difficult to function on his/her own.

A good example of collective interactive learning is the new programme called multimediations, which is taking place in Cape Town at the moment. It attempts to describe an alternative style of learning space which is physically articulated not by the classroom but by the expanse of the city itself, an ongoing process of improvisation, collaboration, and exchange that cultivates creative problem solving and adaptive receptivity to new encounters.

Experiential (work-based) learning is normally included in a design course in the form of a short internship. Working directly with the industry when doing normal projects (cooperative learning) has become a lot more common for designers in the Netherlands. The interaction between educational institutions and the industry could be of value but is still uncultivated in the university environment in South Africa. While the students gain real world experience, their creative inspirations could also inject the industry with new and fresh innovations. Another advantage of cooperative learning is that many practical skills can be learned in the work place and therefore allows more time for developing thinking skills at the institution.

Conclusion

Each perspective has been criticised for missing important parts. The constructivist perspective has been criticised for not taking into consideration the desires of the individual, which makes the unconscious unpredictable and prevents learning from taking place automatically. Mezirow (1996) criticises the psychoanalytic perspective by saying that, as rational beings, our personal obstructions can be overcome and therefore the focus on the psychic is not that necessary. The critical cultural perspective could be seen as presumptuous and speaking to a limited target group.

Every perspective in the Fenwick (2001) monograph points out an area of importance. I have aimed to highlight the most relevant aspects for design education. I would use constructivism as the foundation with the focus on an individual approach and self-reflection. The pressure on designers to produce original and creative work demands a process of self-reflection. The critical cultural perspective was selected because of its focus on critical theory. Designers need to recognise and react to social concerns and translate the topics into a visual language. Because of the emotional scars of the political past, it is necessary to also look at the psychoanalytic perspective. This could be reduced in future when society has normalised. The situative perspective has been chosen for its focus on participation in learning. The interaction between educational institutions and the industry could also be of considerable value. The enactivist perspective is useful because of the holistic framework where knowledge and context is interconnected.

For learning to take place one needs a combination of characteristics to function together simultaneously. The combinations and proportions of these parts therefore need to be carefully selected to fit the particular study field. Diverse fields require different focuses. The OBE system includes many important aspects of learning, but pinpointing the focus or stipulating the combinations of elements for design education is a complex process. The OBE system can be used as a basis for Design Education, but a further investigation is needed to extend and restructure the design education landscape in South Africa.

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Fenwick monogram - 2001

- Five perspectives: Constructivist

  Critical cultural

  Psychoanalytic

  Situative

  Enactivist

Learning theories could be viewed as a:

- theory of education

- systemic structure for education

- classroom practice

Constructivist perspective

- John Deweys

- Jean Piaget

- Lev Vygotsky

Reflection

- Development of the person's own consciousness through *inner speech*

- Main focus of constructivist learning on **reflection**

- Actual **triggers** for reflection

- Self-reflection as **central element** for **adult learning**

- **Integrating emotional experience** with reflection

Methods of Cognitive Apprenticeship

Modeling	The teacher puts his or her mind on display, walking through the internal steps and strategies in problem solving, critical analysis, or creative development of alternatives.
Coaching	The teacher observes students in the performance of a task or skill (usually in the context of problem solving) and asks questions or offers feedback on their performance.
Scaffolding	Students are assisted by the teacher, their peers, or both in completing a task that they are unable to perform alone.
Articulating	Students practice the skill of converting tacit knowledge to explicit knowledge by describing the internal reasoning involved in problem solving or critical thinking exercises.
Reflecting	Students debrief and critique their own performance by comparing their approaches to problem solving and critical analysis with those of other students or the teacher.
Exploring	Students are encouraged to tackle new knowledge domains and problems on their own; the teacher stimulates intellectual curiosity and facilitates the discovery process (e.g., guiding students in forming and testing hypotheses).

Source: Collins, Brown and Newman 1989

OBE

- **Outcome Based Education philosophy: William Spady**

- **OBE was influenced by: behaviourist tradition in psychology, which focuses on external, observable behaviour**

- **In South Africa, OBE is not limited to behaviourist concepts, but includes knowledge, skills, attitudes and values which underlie performance**

Beroepsorganisasie Nederlands ontwerpers (BNO) Critical outcomes, 2006

1.	Creërend vermogen	De student kan vanuit een eigen idee en visie een concept ontwikkelen voor een product en dat concept tot realisatie brengen
2.	Vermogen tot kritische reflectie	De student kan het eigen werk en dat van anderen beschouwen, analyseren, duiden en beoordelen
3.	Vermogen tot groei en vernieuwing	De student kan het vakmanschap, de persoonlijke invulling van de beroepssituatie en zijn of haar artisticiteit verder ontwikkelen en verdiepen. De student heeft een persoonlijke artistieke visie en toont de wil deze visie verder te ontwikkelen
4.	Organiserend vermogen	De student kan een inspirerende en functionele werksituatie voor zichzelf opzetten en in stand houden
5.	Communicatief vermogen	De student kan een opdracht verwerven en interpreteren, effectief het werk presenteren en toelichten en erover onderhandelen met opdrachtgevers en andere betrokkenen
6.	Omgevingsgerichtheid	De student is in staat om verbanden te leggen tussen het eigen werk en dat van anderen en tussen het eigen werk en het publiek
7.	Vermogen tot samenwerken	De student kan in een samenwerkingsverband een actieve bijdrage leveren aan de totstandkoming van een product of proces

Source: Beroepsorganisasie Nederlands ontwerpers (BNO), 2006. Ontwerpers van de toekomst: een tienpuntenplan voor het ontwerponderwijs in Nederland. 01.05.2006, Research: Erik Viskil en Rita van Hattum, Written by: Erik Viskil. www.bno.nl

OBE

- Student-centred learning
- Interactive learning

- Critical thinking
- Integration
- Dual aim of learning

- Collaborative learning

Critical cultural perspective

- Focus of critical cultural perspective is on critical thinking (compare to reflection in constructivism)

- Reflection is the basis of critical thinking

- A combination of reflection and critical thinking is crucial for design education

Orientations of educational practice

	Progressive	Humanist	Radical
Social problem taken most seriously	Social change	Personal meaningfulness	Oppression
Underlying theory of social development	Reform	Self-actualization	Social transformation
Best metaphor for educational practice	Problem solving	Personal growth	Empowerment
Key value	Democracy	Acceptance	Freedom
What counts as "knowledge"?	Judgment and the ability to act	Wholeness	Praxis (reflective thought and action)
The educator's task	Guiding	Support	Conscientization
How an educated person is described	Responsible	Integrated	Liberated
Role of the learner's life experience	A source of learning and inseparable from knowledge	The source of knowledge and the content of curriculum	Basic to understanding societal contexts and the source of knowledge
Types of experience mainly used	Structured	Personal focus	Self in society

Source: Saddington (1998)

Critical thinking

- Design discourse: Colour theory

  Gestalt principles

  Semiotics, etc.

- Critical theory: Postmodernism

  Post-colonialism

  Feminism, etc.

- Critical thinking module: Informal logic/reasoning

  Message construction

Poster project:

Psychoanalytic perspective

- Where the psychoanalytic perspective focuses on the **inner struggle**, the critical cultural perspective focuses on the struggle that is embedded in society

- Draws on the theories of Freud and Jung

- Opens up the area of the **unconscious**, which could cause repression or resistance inside the individual towards themselves, learning and the outside world

Situative and enactivist

- The **situative** perspective claims that learning takes place while you are in the process of participation in a community or with objects like technology

- Computers has radically changed the design environment. Students moved from an interactive creative studio environment to a less inspiring computer lab

- The **enactivist** perspective maintains that the person and its context cannot be separated, and the focus is on the binding of person and environment together in a complex system

Summary:

- Constructivist perspective
  Reflection

- Critical cultural perspective
  Design discourse, critical theory, informal logic
  Individual approach
  Culture of contemplation, speculation and debate

- Psychoanalytic perspective
  Critical reflection of the self

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Conclusion

- For learning to take place one needs a combination of characteristics to function together simultaneously

- The combinations and proportions of these parts therefore need to be **carefully selected to fit the particular study field**

- Diverse fields require different focuses

- The OBE system includes important aspects of learning - but **pinpointing the focus** or stipulating the combinations of elements for design education is important

- The OBE system can be used as a basis for Design Education, but a **further investigation** is needed to strengthen the design education landscape in South Africa

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