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Practice and Impact of the Instruments in the French High School “Applied Arts” Curriculum

Marjolaine Chatoney, Éric Tortochot, Sophie Farsy, Patrice Laisney

Make it Now!

University of Turku, Rauma Unit, Finland,
2016, September, the 30th

The French curriculum

“D&T Design and Applied Arts” (STD2A)

- The syllabus refers to professional design activities to stimulate teaching learning situations, which both consider artistic and technological knowledge and general educational purposes.
- From "School rational orientation" to "cognitive orientation" (Jackson, 1992) :
 - Multidisciplinary approach
 - New development of ‘teaching schedule’ the pedagogical teams organize themselves.

Research questions

- What kind of instruments do teachers use to structure the teaching framework?
- Meanwhile, how and why the students use these instruments?
- Could we highlight a link between the curriculum goals and the skills the students really implement in their learning?

Design task and design activity

- Design activity is not single and permanent coding of actions and operations (Dorst and Cross, 2001; Lebahar, 2001, 2007)
- Two notional design space: problem space and solution space (Dorst, 2006).
- Design task rather than design problem (Lebahar, 2007)
- The design learning process: a structured thinking in design (Tortochot, 2012)

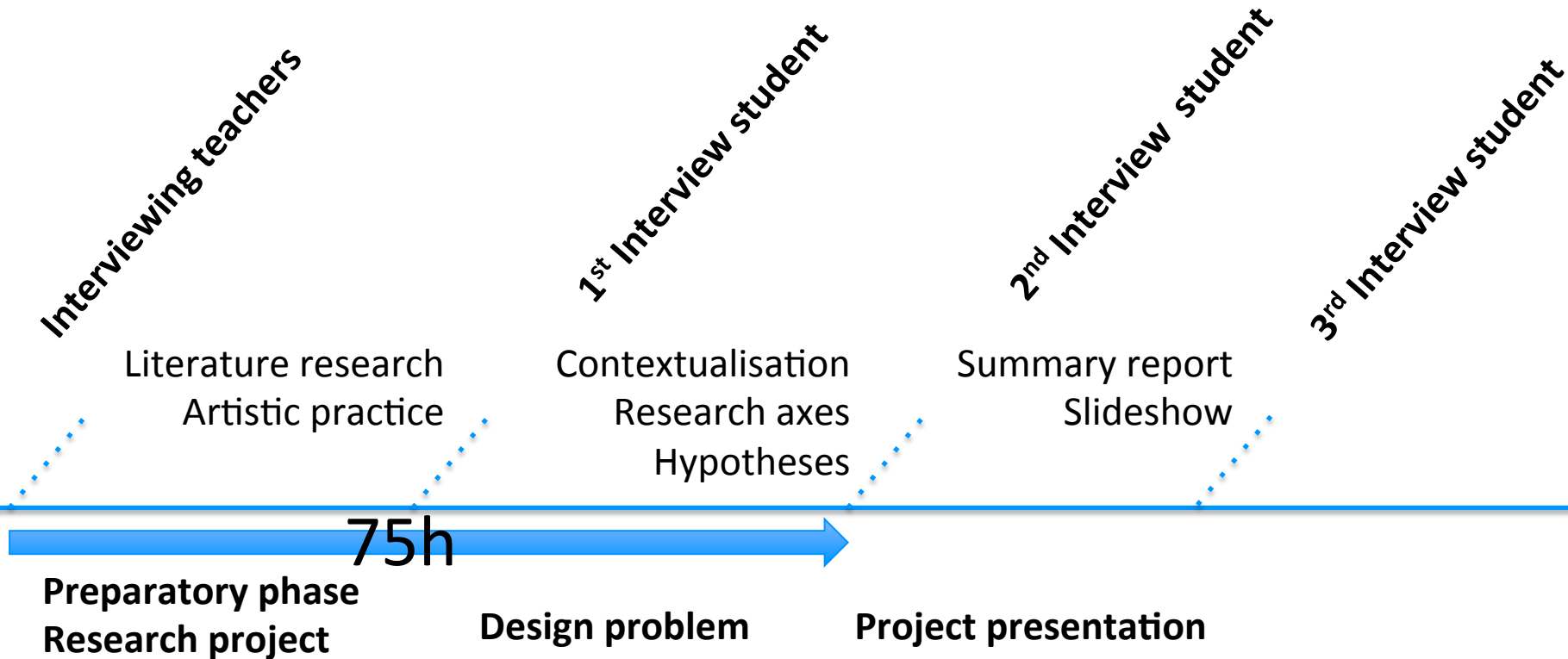
The instrumented activity of the designer

- Design activity: a dialogue between the designer and his representations, tools, instruments (Lebahar, 2007; Tortochot, 2012)
- Mediating artefact (Engeström, 2008)
- ‘Operative images’ (Ochanine, 2016)
- Handmade sketches (Goldschmidt, 1991; Schön and Wiggins, 1992; Goldschmidt, 1994; Gero and McNeill, 1998; Kavakli, et al., 1999; Suwa, et al, 2000)
- **The design learner produces the conditions and the means of his future activity**

Analysis of design activity: observing a design-learning context

- WHAT → The teachers' planned organization, students' productions and their feedback
- HOW → Semi-structured questionnaires at different moments
- WHERE → 3 high schools: 2 teachers + 3 students
(17 years old)
- WHEN → Summative test in senior year:
“Multidisciplinary Project in design and applied arts”

“Multidisciplinary Project in design and applied arts”



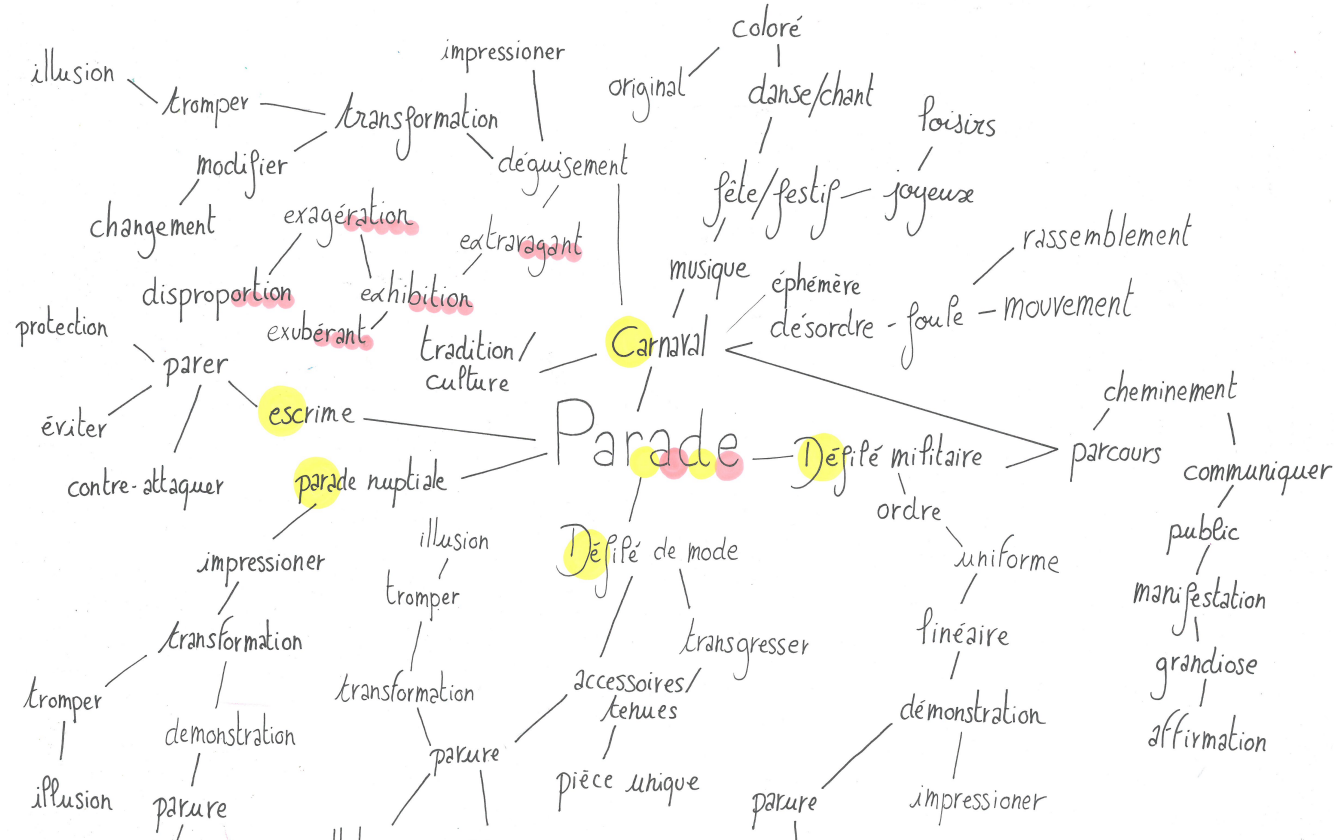
Topic	Space problem	Design problem
Parade	How to denounce a situation through a temporary action?	Communication campaign during the Education Week against Racism and Anti-Semitism, France.
Around the time	How to explain in a playful way to a broad audience scientific data about the relativity to stimulate imagination?	An “object-book” for a science congress.
The experience of the fragility	How to soothe the nervousness in stressful waiting situations?	Interactive animations in waiting areas.

Space problem	Design problem
How to denounce a situation through a temporary action?	Communication campaign during the Education Week against Racism and Anti-Semitism, France
How can the extravagance disrupt our points of reference?	Microarchitecture, resting place for hikers. Park entrance creeks of Luminy, Marseille.
How can the deformation and the exaggeration reveal the assets of an entity?	Clothes for Marlou Van Rhijn during the Paralympic Olympics opening ceremony, Rio, 2016

Outcomes

1- the mind map

From a tool to an instrument



“it served me so much because for my ‘large sourcing’ I tapped into the mind map all words, the yellow words are squarely my ‘large sourcing’. And even the pink words I wrote after that is my direction so it **very useful to me.**”

AFFIRMATION

Ces objets de volume ont un angle géométrique. Les volumes se font à l'opposé l'un de l'autre. L'axe de l'équilibre, à la réalité, les volumes se font à l'opposé l'un de l'autre.



Environnement de volume autour des postures.

Dégagez votre axe face aux autres et la lumière en fait.



CONTRASTER

DISSIMULATION



Les volumes sont regardés sur le corps entier, avec une couleur unique, crée un paradoxe.



AFFIRMATION

Le orange est la couleur qui attire le plus l'œil. Le rouge est la couleur qui attire le plus l'œil. Le bleu est la couleur qui attire le plus l'œil.



Les parties de l'habille sont enroulées par un type de ruban qui se déroule à mesure que le corps se déplace.



La création de mouvement de volume, par des rubans de tissu, crée un effet de volume.



Les parties de l'habille sont enroulées par un type de ruban qui se déroule à mesure que le corps se déplace.

AFFIRMATION

→ action de rendre plus fort, plus ferme plus stable, mettre en avant.

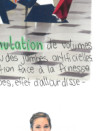


AFFIRMATION ≠ DÉPARTITION

Idée de dissimulation du corps pour un effet de volume.



Une dissimulation soignée, permet la géométrie du corps à se développer.



Un volume à développer.

Développer un effet, même, que ce soit le nécessaire.

AFFIRMATION

l'élégance



Volutes, respecter les lignes, faire travailler la forme, travailler la posture, pour un volume à l'opposé.

Idée de transparence dans les volumes, pour créer la profondeur de volume à l'opposé.



Appliquer sur le volume.



FLUIDITÉ

HYBRIDATION

→ chatoiement naturel ou artificiel de deux individus d'espèces, de races ou de variétés différentes.



Hybrider avec des animaux, hybrider avec d'autres animaux.



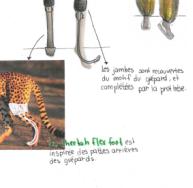
Hybrider avec des technologies, robotiser.



Hybrider avec d'autres animaux.

HYBRIDATION

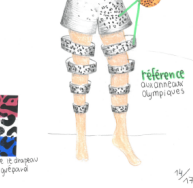
avec l'animal



Les jambes sont enroulées par un type de ruban qui se déroule à mesure que le corps se déplace.



Hybrider avec d'autres animaux.



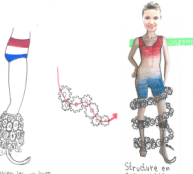
Hybrider avec d'autres animaux.

HYBRIDATION

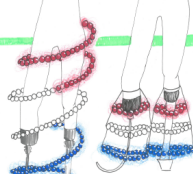
avec les technologies



Assemblage de volumes, mutation.



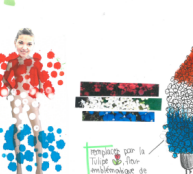
Structure enroulée, exagération de volume.



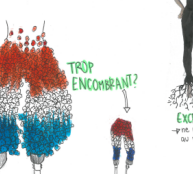
Exagération de volume, fils électriques.

HYBRIDATION

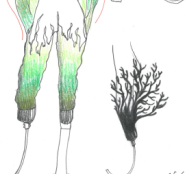
avec la nature



Exagération de volume, fils électriques.



Exagération de volume, fils électriques.



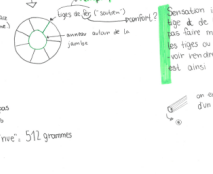
Exagération de volume, fils électriques.

STRUCTURES

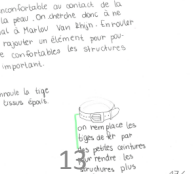
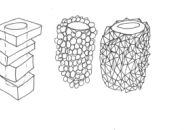
Construire, comment on construit les structures?



Structure légère pour ne pas aller dans le mouvement.



Structure légère pour ne pas aller dans le mouvement.



Structure légère pour ne pas aller dans le mouvement.

2- A problem anchored in reality



équipée de "Cheeta"

. Surnommée "Babe Blade", qui signifie "la jolie fille aux lames".
 → Participe aux Jeux Paralympiques 2016



Son prix : entre 15.000 \$ et 18.000 \$

- ① : emboîture
- ② : manchon intermédiaire
- ③ : pied prothétique

Lame en fibre de carbone
 crampons

AERODYNAMISME

La légèreté de la prothèse et son ergonomie permettent aux athlètes d'être à l'aise dans leurs mouvements, comme s'il s'agissait d'une vraie jambe.

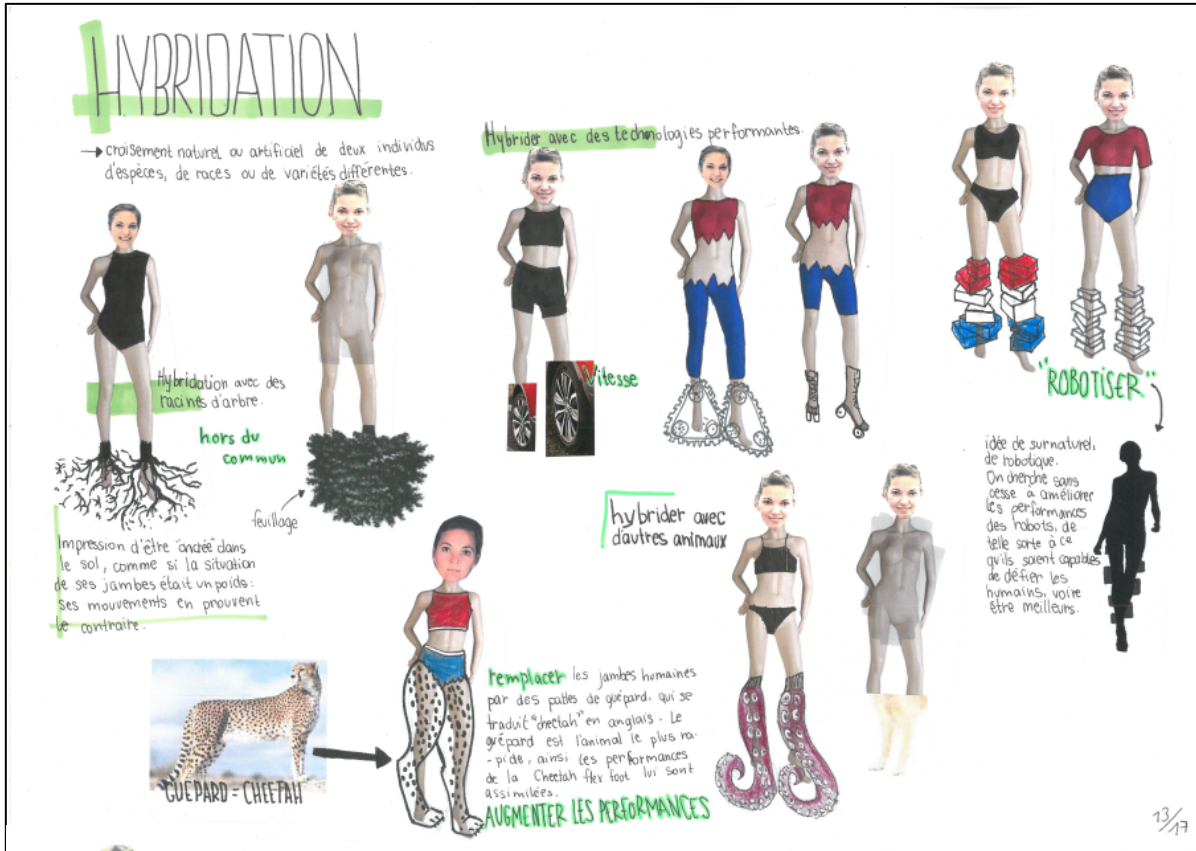


"I searched a context which could **put in dialogue** deformation and an asset."

"**My goal was to stand out from other projects** because it's not trivial to **work on disability and the Paralympic games** because in my research I saw that it was not publicized and **I really wanted to talk about that.**"

"I really wanted to **showcase** their physical features."
 "I **looked for** an outfit that **highlight** her prosthesis without **cluttering** her movements"

3- A design-learning process (1)



“Sometimes I did not know at all about what I was going to do but I was researching, I made sketches of intention and they gave me ideas for proposals / I used the felt-tip pen a lot but it didn't show what I wanted to / but it is a tool with which I am at ease / but now I'm more at ease with others because I learned to use other tools with this project.”

3- A design-learning process (2)

“I found interesting by the hybridization with the animal because first there’s a **relationship with the cheetah** / and I could **open out the idea** for example here **with the Olympic rings** / I **played** with the rings and I opened out this idea with **several patterns, many colors, many forms** / and that’s what I found interesting is **to start from** the Olympic rings that are quite **ordinary to get** a more **thorough and completely different result.**”



4- The dialogue with the teachers : an instrument to guide/to stop action

“Every beginning of the session we told them about our project / they told us each time that **we could develop, what we have forgotten** / they helped us well / **they even gave us solutions** if we were really lost.”

“Every week we had to see her again, it was a **mandatory interview** with Madame / But it allowed me **each time** to refocus the problem / she doesn't stop me but for the hypotheses a little ... **she told me it didn't work**, for other **she told me it worked**.”

“It was **they** who **come to see us** / **they made sure** to see everyone / they helped me **to improve my propositions, to do more in fact**.”

“They asked me **to play on a principle**, for example, **to reduce it**.”

“It has helped me **to open out my propositions**.”

Discussion

- A discipline stretched between two historical affiliations: artistic education (Gaillot, 1987) and technology (Ginestié, 2010).
- The multidisciplinary project : a practical implementation of the devolution (Brousseau, 1998; Chatoney 2013).
- Design learning process in vocational training (Lebahar 2003; Tortochot, 2012; Moineau, 2011; Farsy, 2013).
- The use of traditional drawing tools / CAD tools (Laisney, 2012).

Thanks for your attention

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2016, September, the 30th