

Inferring Materials of Covered Objects

Analúcia D. Schliemann

March 1, 2010

PART 3: INFERRING MATERIALS OF COVERED OBJECTS: Cylinders B, D, A, C



(Aluminum)



(Other)



(Brass)



(Aluminum)



G Delrin



F Aluminum



E Brass

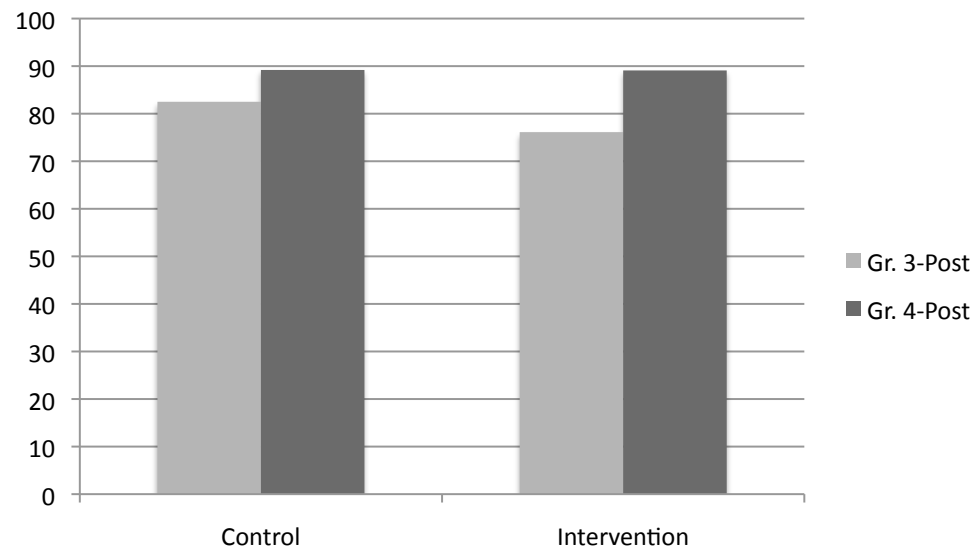


K Aluminum

T1: What might B be made of?



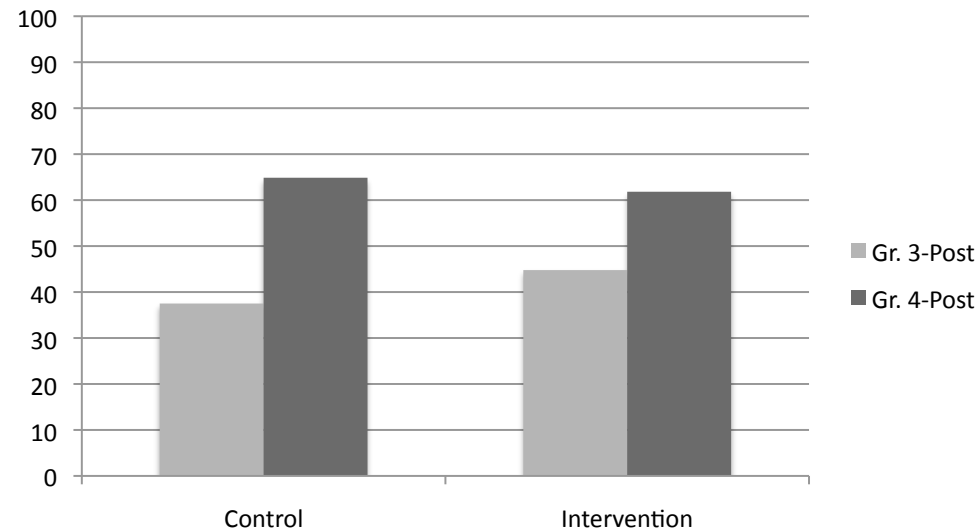
T1: Percent of Correct Answers



T2: What might D be made of?



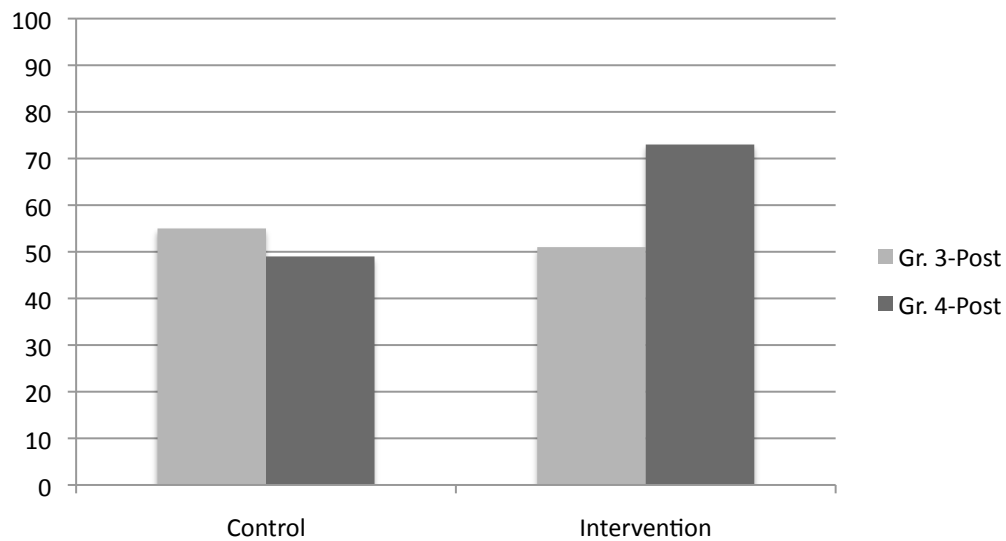
T2: Percent of Correct Answers



T3: What might A be made of?



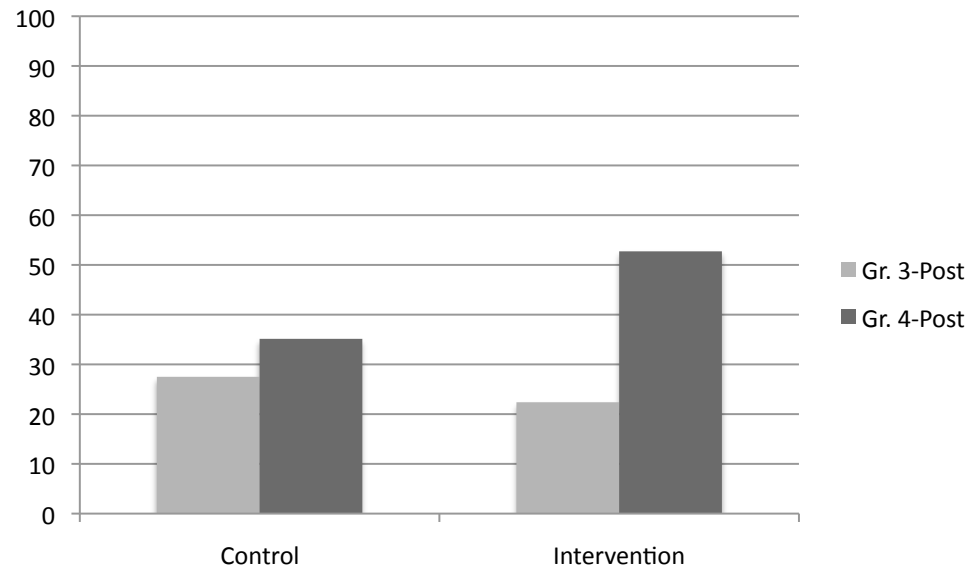
T3 - Percent of Correct Answers



T4: What might C be made of?



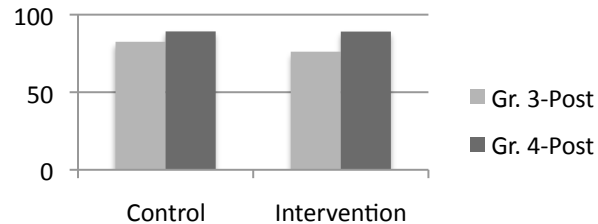
T4: Percent of Correct Answers



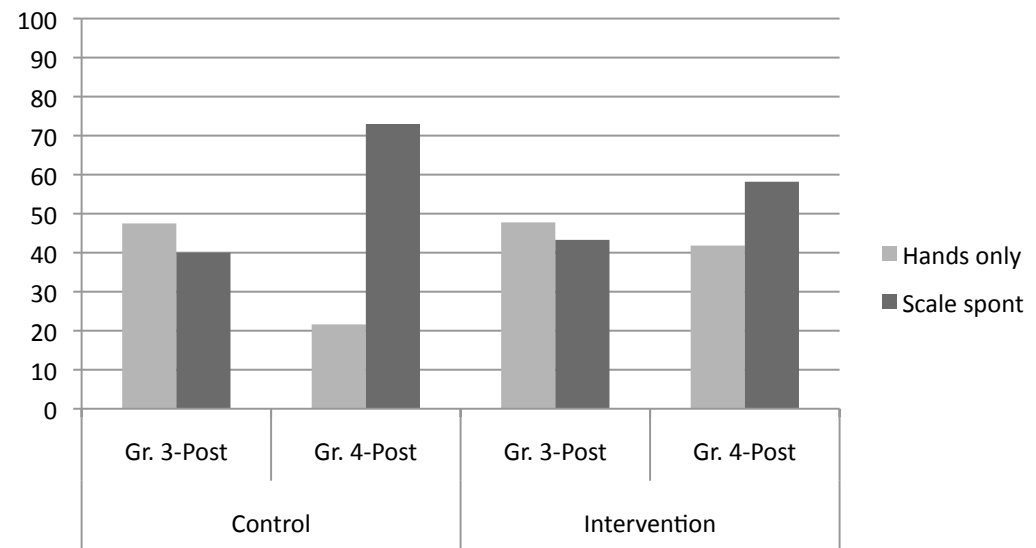
T1: What might B be made of?



T1: Percent of Correct Answers



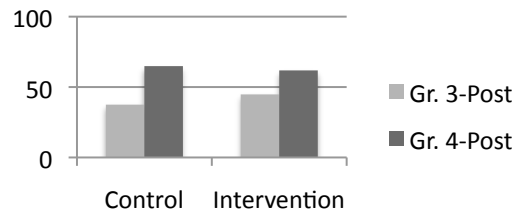
T1: Percent of use of hands vs. scale



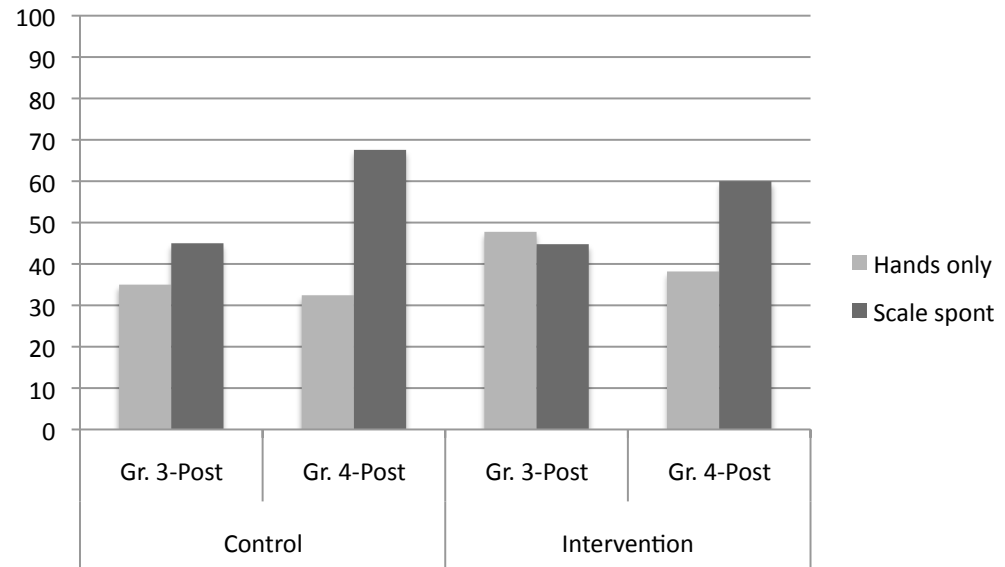
T2: What might D be made of?



T2: Percent of Correct Answers



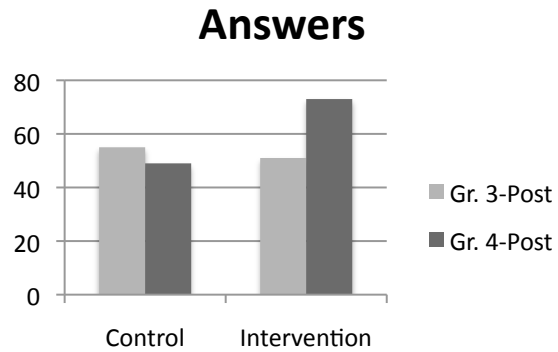
T2: Percent of use of hands vs. scale



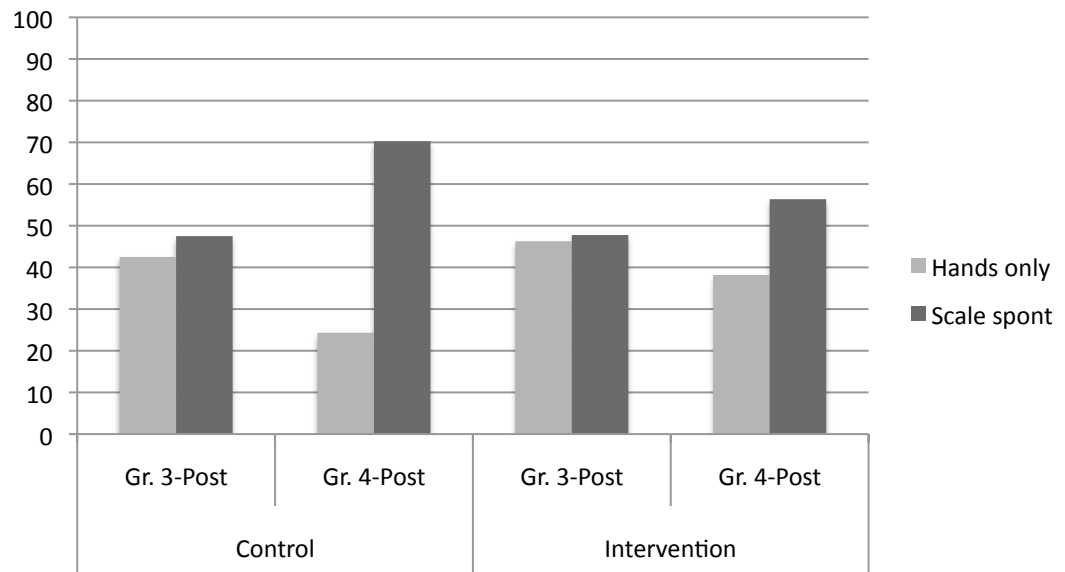
T3: What might A be made of?



T3 - Percent of Correct



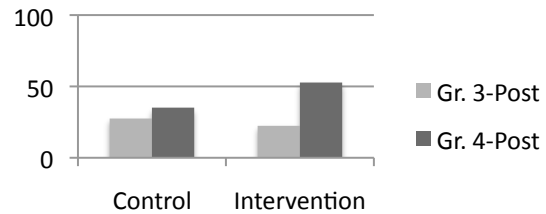
T3: Percent of use of hands vs. scale



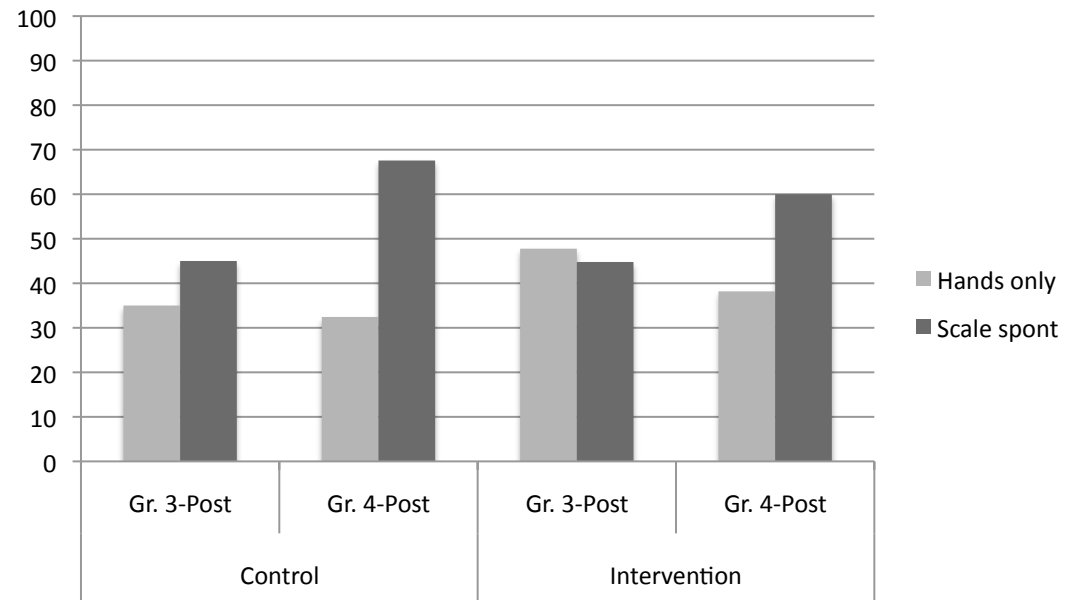
T4: What might C be made of?



T4: Percent of Correct Answers



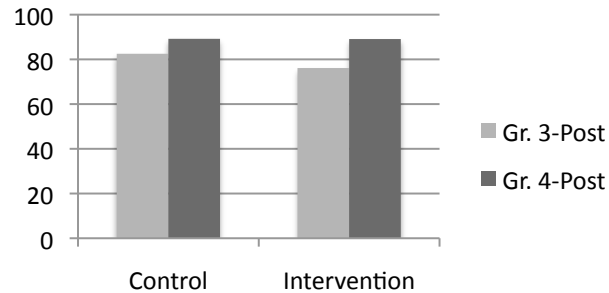
T4: Percent of use of hands vs. scale



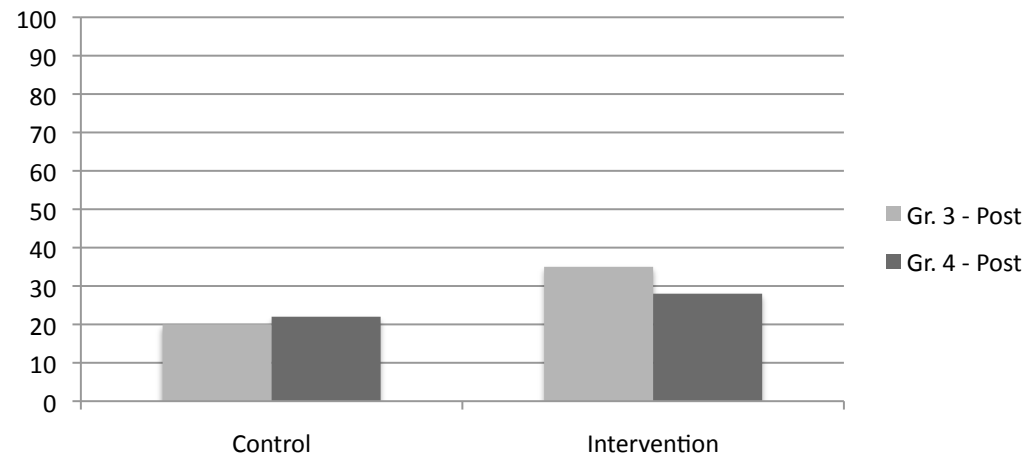
T1: What might B be made of?



T1: Percent of Correct Answers



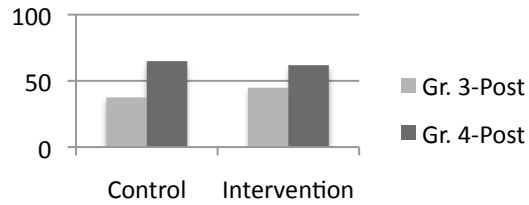
T1 - Percent of students who mention weight



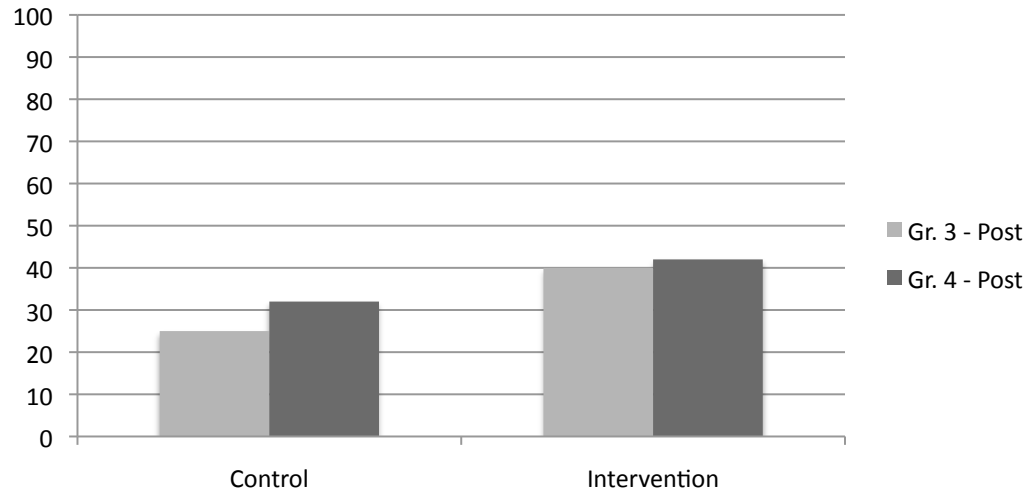
T2: What might D be made of?



T2: Percent of Correct Answers



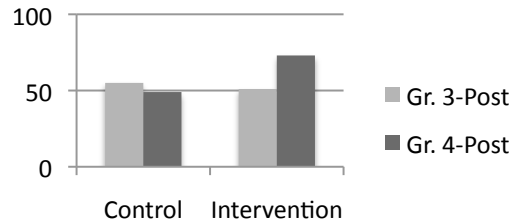
T2 - Percent of students who mention weight



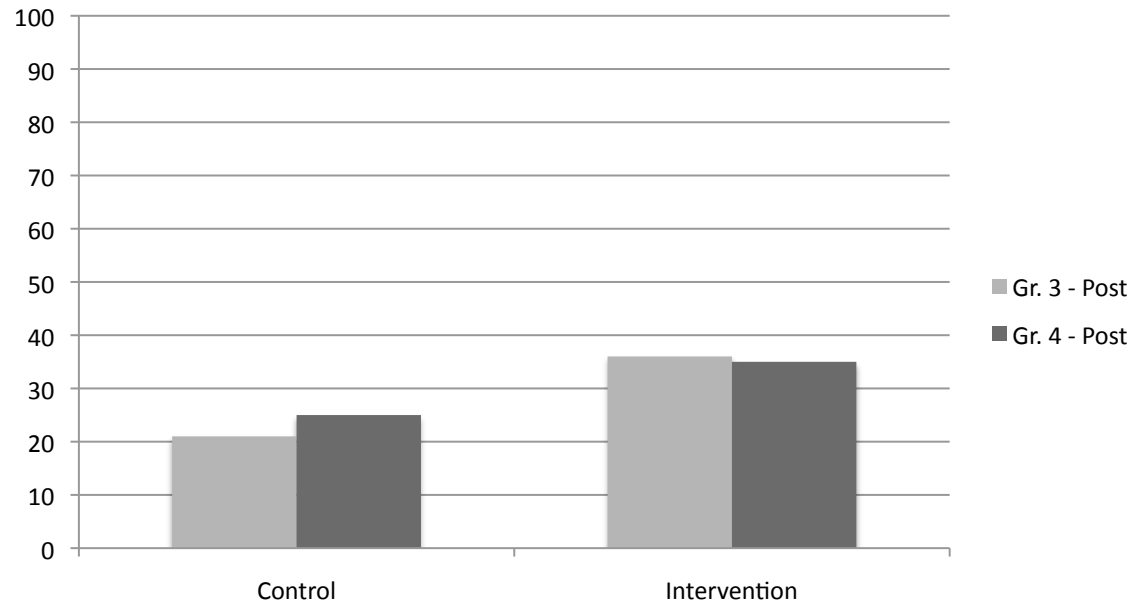
T3: What might A be made of?



T3 - Percent of Correct Answers



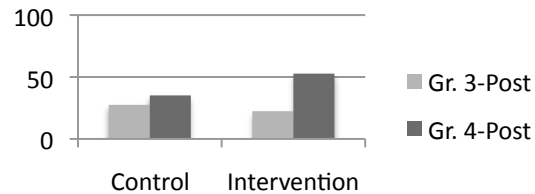
T3 - Percent of students who mention weight



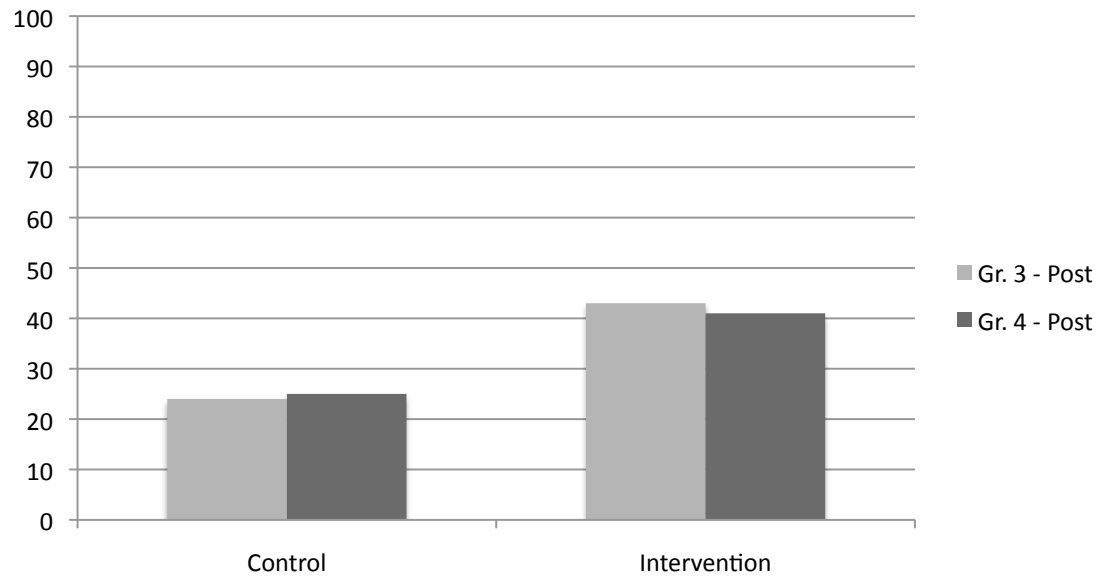
T4: What might C be made of?



T4: Percent of Correct Answers



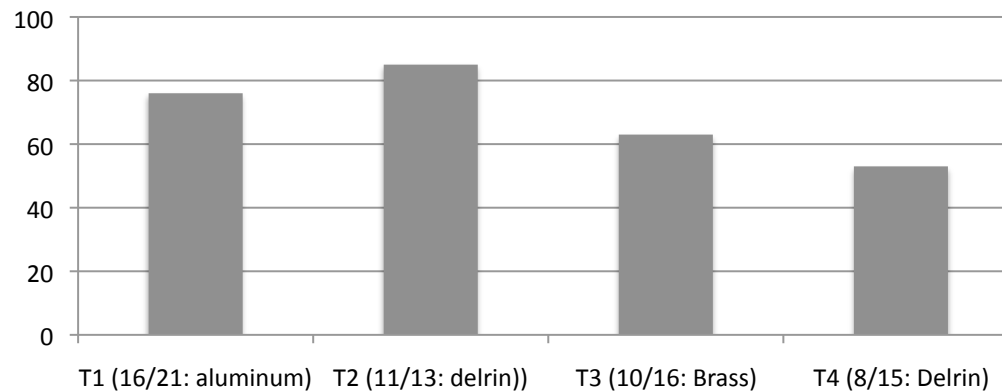
T4 - Percent of students who mention weight



PART 3: INFERRING MATERIALS OF COVERED OBJECTS: Cylinders B, D, A, C



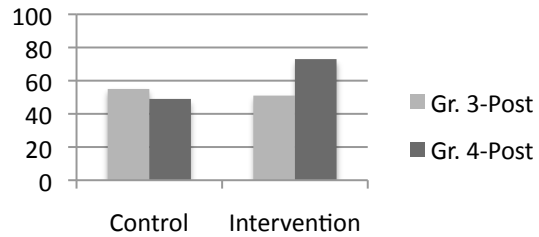
Percent of children's most frequent answers based on "feel same"



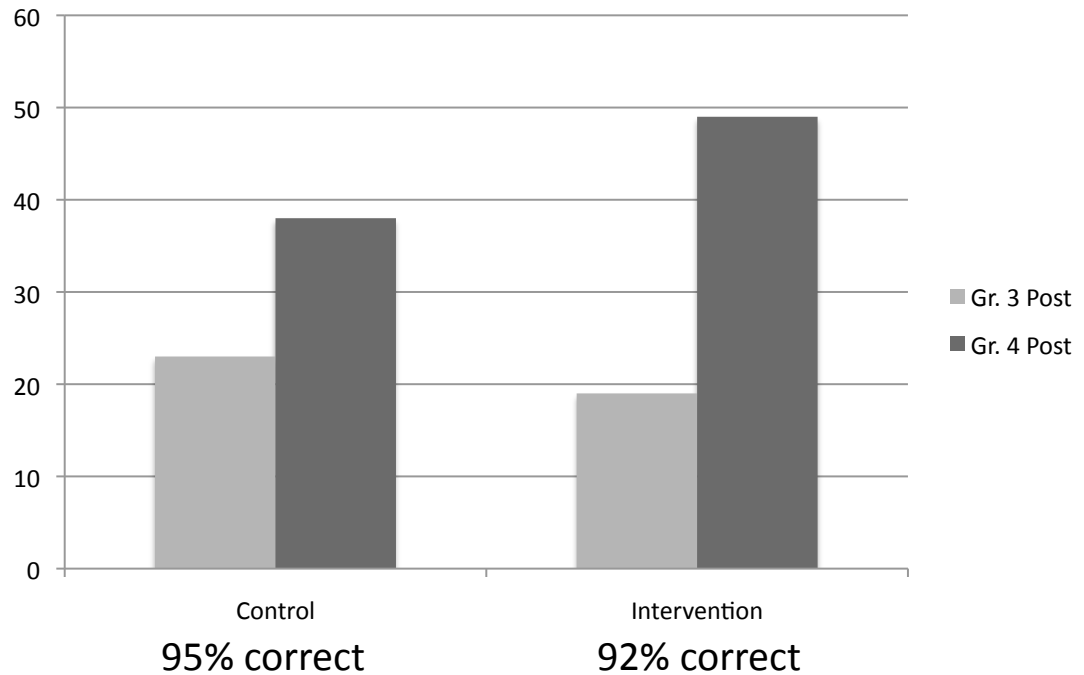
T3: What might A be made of?



T3 - Percent of Correct Answers



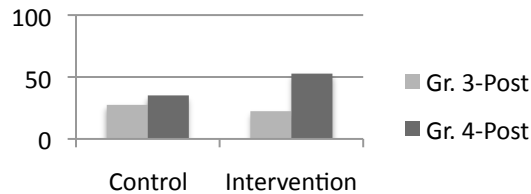
T3 - Compares three As to long cylinders



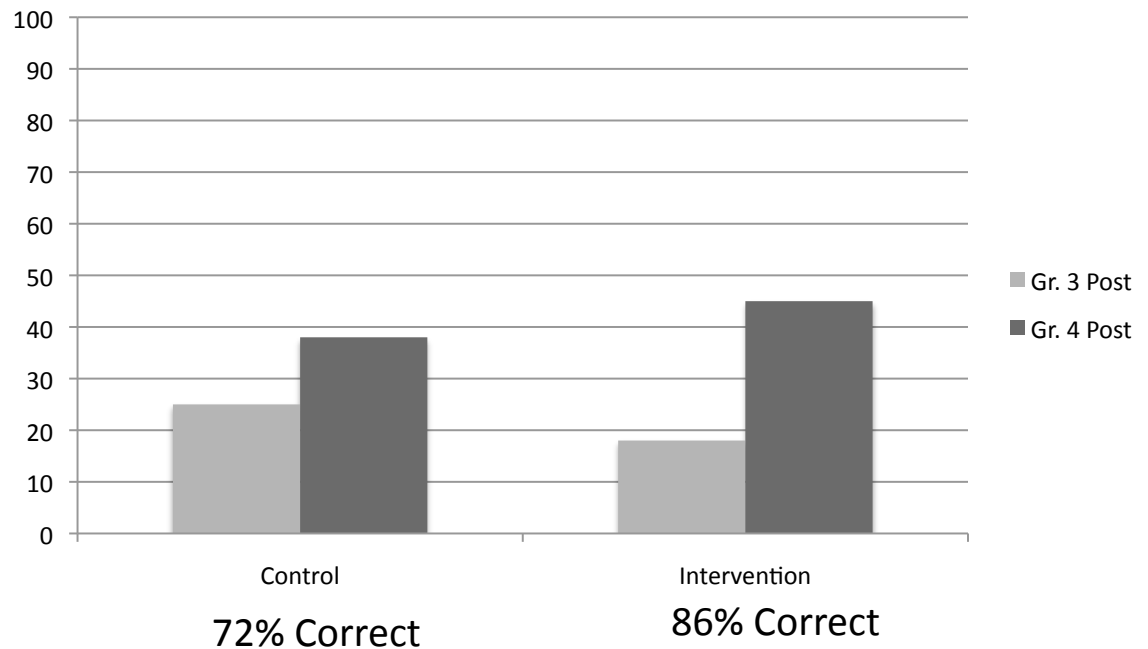
T4: What might C be made of?



T4: Percent of Correct Answers



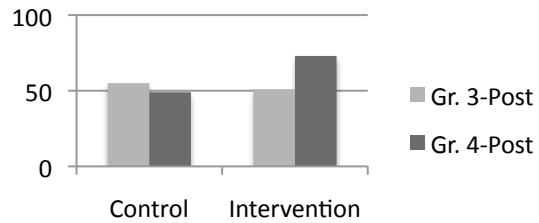
T4 - Compares 3 Cs to long cylinders



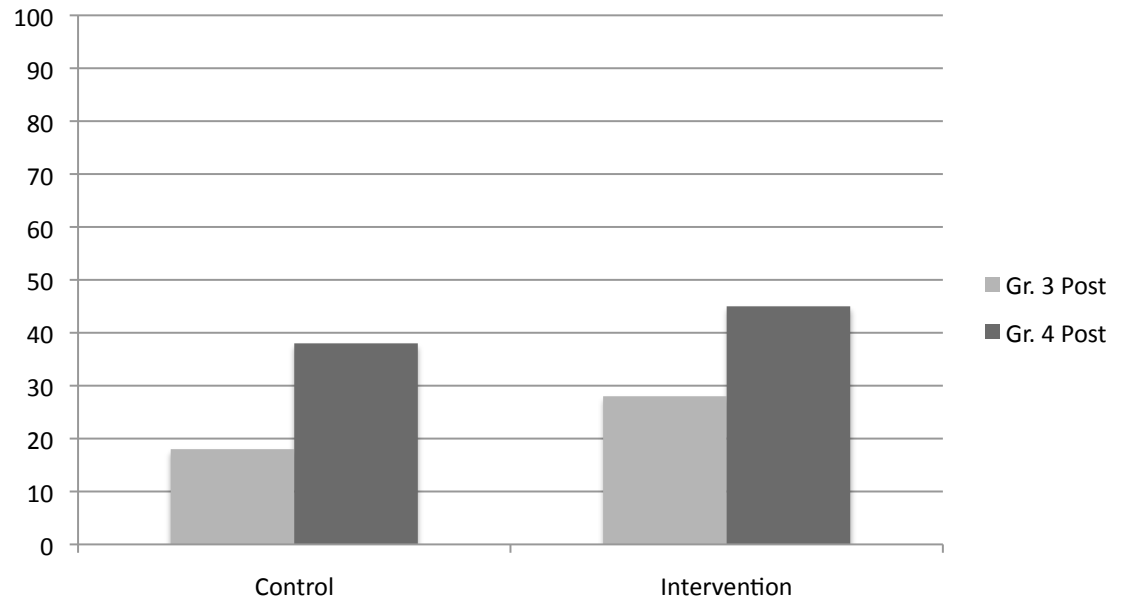
T3: What might A be made of?



T3 - Percent of Correct Answers



T3: Weight-Size Coordination (3A=1E)



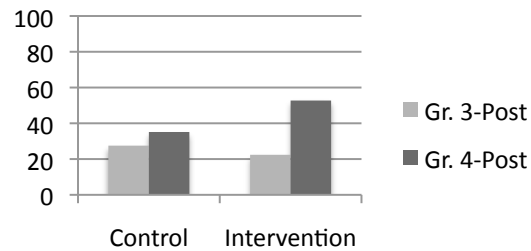
T3_7e2_v2_WS_Proportion

- 3. 3As (or Cs) same as E (F) [neither W nor S mentioned; sizes implicitly equal; but BOTH implied]
- 3. 3As (or Cs) same WEIGHT as E (F) [Sizes implicitly equal]
- A. A (C) is a small piece of E (F)
- 3. 3As (or Cs) same SIZE and WEIGHT as E (F)
- If. If A(C) and E(F) were cut the same (size), they would weigh the same [true, hypothetical]
- 1. 1/3 of E (F) same SIZE and WEIGHT as A (or C)
- E. E (F) is HEAVIER but also BIGGER, so A (C) could be same material
- 1. 1/3 of E (F) same WEIGHT as A (or C) [Sizes implicitly equal]
- 1. 1/3 of E (F) same as A (or C) [neither W nor S mentioned; sizes implicitly equal]
- Ir. Incorrect proportion (e.g. 2As same as 1 E; 2As same weight as 1E)
- N. Need to make same size and compare weight; they weren't the same size and weight
- A. Add 3As (or Cs) same SIZE as E (F) [weights implicitly equal]
- 1. 1/3 of E (F) same SIZE as A (C) [weights implicitly equal]

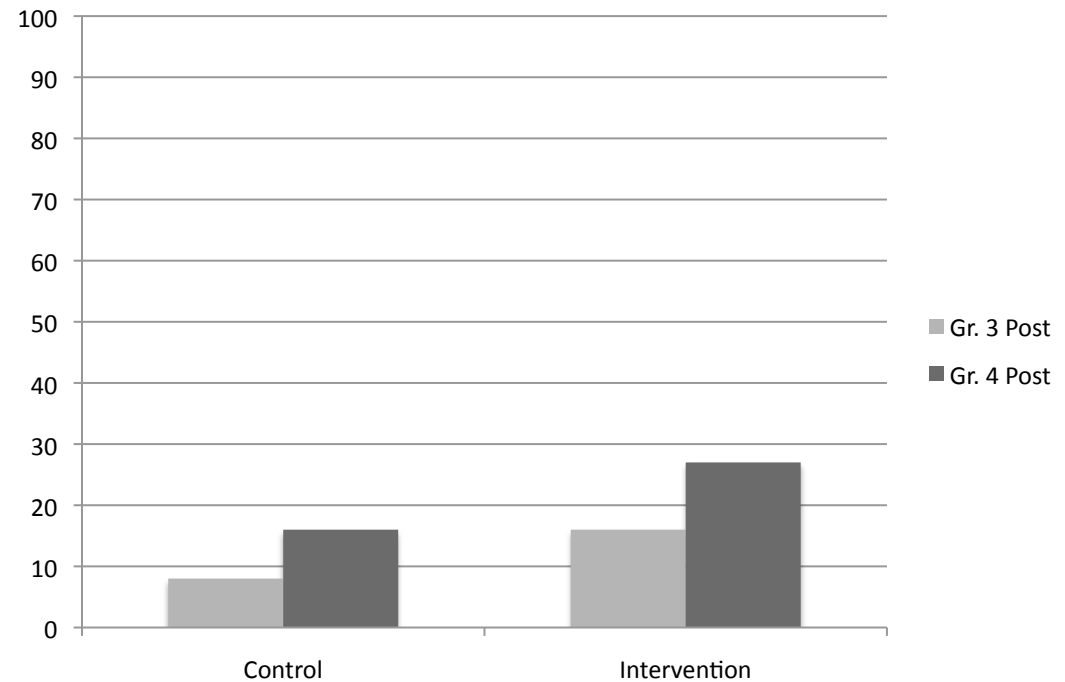
T4: What might C be made of?



T4: Percent of Correct Answers



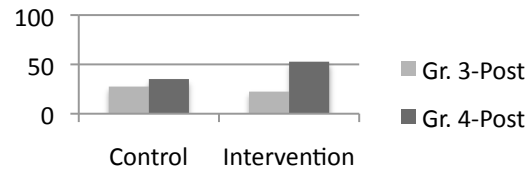
T4 - Weight Size Coordination (3Cs=1F)



T4: What might C be made of?



T4: Percent of Correct Answers



T4 - Weight Size Coordination (3Cs=1F)

