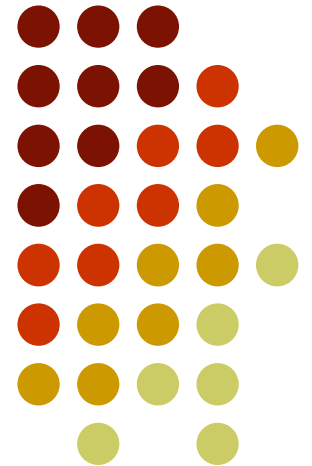


Class #3



Warm up



- You want to check your students' understanding of division of fractions, but you would like to work it into a story problem. What would be a good story problem for:
- One of your 6th grade students knows that he is supposed to multiply by a reciprocal, but wants to know why he should do that. How do you respond?

TIMSS in 1995 (12th grade)



Mathematics Literacy		Science Literacy	
Country	Mean Achievement	Country	Mean Achievement
Netherlands	560	Sweden	559
Sweden	552	Netherlands	558
Denmark	547	Iceland	549
Switzerland	540	Norway	544
Iceland	534	Canada	532
Norway	528	New Zealand	529
France	523	Switzerland	523
New Zealand	522	Austria	520
Canada	519	Australia	527
Austria	518	Slovenia	517
Australia	522	Denmark	509
Slovenia	512	Germany	497
Germany	495	Czech Republic	487
Czech Republic	466	France	487
Hungary	483	Russian Federation	481
Italy	476	United States	480
Russian Federation	471	Italy	475
Lithuania	469	Hungary	471
United States	461	Lithuania	461
Cyprus	446	Cyprus	448
South Africa	356	South Africa	349
International Average	500	International Average	500

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1995-96

- Significantly Higher than International Average
- Not Significantly Different than International Average
- Significantly Lower than International Average

Advanced Mathematics	
Country	Mean Achievement
France	557
Russian Federation	542
Switzerland	533
Denmark	522
Cyprus	518
Lithuania	516
Australia	525
Greece	513
Sweden	512
Canada	509
Slovenia	475
Italy	474
Czech Republic	469
Germany	465
United States	442
Austria	436
International Average	501

SOURCE: IEA Third International Mathematics and Science Study (TIMSS), 1995-96

- Significantly Higher than International Average
- Not Significantly Different than International Average
- Significantly Lower than International Average

TIMSS (8th grade)

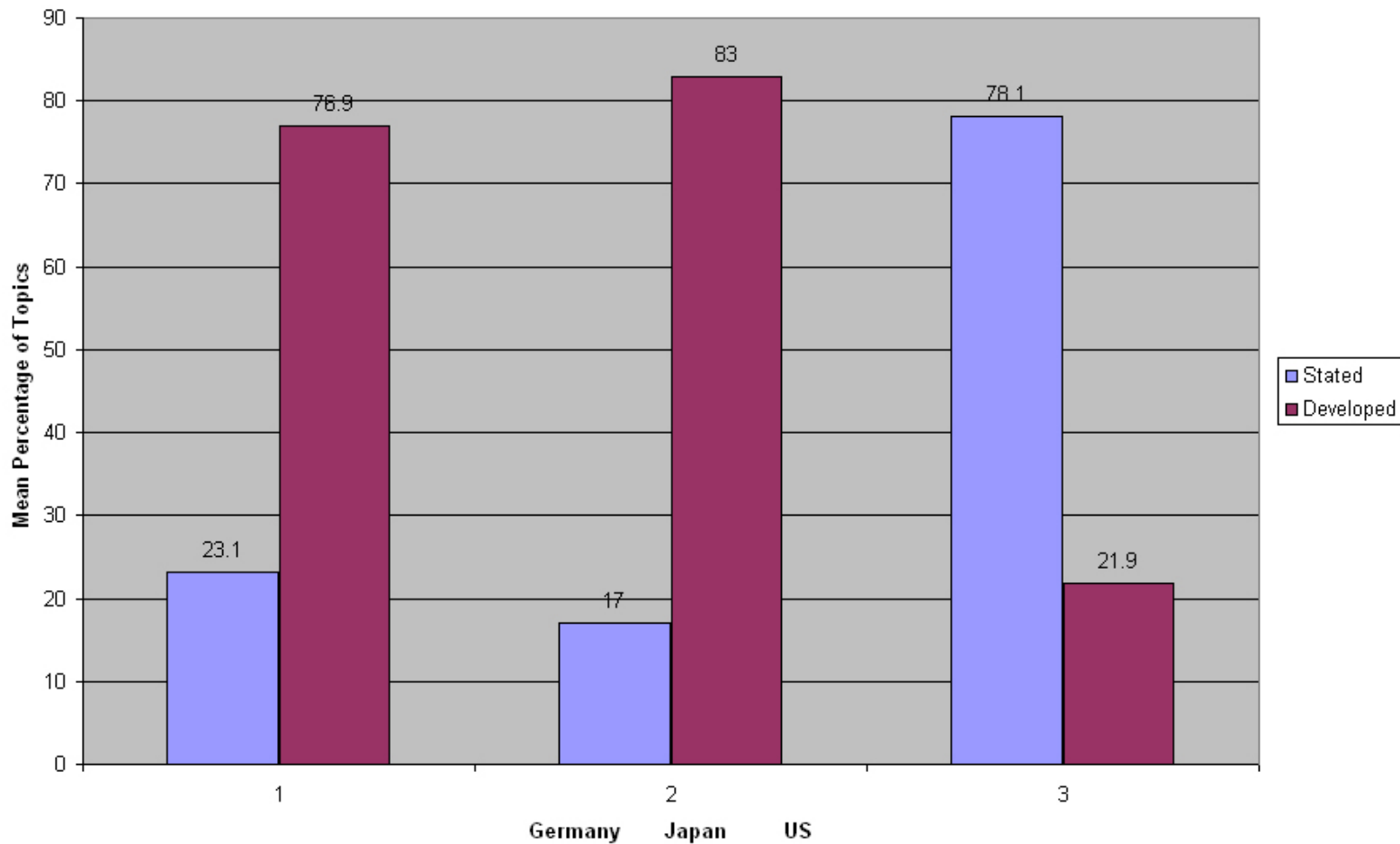


Country	1995	1999	2003
Singapore	609	604	605
Korea, Republic of	581	587	589
Hong Kong SAR ^{2,2}	569	582	586
Chinese Taipei	—	585	585
Japan	581	579	570
Belgium-Flemish (Netherlands) ²	550 529	558 540	537 536
Hungary	527	532	529
Malaysia	—	519	508
Russian Federation	524	526	508
Slovak Republic	534	534	508
(Latvia-LSS) ⁴	488	505	505
(Australia) ²	509	—	505
(United States)	492	502	504
Lithuania ⁵	472	482	502
Sweden	540	—	499
(Scotland) ²	493	—	498
(Israel) ⁷	—	466	496
New Zealand	501	491	494
(Slovenia) ⁵	494	—	493
Italy ⁷	—	479	484
(Bulgaria)	527	511	476
(Romania)	474	472	475
Norway	498	—	461
Moldova, Republic of	—	469	460
Cyprus	468	476	459
(Macedonia, Republic of)	—	447	435
Jordan	—	428	424
Iran, Islamic Republic of	418	422	411
Indonesia ⁶	—	403	411
Tunisia	—	448	410
Chile	—	392	387
Philippines	—	345	378
South Africa ⁸	—	275	264

Average percentage of topics in eight-grade mathematics lessons that contained topics that were DEVELOPED or STATED.



Figure 4.1 (page 61)



Percentage of lessons rated as having low, medium, and high quality of mathematical content (as rated by a team of mathematicians who did not know which lessons came from which countries).



Figure 4.2 (page 65)

