

Power Structures Infiltrating into the Zone of Proximal Development: **Uncovering Exclusionary Practices**

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ZPD & Math Problem Solving

Zone of proximal development (ZPD): “the distance between the actual development level as determined by independent problem solving and level of potential development as determined through problem solving under guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86).

ZPD Mechanics (Wertsch, 1984):

- **Situation definition** (inner representation of situation)
- **Inter-subjectivity** (social plane, conjoint functioning sharing same situation definition)
- **Asymmetry** (temporary willingness to adapt to child’s level)
- **Semiotic Mediation** (linguistic signs, discourse, negotiation)



ZPD continued

- Active role and responsibility of all participants in pacing and structuring interaction (Rogoff, 1984, 1990)
- Qualitative aspects in ZPD: *Shared control, mutual trust, authenticity of materials, types of discourse, bilingualism as a resource, and perceptions of own roles* (Moll & Whitmore, 1998).
- Not enough attention to ‘blinds spots’ in the ZPD research (Moll, 2001)

Power Structures & Language

Language standardization leads to normalization process. Educational systems play a decisive role in “the construction, legitimation, and imposition of an official language” (Bourdieu, 1991, p. 48)

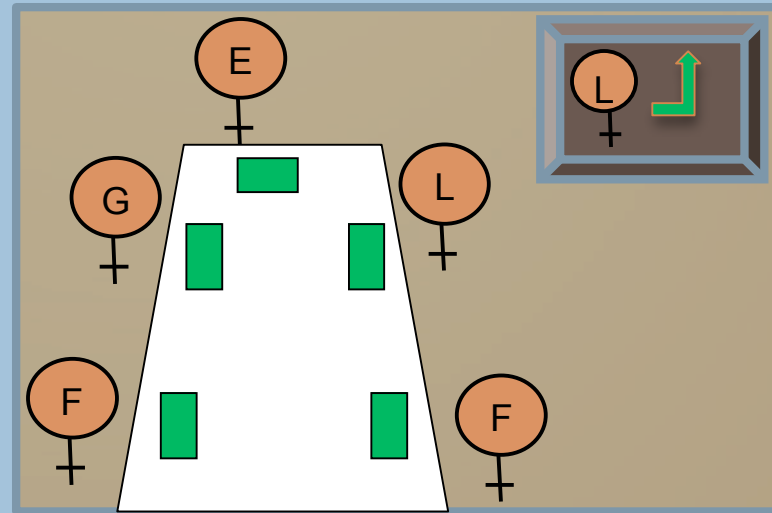
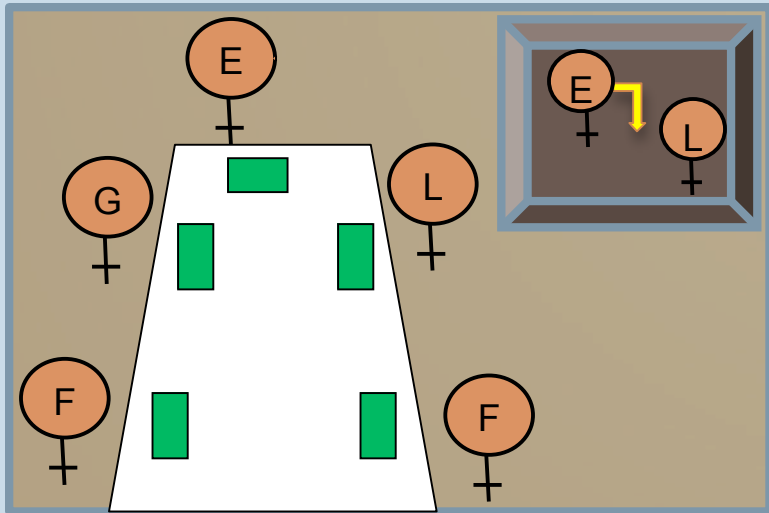
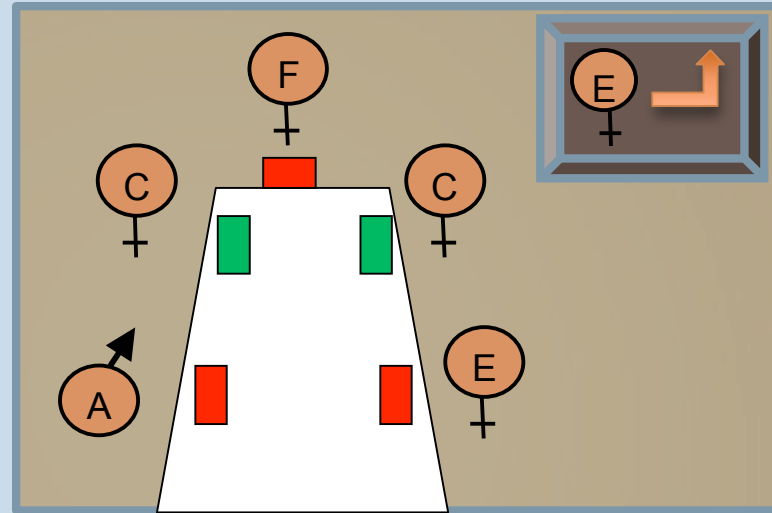
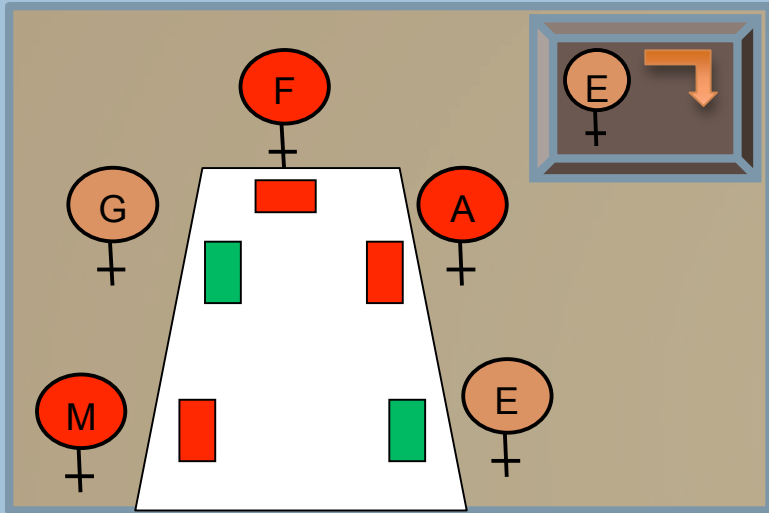
Dominant cultural capital vs. non-dominant cultural capital; high status cultural attributes, codes and signals (Bourdieu, 1977)

The superiority of English & the marginalization of languages other than English in the US (Lippi-Green 1997).

Discrimination against minority languages in US schools & criminalization of Spanish (MacGregor-Mendoza, 1998; Trujillo, 2005) as well as teachers' language attitudes (Weisman 2004, MacGregor-Mendoza 1998) & peers (Cashman, 2008).

Marginalization & Deficit Model

- “Alienation of some learners by the exclusion of their forms of knowledge” (Nuñez, 1999, p. 50).
- Selective ignorance: “we are required to know only some things and ignore others depending on our position in society” (Goodnow, 1990, p. 50).
- Research in mathematics education contains elements that are used to legitimate views on diverse learners as deficient learners (Secada, 1991).



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- “working with learners whose experiences may be very different from their own requires teachers to confront unexamined beliefs and assumptions they have about students in relation to particular institutional practices and procedures that may serve as barriers to equitable treatment of students” (Mercado (2001) p. 690).
 - Students wrestle with stereotypes daily, but there is little support to make sense of negative ones (Nasir et al. 2009)