Un currículo adaptativo para el desarrollo del pensamiento matemático

Carlos Díez

Problemática de contexto

La adaptación de la educación (S.XX y XXI)

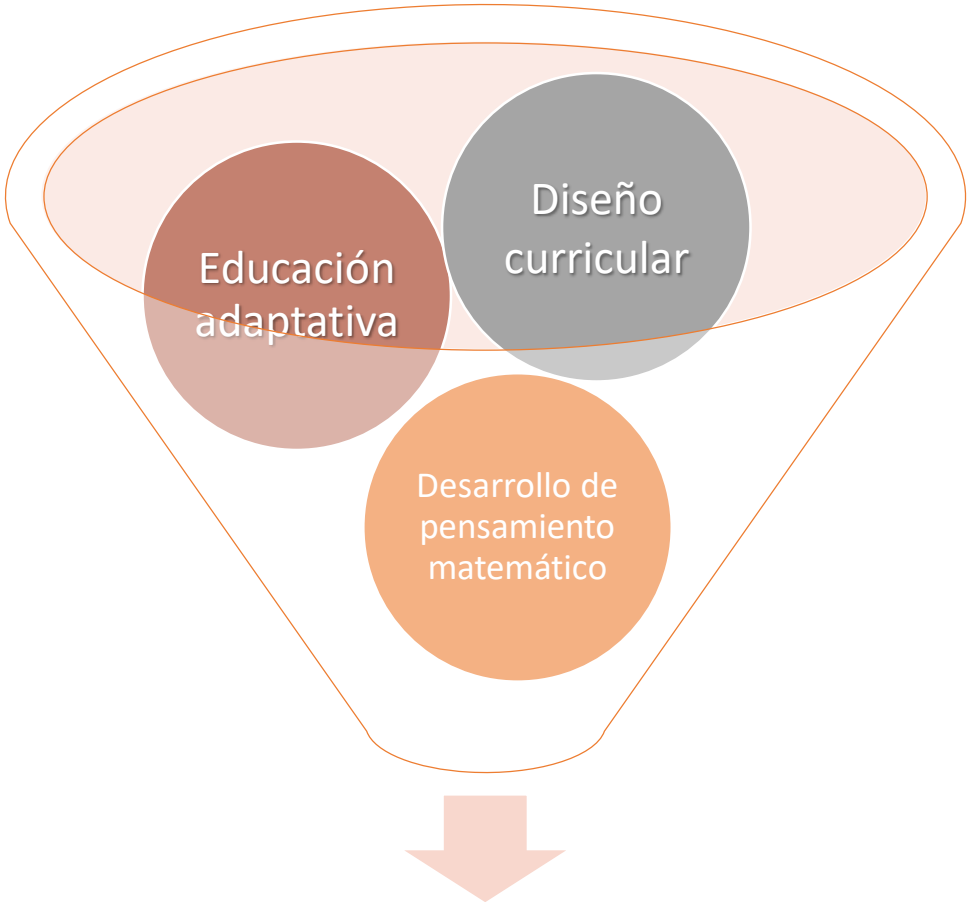
La personalización de la educación (S.XX)

La masificación de la educación (S.XVIII)

Problemas existentes en educación adaptativa

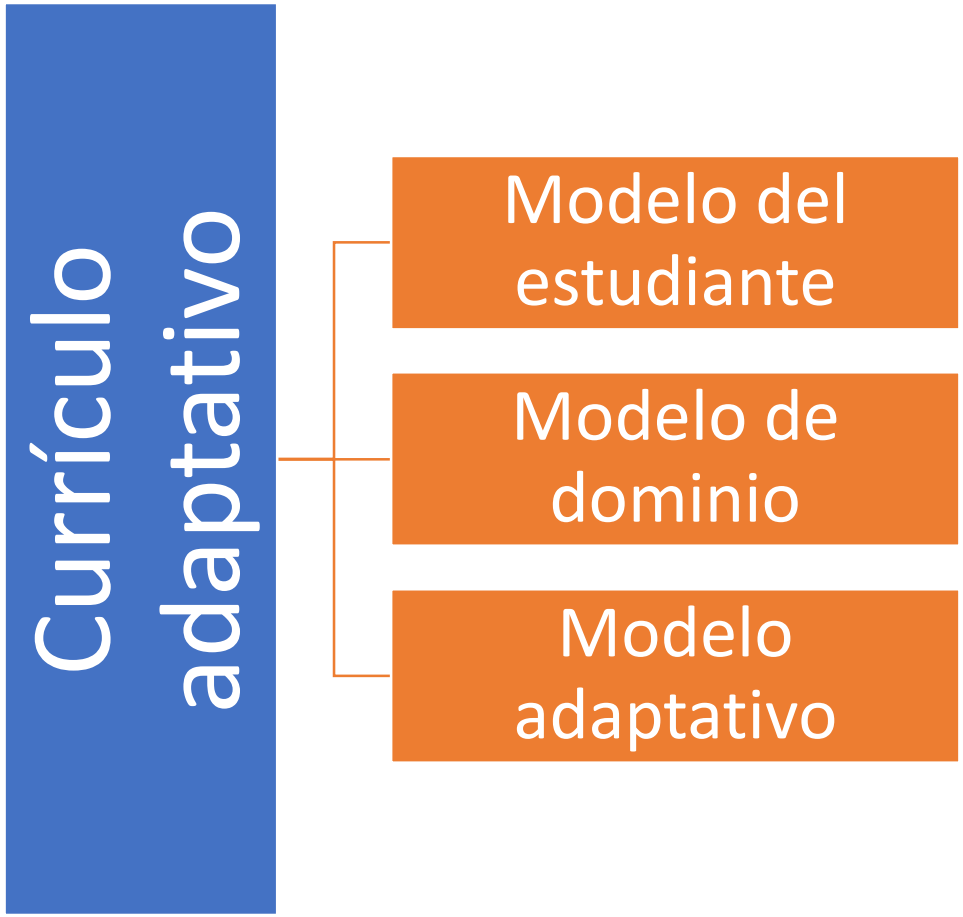
- Los currículos adaptativos no tienen en cuenta los criterios y metodologías de diseño curricular existentes.
- La mayoría de diseños curriculares adaptativos son desarrollados únicamente por ingenieros de sistemas.
- En general, se pretende limitar el rol del profesor en el proceso educativo (solamente involucrarlo en el diseño de material).
- Los diseños curriculares privilegian el trabajo individual.
- Los diseños curriculares están basados en el rendimiento de los estudiantes y no en el proceso de aprendizaje o en el desarrollo del pensamiento.

¿Cómo favorecer el desarrollo
del pensamiento matemático
atendiendo las condiciones de aprendizaje
de los estudiantes?



Currículo adaptativo enfocado en el desarrollo del pensamiento matemático

Definición de currículo adaptativo



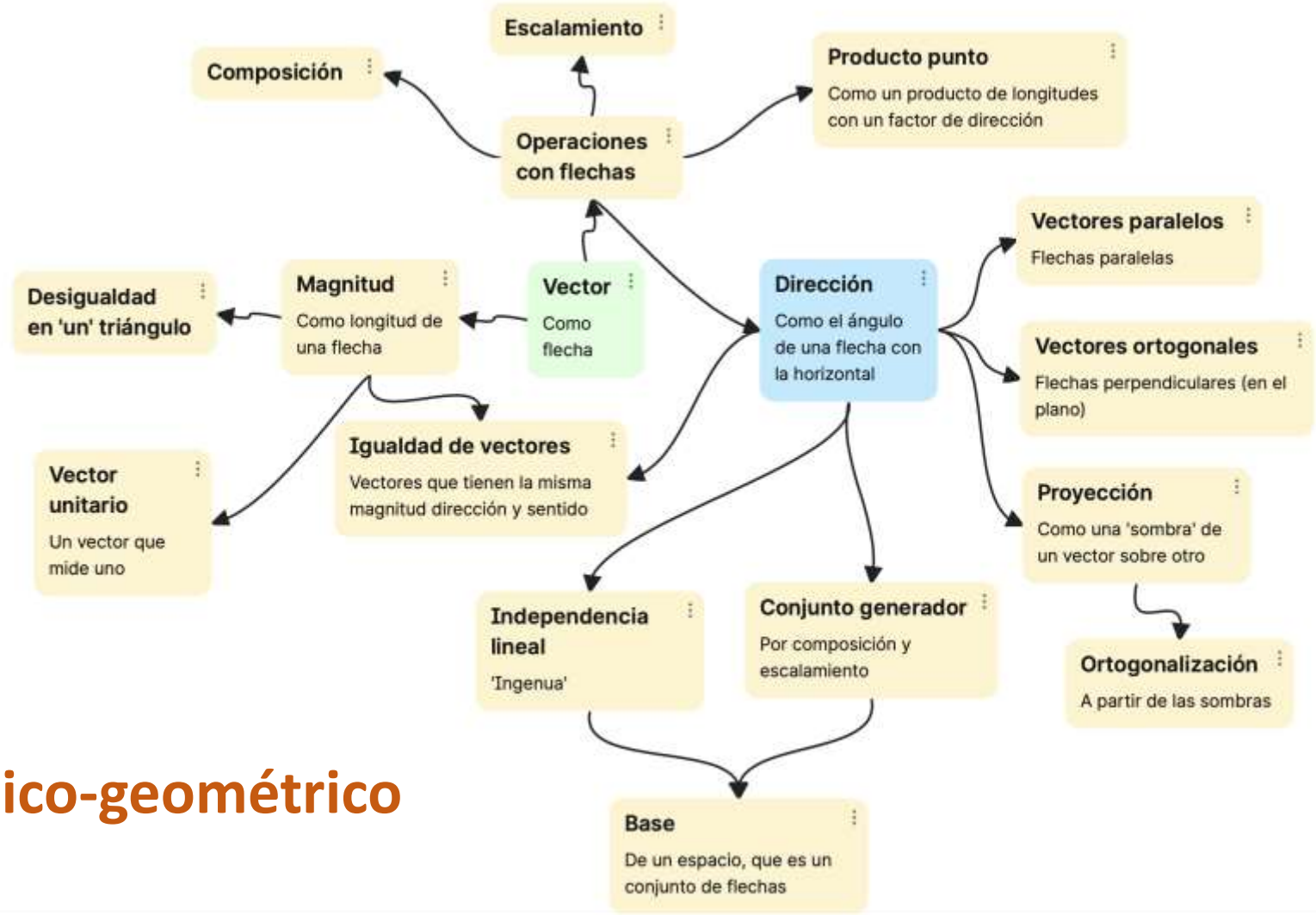
Modelo del estudiante: Factores de los que depende la adaptación (condiciones de aprendizaje)

- Estructura cognitiva de los estudiantes:
  - Nivel de conocimientos
  - Estructura de conocimientos

- Estilos de aprendizaje (pensamiento):
  - Modos de pensamiento Sierpinska (2000) – orientados al álgebra lineal
    - Sintético-geométrico
    - Analítico-aritmético
    - Analítico-estructural

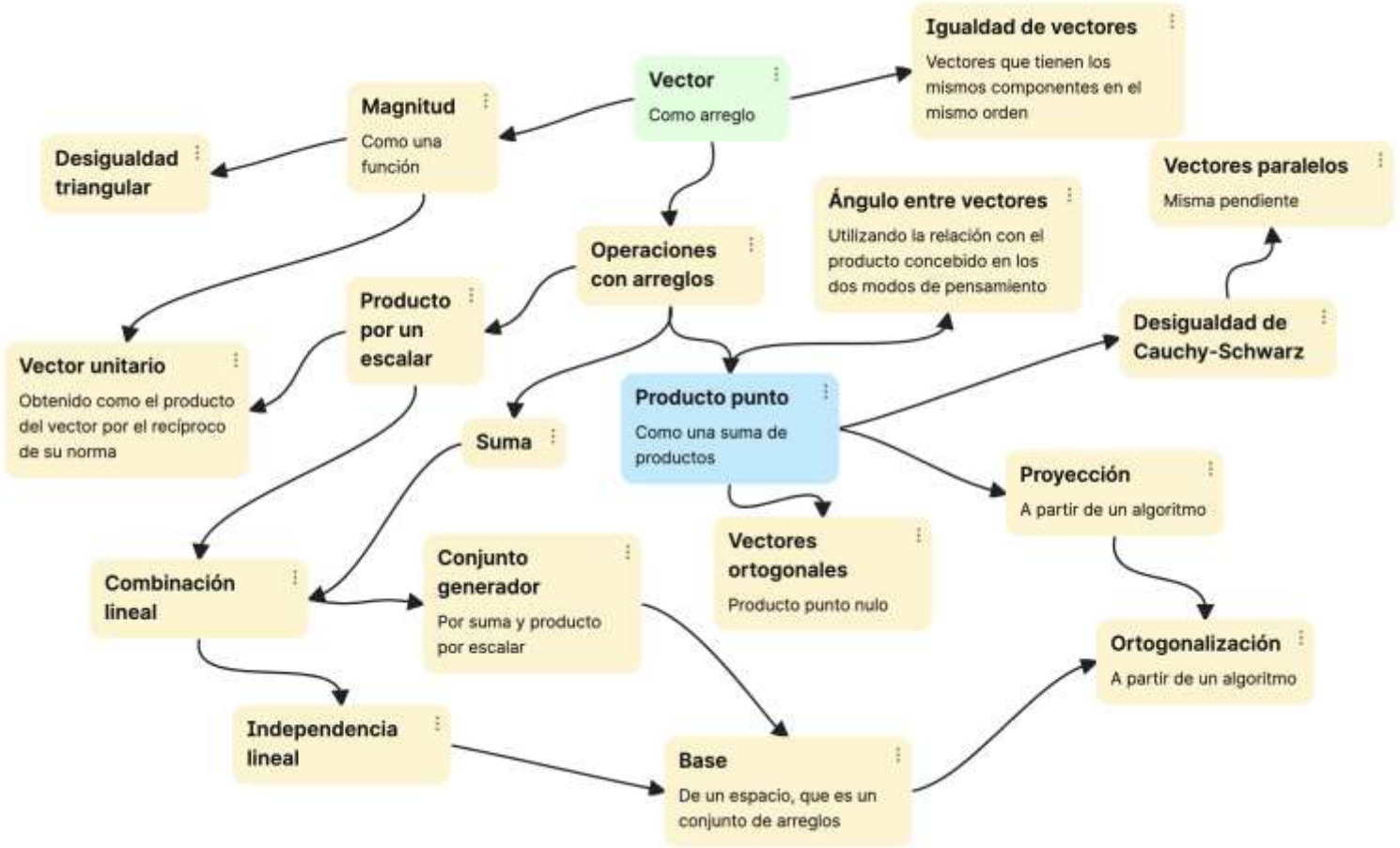
- Otros factores

Modelo de dominio: Descomposición genética



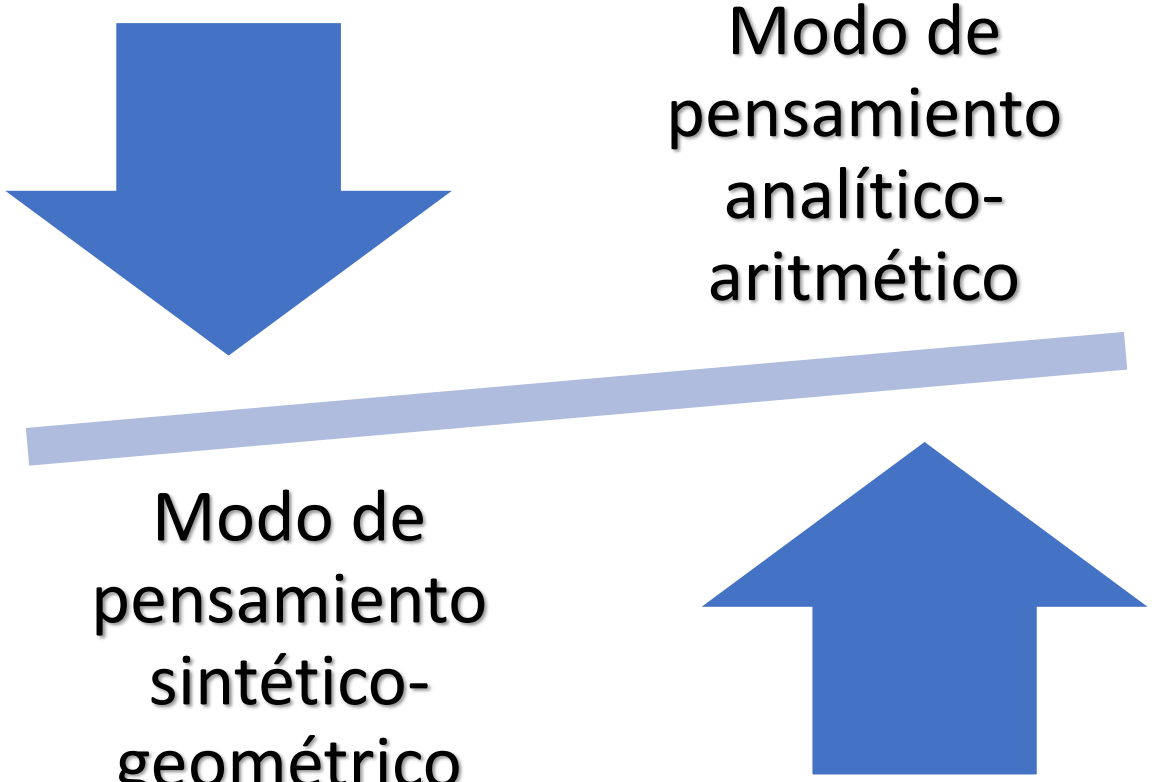
Sintético-geométrico

Modelo de dominio: Descomposición genética



Analítico-aritmético

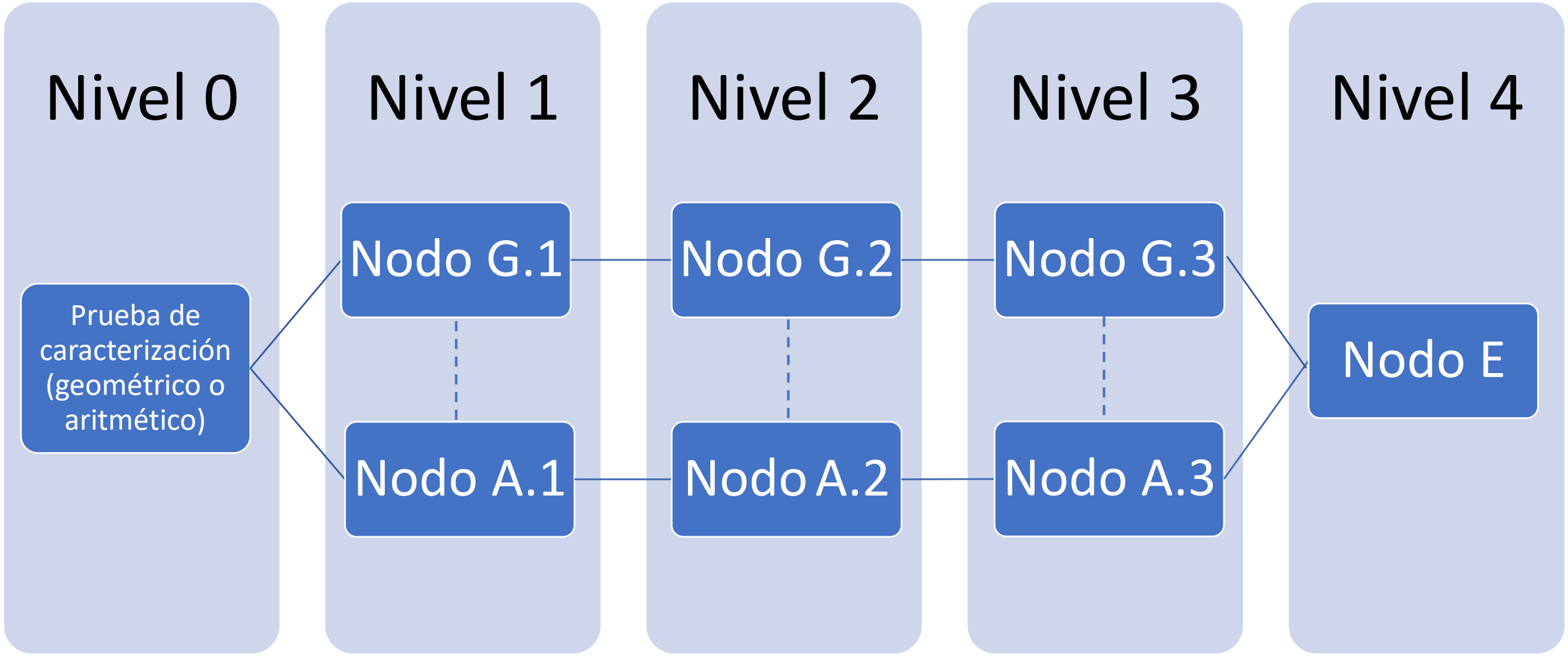
Modelo adaptativo: Prueba de caracterización de modos de pensamiento



Factores para la caracterización

- Relación con el objeto
- Forma de expresión
- Acción o pretensión
- Actitud

Estructura del ALMS según modos de pensamiento (Sierpinska, 2000)



Desarrollo de pensamiento matemático

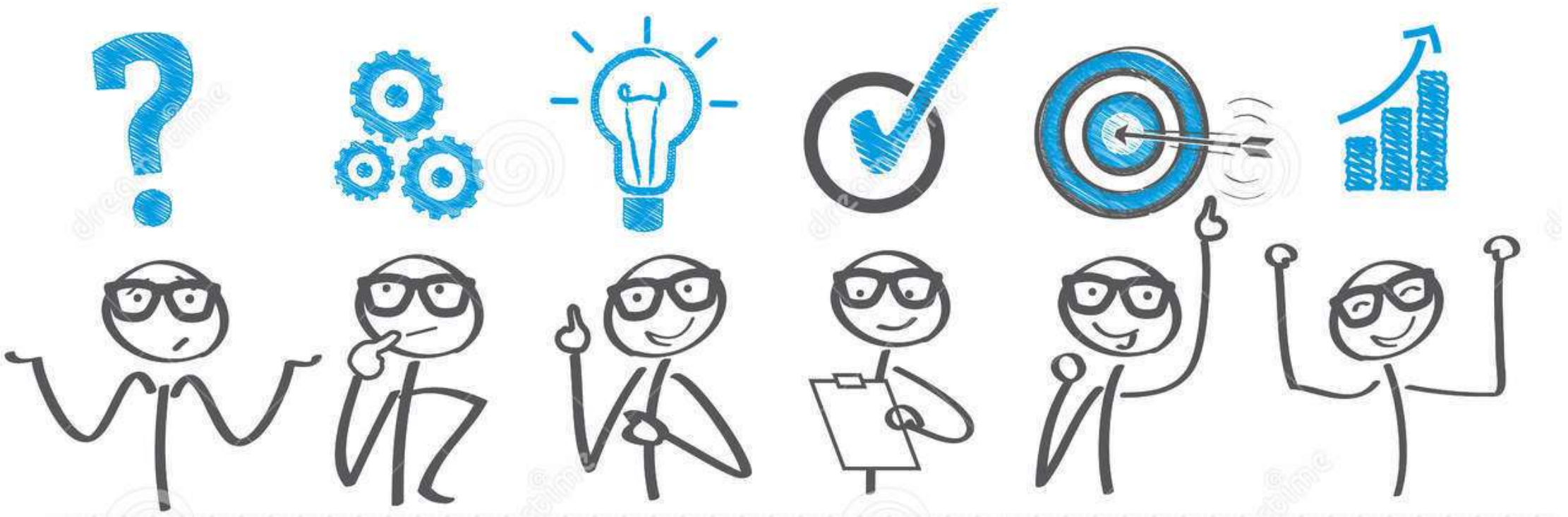
Estructura de los nodos

Desarrollo de soluciones dentro del marco teórico

ptive e-Learning System
INICIA SES
Inicia sesión
Correo intitucional
estudiante1@gmail.com
Contraseña
••••••
INICIAR SESIÓN
No recuerdas tu contraseña, ingresa aquí

Principios de diseño emergentes

Principios de diseño emergentes



Principios de diseño emergentes

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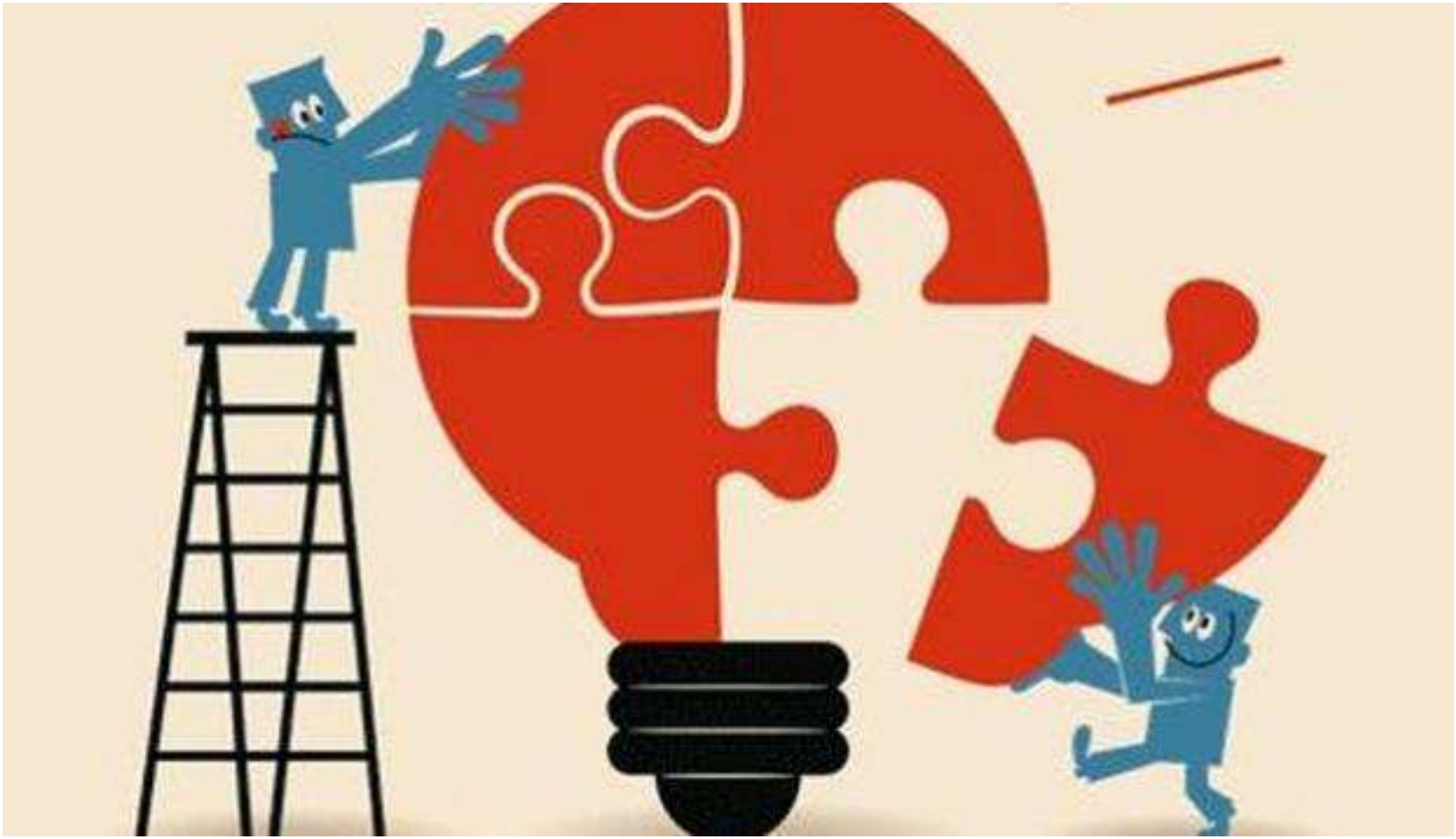
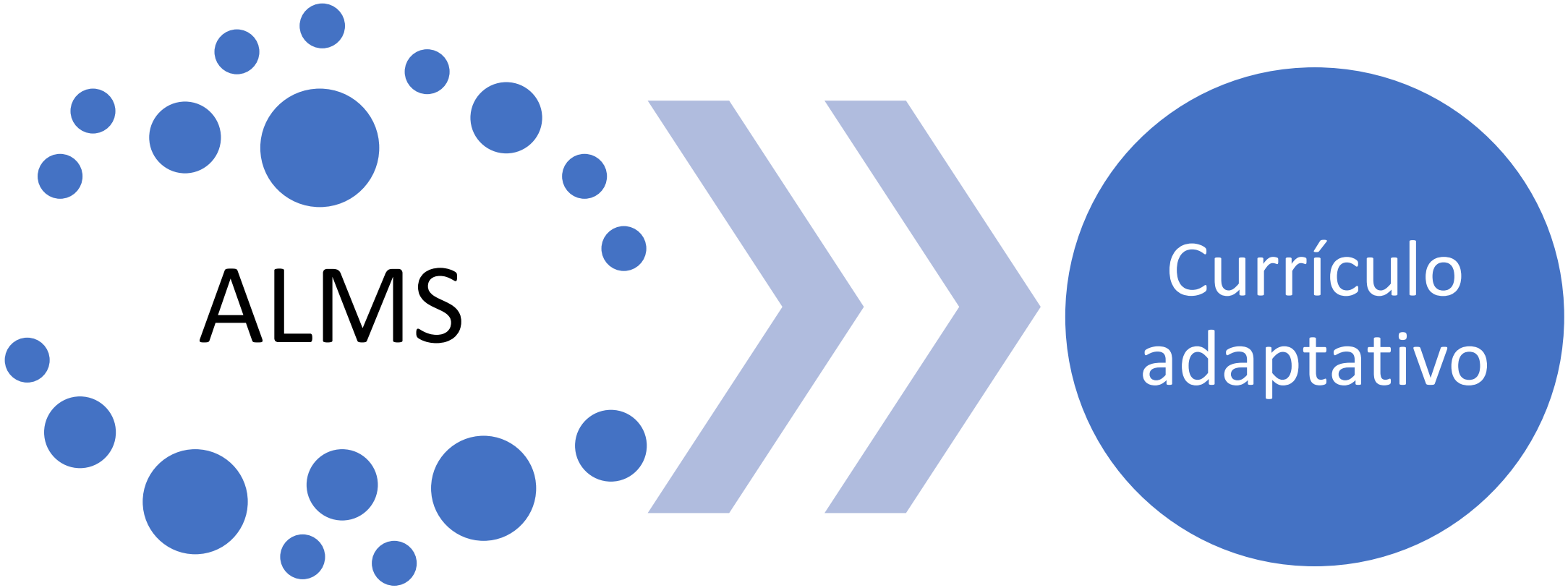
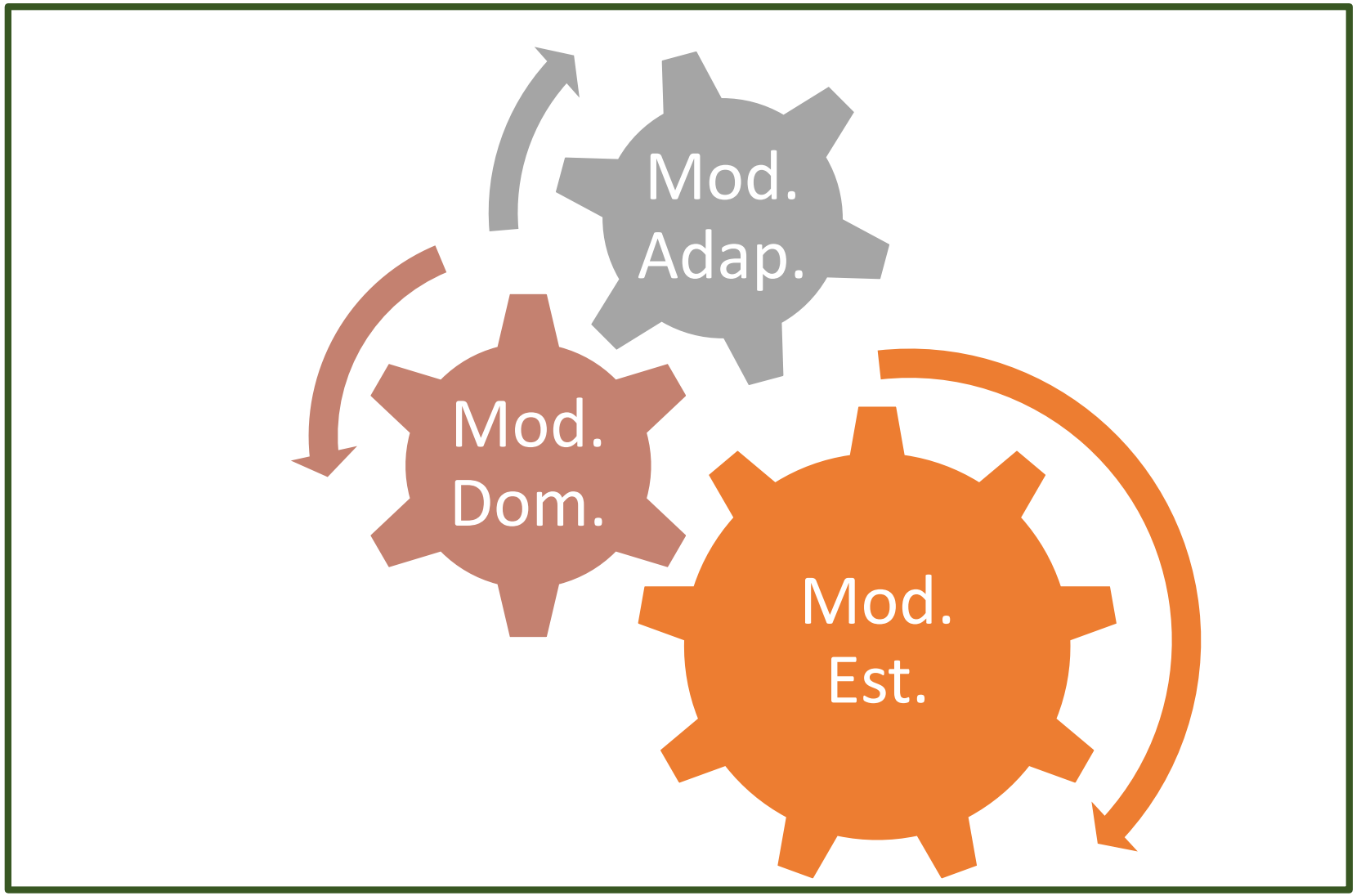


Principios de diseño emergentes



Conclusiones

LMS



Conclusiones

Contenidos de aprendizaje

Desarrollo del pensamiento matemático

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