Gee’s Learning Principles

In his book, What Video Games Have to Teach Us about Learning and Literacy, James Paul Gee derives a set of learning principles from his study of the complex, self-directed learning each game player undertakes as s/he encounters and masters a new game. He suggests that adherence to these principles could transform learning in schools, colleges and universities, both for teachers and faculty and, most importantly, for students.

# **1) Active, Critical Learning**

All aspects of the learning environment (including ways in which the semiotic domain is designed and presented) are set up to encourage active and critical, not passive, learning

# 2) Design

Learning about and coming to appreciate design and design principles is core to the learning experience

# **3) Semiotic**

Learning about and coming to appreciate interrelations within and across multiple sign systems (images, words, actions, symbols, artifacts, etc.) as a complex system is core to the learning experience

# **4) Semiotic Domains**

Leaning involves mastering, at some level, semiotic domains, and being able to participate, at some level, in the affinity group or groups connected to them.

# **5) Thinking about Semiotic Domain**

Learning involves active and critical thinking about the relationships of the semiotic domain being learned to other semiotic domains

# **6) "Psychosocial Moratorium"**

Learners can take risks in a space where real-world consequences are lowered

# **7) Committed Learning**

Learners participate in an extended engagement (lots of effort and practice) as an extension of their real-world identities in relation to a virtual identity to which they feel some commitment and a virtual world that they find compelling

# **8) Identity**

Learning involves taking on and playing with identities in such a way that the learner has real choices (in developing the virtual identity) and ample opportunity to meditate on the relationship between new identities and old ones. There is a tripartite play of identities as learners relate, and reflect on, their multiple real-world identities, a virtual identity, and a projective identity

# **9) Self-Knowledge**

The virtual world is constructed in such a way that learners learn not only about the domain but also about themselves and their current and potential capacities

# **10) Amplification of Input**

For a little input, learners get a lot of output

# **11) Achievement**

For learners of all levels of skill there are intrinsic rewards from the beginning, customized to each learner's level, effort, and growing mastery and signaling the learner's ongoing achievements

# **12) Practice**

Learners get lots and lots of practice in a context where the practice is not boring (i.e. in a virtual world that is compelling to learners on their own terms and where the learners experience ongoing success). They spend lots of time on task.

# **13. Ongoing Learning**

The distinction between the learner and the master is vague, since learners, thanks to the operation of the "regime of competency" principle listed next, must, at higher and higher levels, undo their routinized mastery to adapt to new or changed conditions. There are cycles of new learning, automatization, undoing automatization, and new re-organized automatization

# **14) "Regime of Competence"**

The learner gets ample opportunity to operate within, but at the outer edge of, his or her resources, so that at those points things are felt as challenging but not "Undoable"

# **15) Probing**

Learning is a cycle of probing the world (doing something); reflecting in and on this action and, on this basis, forming a hypothesis; reprobing the world to test this hypothesis; and then accepting or rethinking the hypothesis

# **16) Multiple Routes**

There are multiple ways to make progress or move ahead. This allows learners to make choices, rely on their own strengths and styles of learning and problem-solving, while also exploring alternative styles

# **17) Situated Meaning**

The meanings of signs (words, actions, objects, artifacts, symbols, texts, etc.) are situated in embodied experience. Meanings are not general or decontextualized. Whatever generality meanings come to have is discovered bottom up cia embodied experience

# **18) Text**

Texts are not understood purely verbally (i.e. only in terms of the definitions of the words in the text and their text-internal relationships to each other) but are understood in terms of embodied experience. Learners move back and forth between texts and embodied experiences. More purely verbal understanding (reading texts apart from embodied action) comes only when learners have enough embodied experience in the domain and ample experiences with similar texts

# **19) Intertextual**

The learner understands texts as a family ("genre") of related texts and understands any one text in relation to others in the family, but only after having achieved embodied understandings of some texts. Understanding a group of texts as a family ("genre") of texts is a large part of what helps the learner to make sense of texts

# **20) Multimodal**

Meaning and knowledge ate built up through various modalities (images, texts, symbols, interactions, abstract design, sound, etc.), not just words

# **21) "Material Intelligence"**

Thinking, problem-solving and knowledge are "stored" in material objects and the environment. This frees learners to engage their minds with other things while combining the results of their own thinking with the knowledge stored in material objects and the environment to achieve yet more powerful effects

# **22) Intuitive Knowledge**

Intuitive or tacit knowledge built up in repeated practice and experience, often in association with an affinity group, counts a good deal and is honored. Not just verbal and conscious knowledge is rewarded

# **23) Subset**

Learning even at its start takes place in a (simplified) subset of the real domain

# **24) Incremental**

Learning situations are ordered in the early stages so that earlier cases lead to generalizations that are fruitful for later cases. When learners face more complex cases later, the learning space (the number and type of guess the learner can make) is constrained by the sorts of fruitful patterns or generalizations the learned has founded earlier

# **25) Concentrated Sample**

The learner sees, especially early on, many more instances of the fundamental signs and actions than should be the case in a less controlled sample. fundamental signs and actions are concentrated in the early stages so that learners get to practice them often and learn them well

# **26) Bottom-up Basic Skills**

Basic skills are not learned in isolation or out of context; rather, what counts as a basic skill is discovered bottom up by engaging in more and more of the game/domain or games/domains like it. Basic skills are genre elements of a given type of game/domain

# **27) Explicit Information On-Demand / Just-in-Time**

The learner is given explicit information both on-demand and just-in-time, when the learner needs it or just at the point where the information can best be understood and used in practice

# **28) Discovery**

Overt telling is kept to a well-thought-out minimum, allowing ample opportunities for the learner to experiment and make discoveries

# **29) Transfer**

Learners are given ample opportunity to practice, and support for, transferring what they have learned earlier to later problems, including problems that require adapting and transforming that earlier learning

# **30) Cultural Models about the World**

Learning is set up in such a way that learners come to think consciously and reflectively about some of their cultural models regarding the world, without denigration of their identities, abilities or social affiliations, and juxtapose them to new models that may conflict with or otherwise relate to them in various ways

# **31) Cultural Models about Learning**

Learning is set up in such a way that learners come to think consciously and reflectively about their cultural models about learning and themselves as learners, without denigration of their identities, abilities, or social affiliations, and juxtapose them to new models of learning and themselves as learners

# **32) Cultural Models about Semiotic Domains**

about their cultural models about a particular semiotic domain they are learning, without denigration of their identities, abilities, or social affiliations, and juxtapose them to new models about this domain

# **33) Distributed**

Meaning/knowledge is distributed across the learner, objects, tools, symbols, technologies, and the environment

# **34) Dispersed Principle**

Meaning/knowledge is dispersed in the sense that the learner shares it with others outside the domain/game, some of whom the learner may rarely or never see face-to-face

# **35) Affinity Group Principle**

Learners constitute an "affinity group," that is, a group that is bonded primarily through shared en devours, goals, and practices and not shared race, gender, nation, ethnicity, or culture

# **36) Insider Principle**

The learner is an "insider," "teacher," and "producer" (not just a consumer) able to customize the learning experience and the domain/game from the beginning and throughout the experience.