

GUIDELINES FOR DESIGNING EFFECTIVE GAMES AS CLINICAL INTERVENTIONS:

Mechanics, Dynamics, Aesthetics, Outcomes Framework



SERIOUS Games (not purely for entertainment)



IS NOT

- "gamified" interventions/
gamification

↳ adding extrinsic rewards
to an activity w/o adding
intrinsic motivational framework

↳ eventually feels like

PUNISHMENT

("punishing by rewards")

- leaderboards
- achievements
- points
- deadlines
- threats
- competition for rewards



COERCED
participation



IS

- create intrinsic motivation

↳ putting players in playful
mindset

↳ rewards shouldn't interfere w/
intrinsic motivation

- noncompetitive
- reinforcing
- contingent on performance
standards → cause players
to want to improve

VOLUNTARY
participation



GAME

simple definition: "a voluntary attempt to overcome unnecessary obstacles"

in-depth definition:

FREE — voluntary participation

SEPARATE / UNPRODUCTIVE / MAKE-BELIEVE — clearly not real life
and has no impact on
real life

UNCERTAIN — unforeseeable outcome

GOVERNED BY RULES — rules only in game world, not IRL

need to have ALL to avoid problem of extrinsic motivation
by changing player's



mindset

SEPARATION

creates a safe space where player is not afraid to fail

UNPRODUCTIVE

needs to be unproductive so that player's attention is not recalled to real world outcomes



UNCERTAINTY

creates a challenge

MAKE-BELIEVE

allow players to let go of real world outcomes offered by game, like failure and negative feelings

FLOW

Flow: State of intense focus and concentration

How to create ~ flow ~ in a game

- ☒ clear goal to focus on
- ☒ immediate feedback on player actions
- ☒ tasks that challenge player appropriately
 - ↳ ↑ increase confidence & self-efficacy
 - ↳ ↓ decrease negative emotions

Creates intrinsic motivation!

allows players to take risks, experiment, and LEARN!

GAMES CAN

Encourage behavior change

raise awareness

build self-efficacy to effect change

⚠ Warning!

- Simply raising awareness is not enough.
 - Do not use fear-related messaging.
- Be careful when trying to send a message!
It may produce the opposite effect.

Teach

- see: flow
- also, games are "cool"
so ppl more inclined to learn from them than traditional teaching methods

MDAO

a framework for building engaging games

Mechanics

- goals, rule sets, components of games
- elements for player to interact w/ directly

Dynamics

- emergent player behaviors that come out of interaction w/ **Mechanics**
- do most of the work achieving desired **Outcomes**.

Aesthetics

emergent emotional responses that arise out of player participating in **Dynamics**.

8 types of aesthetics:

- sensation
- fantasy
- narrative
- challenge
- fellowship
- discovery
- expression
- submission

Aesthetics are a type of **Outcome** present in virtually any game

Outcome

behavioral or intellectual consequences of interacting w/ game.

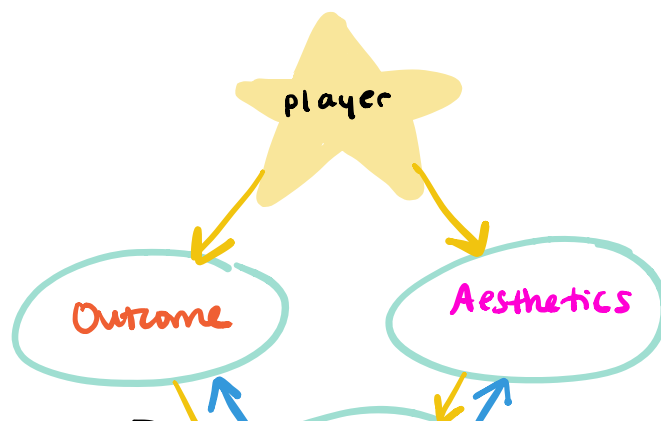
Games purely for entertainment are usually purely **Aesthetic** outcome. Serious games need to consider how **Mechanics**, **Dynamics**, and **Aesthetics** affect outcome

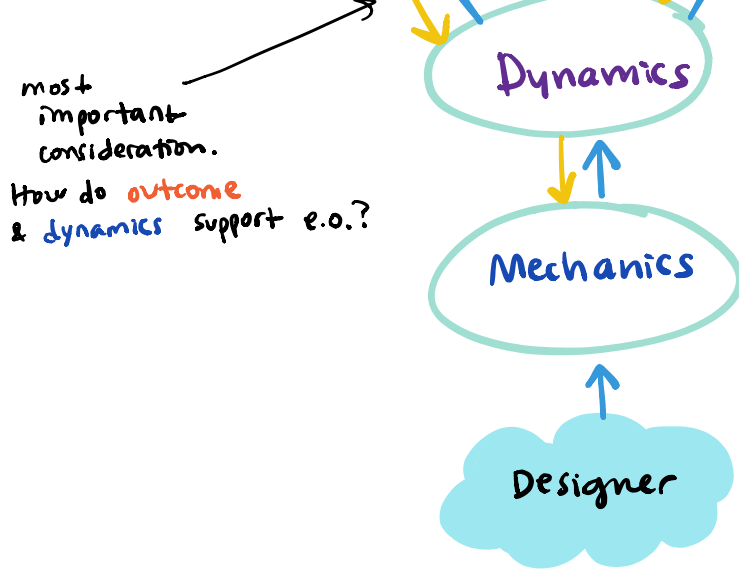
Types of outcomes:

- Behavior change
- Attitude change
- Information / raising awareness
- self-efficacy / confidence
- explicit skills (math, proficiency at a task, etc.)
- Implicit skills (memory, reasoning, etc.)

APPLYING MDAO

designer needs to consider from the player's perspective





An example of how to apply MDAO

