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Integration of methodologies through an academic toolkit for the design of products services systems for sustainability: -SPSS- in Colombian contexts

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DSOC


— TOOLKIT —
DESIGN FOR
SUSTAINABILITY
COLOMBIA



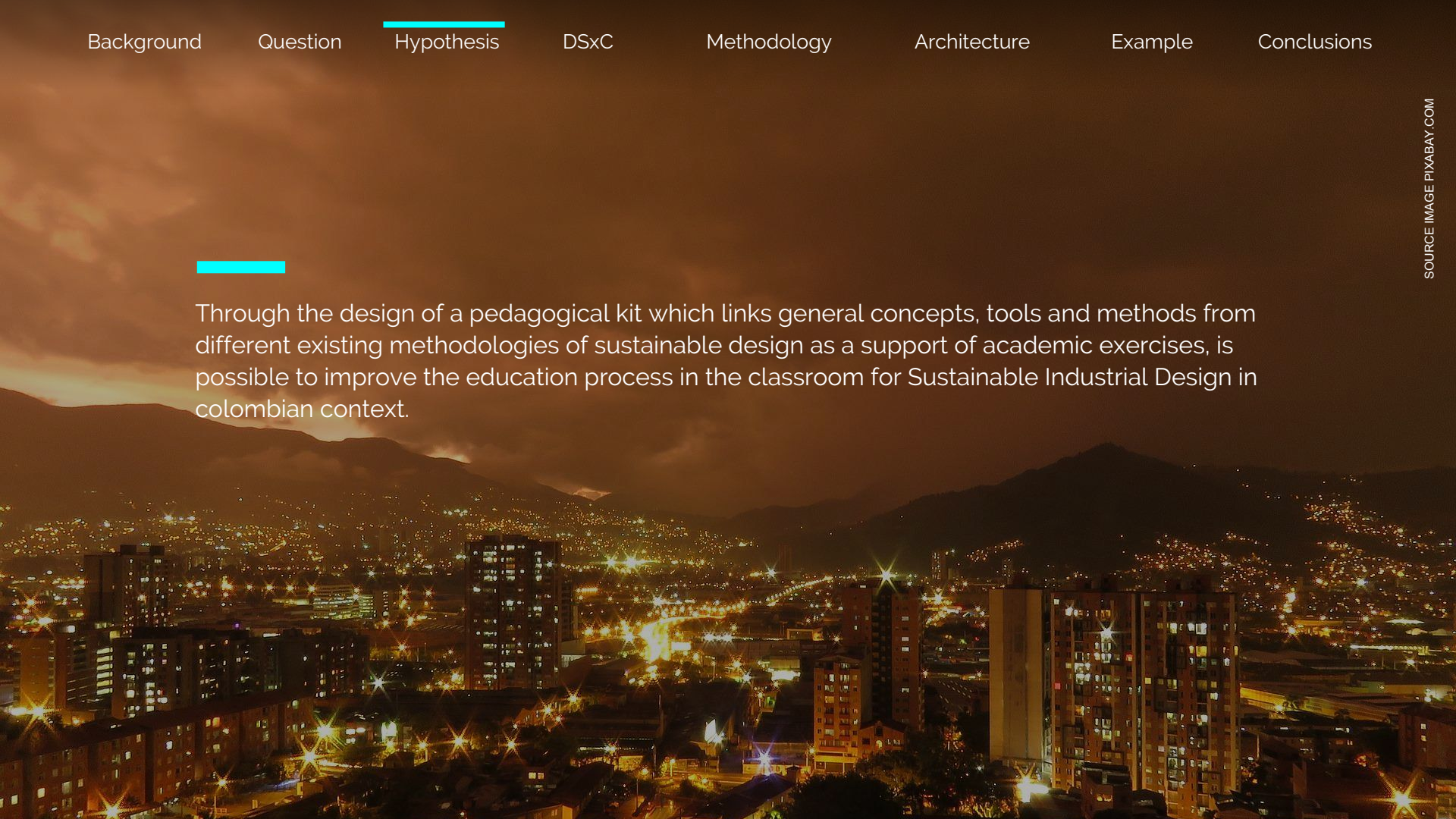
Red de Aprendizaje
en Sostenibilidad



DESIGN FOR SUSTAINABILITY IN COLOMBIA



What pedagogical tool could be implemented to support academic processes to teach design for sustainability?



Through the design of a pedagogical kit which links general concepts, tools and methods from different existing methodologies of sustainable design as a support of academic exercises, is possible to improve the education process in the classroom for Sustainable Industrial Design in colombian context.

2 DSxS

A TOOLBOX

1 Process
4 Phases
12 Goals

SOURCE: IMAGE PIXABAY.COM

Theory

ECO LITERACY FOR DESIGNERS

COLOMBIA CURRENT AND FUTURES SCENARIOS FOR SD

Practice

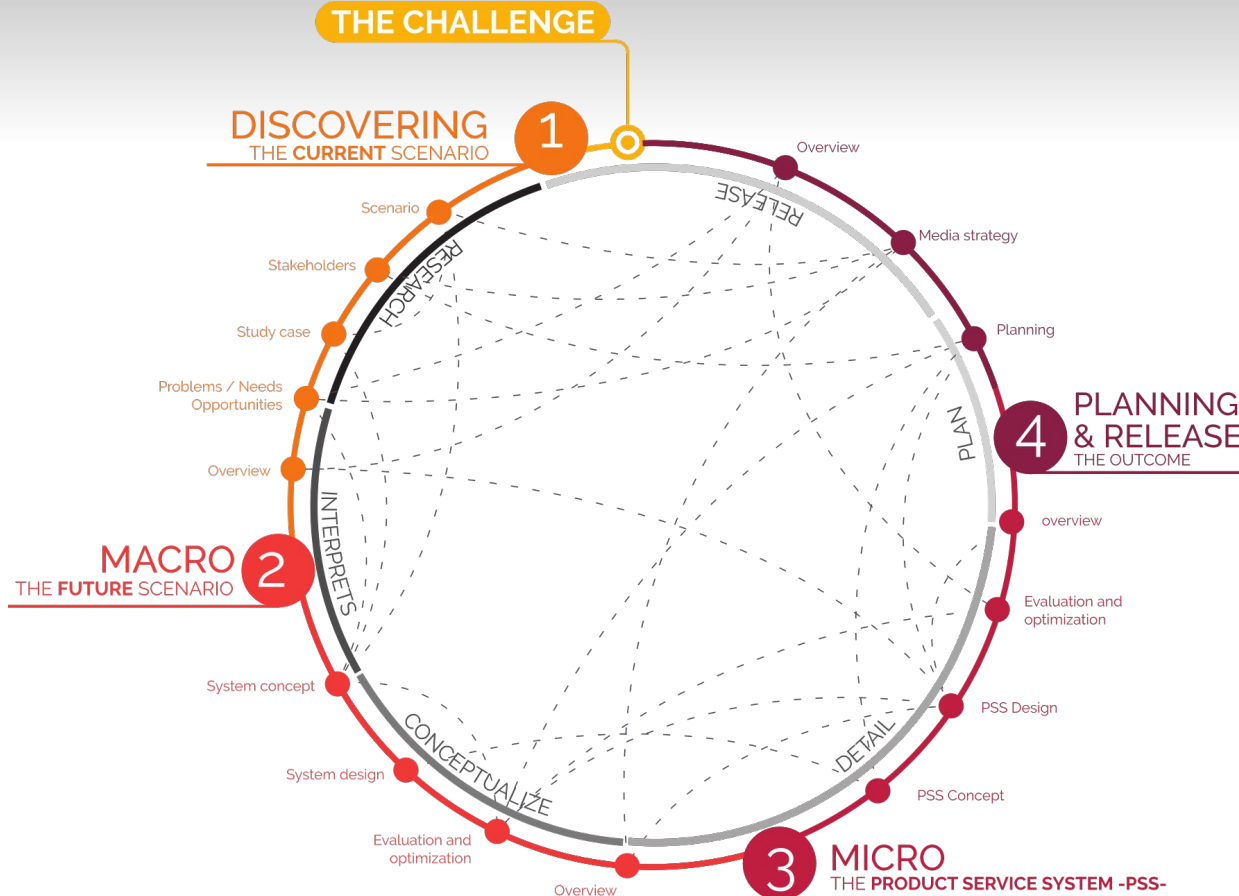
THE CHALLENGE

DISCOVER AND GUIDE THE CURRENT SCENARIO

MACRO THE FUTURE SCENARIO

MICRO THE PRODUCT-SERVICE SYSTEM PSS

PLANNING AND DELIVERY OF RESULTS

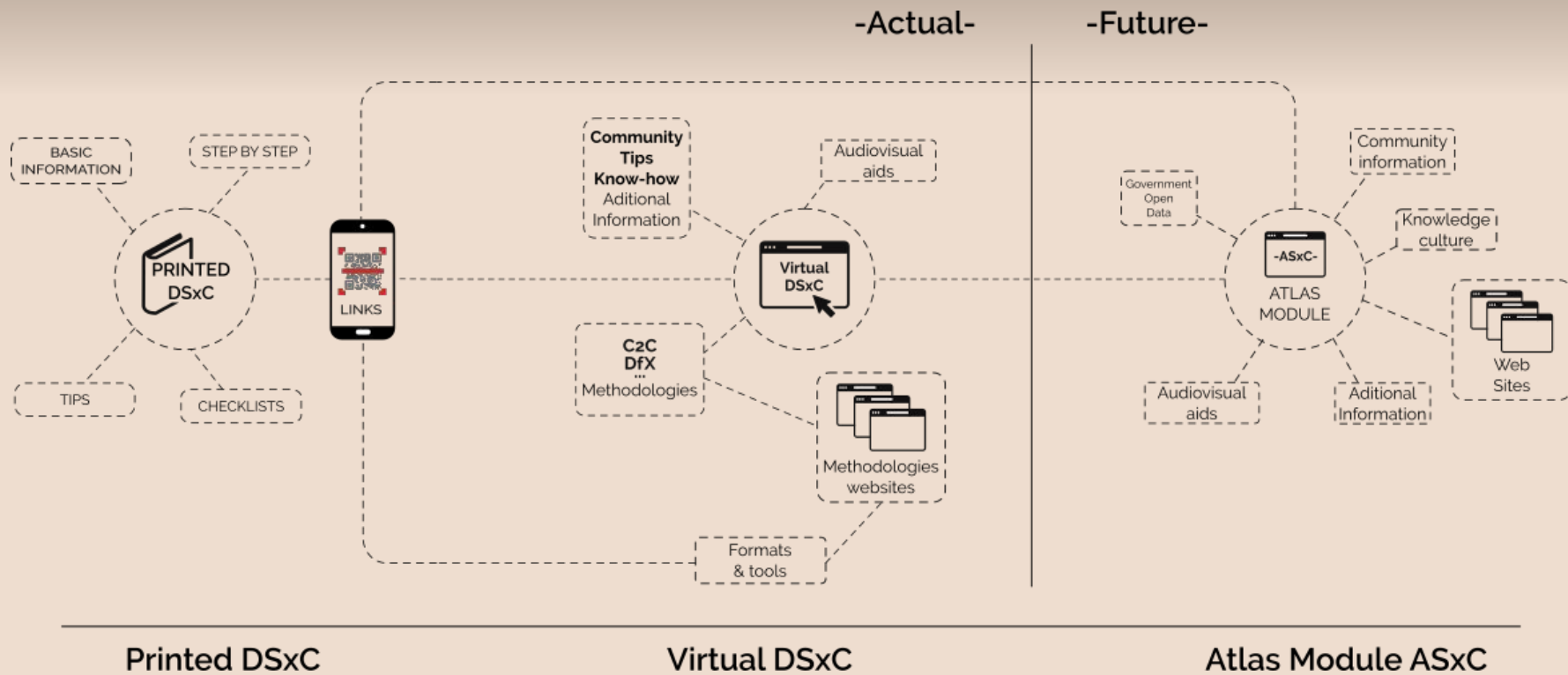


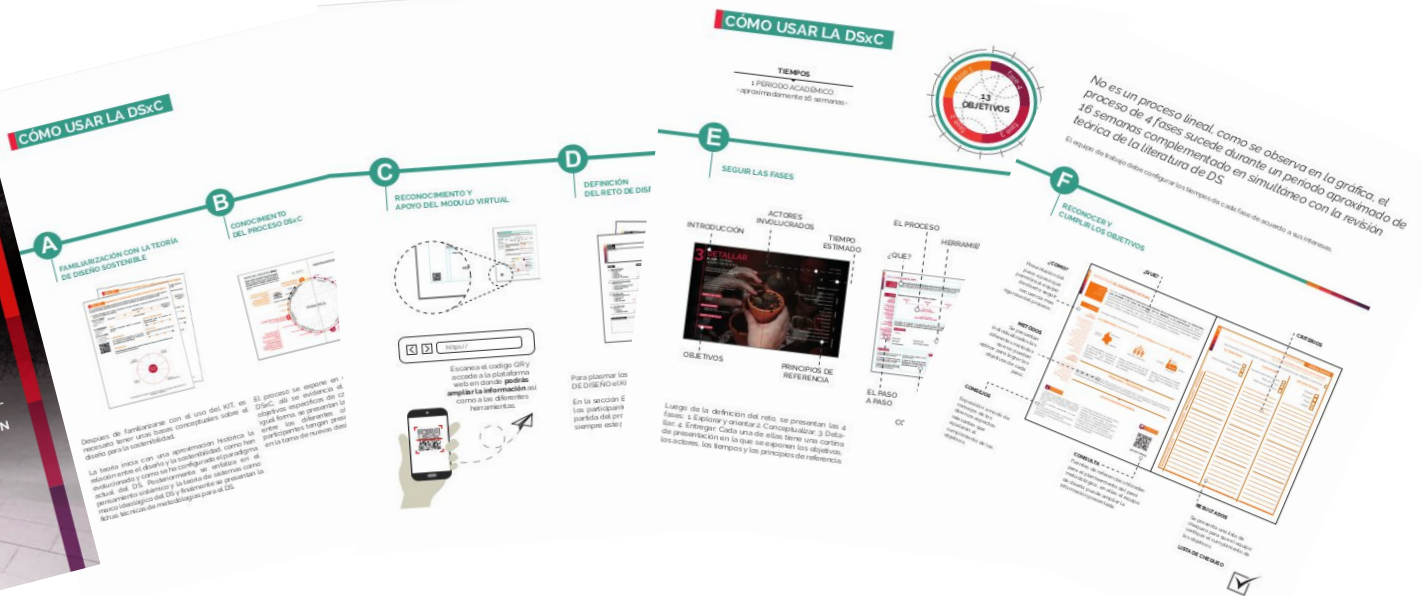
The context is analyzed and characterized to establish the scope of the project.

An ideal future scenario is proposed according to the opportunities discovered.

Concrete and prioritize solutions where integrate the scenario, actors and opportunities in the Product Service System.

It is planned to implement the Product Service System and knowing the impact generated.





-DSxC Printed version-



-DSxC Virtual version-

DSx VIRTUAL | PROCESO | RECURSOS | DOCENTES

El reto

El reto propuesto por el docente, debe basarse en un caso de estudio real, en el cual exista disposición por parte de los actores directos para la participación en el proceso.

Este se compone en fases:

1. DESCUBRIR
2. MACRO
3. MICRO
4. PLANEACIÓN Y ENTREGA

DSx VIRTUAL | PROCESO | RECURSOS | DOCENTES

Metodología

Definición: Método de innovación que busca crear estrategias para el desarrollo sistema de productos y servicios que satisfagan demandas específicas.

Objetivo: Generar estrategias para el diseño de productos mediante una visión sistémica, en el que los SPS satisfagan necesidades específicas.

Metodología

Análisis del proyecto
Contexto
Caso de estudio
Definición de objetivos
Exploración de oportunidades
Generar ideas
Evaluación
Estrategia
Diseñando el concepto del sistema

Comunicación
Definir documentación
Comunicación
Evaluación
Implementación en el ecosistema
Seguimiento

Fuente: Basado en Product-Service System Design

Herramientas

1 - ECO Brief
2 - Matrix BCG
3 - DOPA-SMOT
4 - Personas
5 - Sorteo de Cartas
6 - Cultural probes
7 - Sample Council Resolution
8 - Example of a Sustainability Declaration
9 - Inspiration analog
10 - Identify key community systems
11 - Description of success
12 - Current reality
13 - Action Implementation Table
14 - Planning processes
15 - Best practices governance
16 - OpenTech
17 - SimARCO
18 - CASI
19 - LIMBERTO
20 - Plan de proyecto
21 - Crear un equipo
22 - Definir la audiencia
23 - Investigaciones secundarias
24 - Inspiración analog
25 - Entrevistas con expertos
26 - Prototipos en vivo
27 - Encuesta de percepción
28 - Estrategia de financiación
29 - Mapa de especificaciones
30 - Formas de crecer
31 - Road map
32 - Definir el reto
33 - Photo
34 - Controlar asociaciones
35 - Seguir incluyendo comentarios
36 - Definir la audiencia
37 - Investigaciones secundarias
38 - Inspiración analog
39 - Entrevistas con expertos
40 - Prototipos en vivo
41 - Encuesta de percepción
42 - Estrategia de financiación
43 - Mapa de especificaciones
44 - Formas de crecer
45 - Road map
46 - Definir el reto
47 - Photo
48 - Controlar asociaciones
49 - Seguir incluyendo comentarios

DSx VIRTUAL | PROCESO | RECURSOS | DOCENTES

4_11 Planeación

La visión planteada en el proyecto, lleva a aclarar la información requerida para la aplicación en el escenario propuesto el cual busca fortalecer el desarrollo económico de la región o territorio.

12. ESTRATEGIA DE MEDIOS

-DSxC Practical example -

FOOD + DESIGN 2030

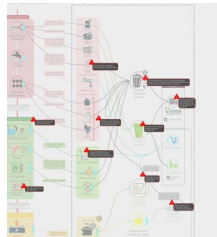
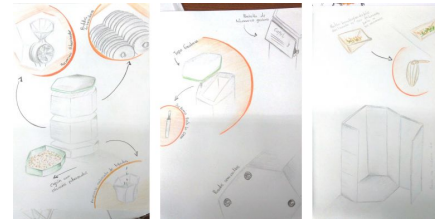
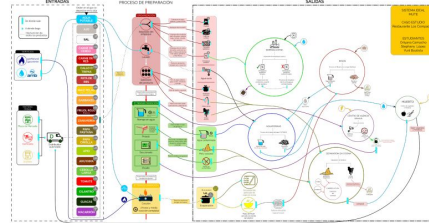
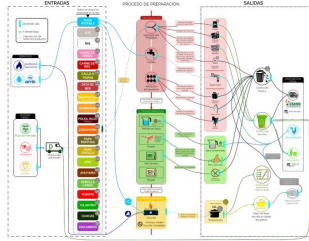
DISCOVERING

MACRO

MICRO

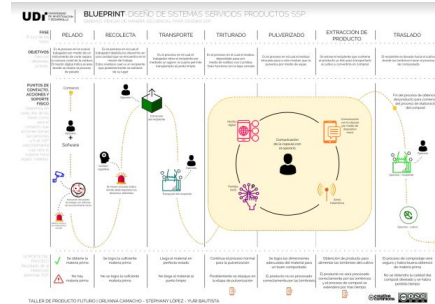
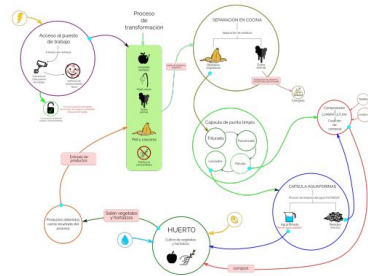
PLANNING & RELEASE

SISTEMA ACTUAL

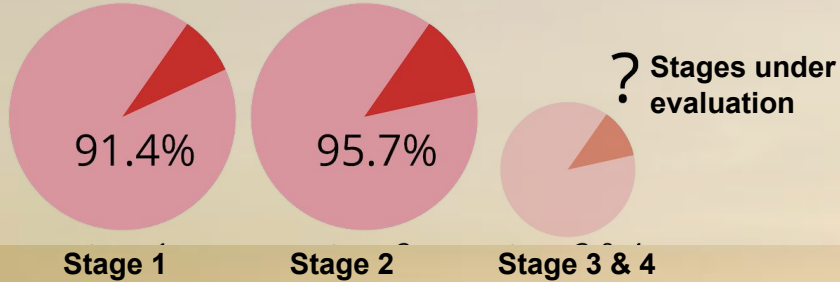


PROBLEMÁTICAS

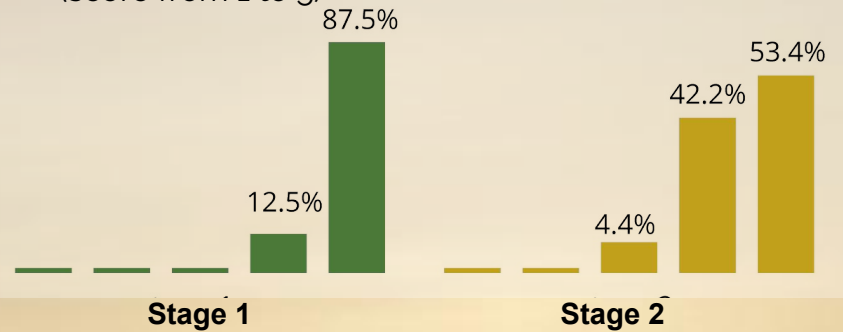
1. Manipulación y separación de los desechos
2. Contaminación de las aguas
3. Organización y tiempos en la cocina
4. Mal manejo de las aguanasmas
5. Recolección y desecho de diversos empaques plásticos



Percentage of students who believe the DSxC toolkit helps them to understand more the local context



Final usefulness valuation of the stages 1 & 2 (score from 1 to 5)



The tools should be further integrated between stages, some students feel that the tools of each stage are well integrated but not when switching from one to another, for example moving from stage 2 to stage 3.

It is necessary to identify which tools work best for service design and product design separately. There are difficulties in handling these specific topics. This is under study within [LeNS Colombia Network](#), its being analyzed possibility of create a project to categorized the tools according to the type of design to develop.

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