

Motivating our top students

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Introductory Programming

Heterogeneous student profiles

Diverse/divergent prior experience

- Learning to program
- Differentiated teaching
- Motivation

How do we prevent the most able becoming

- De-motivated
- Disillusioned
- Bored
- Lost

Our methods

Literature review

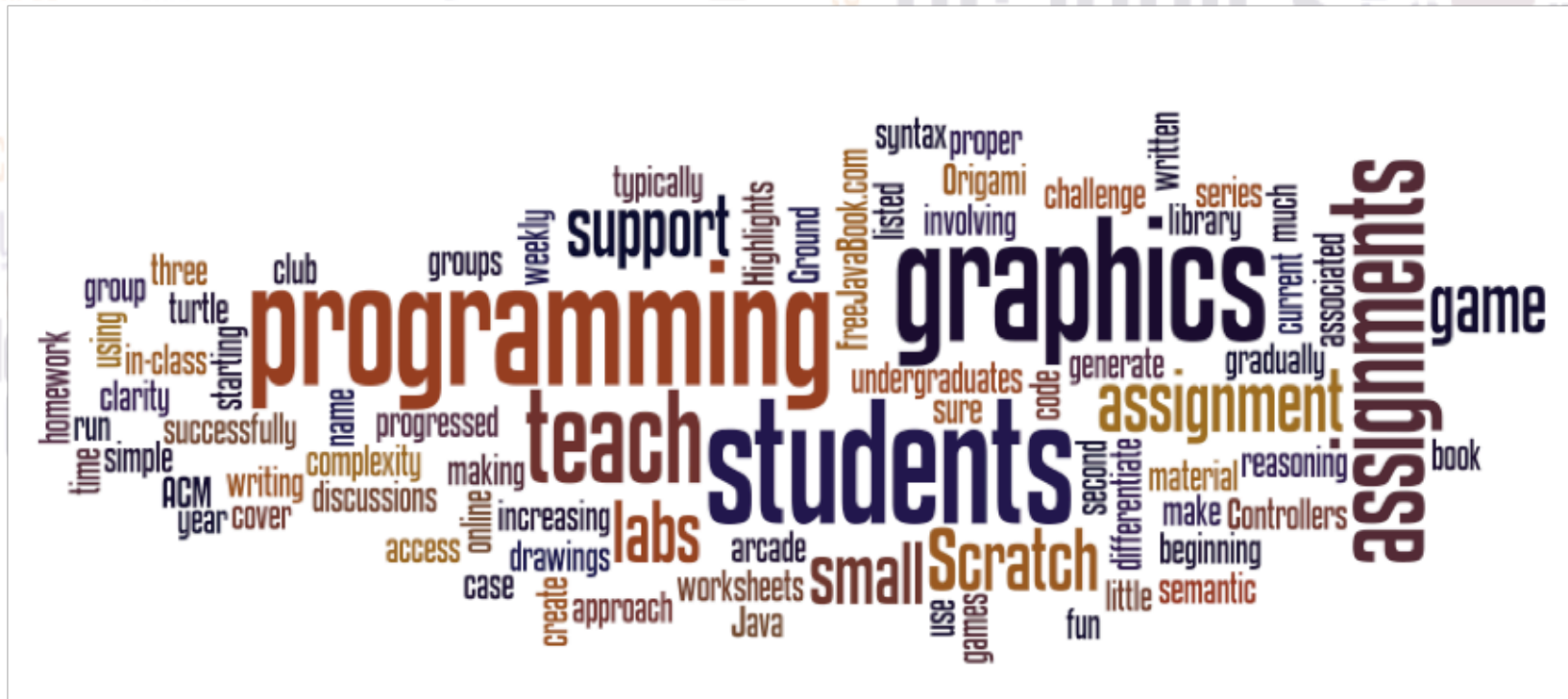
- Range of perspectives
 - Strugglers
 - Background narrative
 - methods and education over time

Survey (thank you 😊)

- ~80 respondents, ~40 full sets
- Quantitative and (rich) qualitative

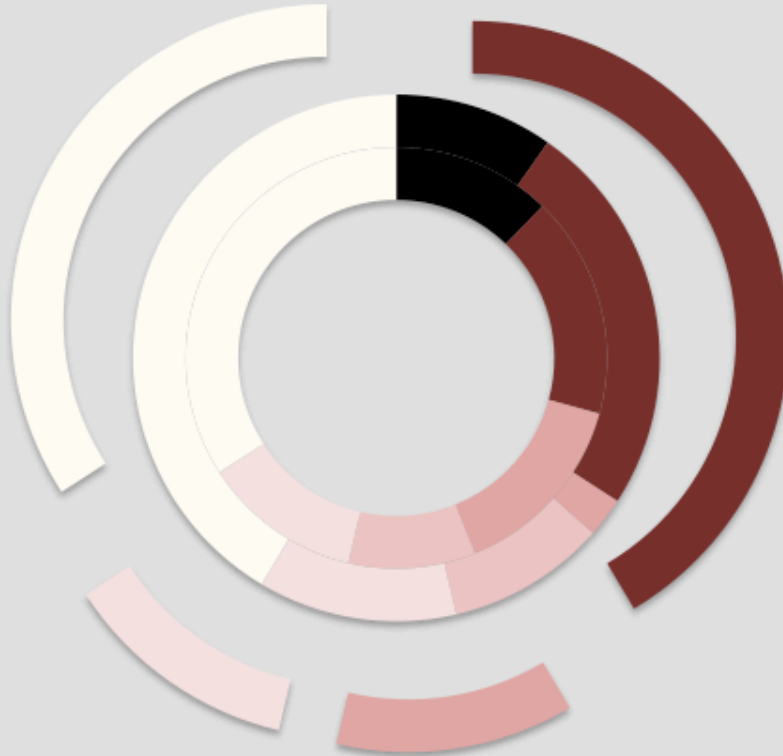
Survey

- What we do
- Why we do it



Looking for patterns...

Distribution of instruction methods



	1) Peer support	2) Differentiated teaching	3) Slow pace	4) Novelty	5) External motivation	6) Business as usual
a	5	7	6	4	5	14
b	4	10	1	4	5	17
c	0	17	0	5	5	14
	9	34	7	13	15	45

Initial Interventions

Struggling -> Coping-> Advanced

Intervention method	strugglers	copers	experienced
1) Peer support	5	4	0
2) Differentiated teaching	7	10	17
3) Slow pace	6	1	0
4) Novelty	4	4	5
5) External motivation	5	5	5
6) Nothing	14	17	14

Later interventions

Intervention method	Strugglers	Over achievers
1) Peer support	5	0
2) Differentiated teaching	3	0
3) Extra Help	24	19
4) Nothing	9	22

Preferred/predominant approaches

- Paired programming
- Getting to know students
- Collaboration with colleagues
- Student competitions

Emergent approaches/practice

Evolution/extension of existing practice

- includes
 - Streaming /differentiated teaching
 - Meeting student expectations /motivation
 - Research experiences /authentic learning