

# Writing Assignments in the Faculty of Science: Program Profiles of Seven Departments

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# Our Study

- Based on earlier study of syllabi (Graves, Hyland & Samuels, 2010)
- Conducted at WLU Faculty of Science
- 3600 full-time undergraduate Science students / ~ 17000 students
- 7 departments:
  - Biology, Chemistry
  - Health Sciences, Kinesiology
  - Mathematics, Physics and Computer Science
  - Psychology
- Collected 2012-13 academic year syllabi for all courses taught

# Table 1.

## Number of courses and assignments by program

	Number of courses	Number of writing assignments	Mean number of assignments/course	<i>SD</i>
Biology	55	115	2.10	2.44
Chemistry	55	83	1.51	2.00
➤ Health Sciences	12	29	2.42	1.73
Kinesiology	36	72	2.00	1.57
➤ Math	43	10	0.23	1.15
➤ Physics/CSci	55	15	0.27	.56
➤ Psychology	97	204	2.10	2.29
<b>Total</b>	<b>353</b>	<b>528</b>	<b>1.50</b>	<b>2.04</b>

Comparison: History = 3.71 (2014 study)

# Table 2.

## Assignment labels across all departments

Presentation (n = 104)	Report (n = 94)	Paper (n = 71)	Assignment (n = 69)
Group	Integrative	Critical appraisal	Group
Lab report	Interim	Discussion	Integrative
Proposal	General	Group term	Laboratory
Research article	Lab	Major	Self-reflective
Seminar	Lab notebook	Reflection	Writing
	Project		Media

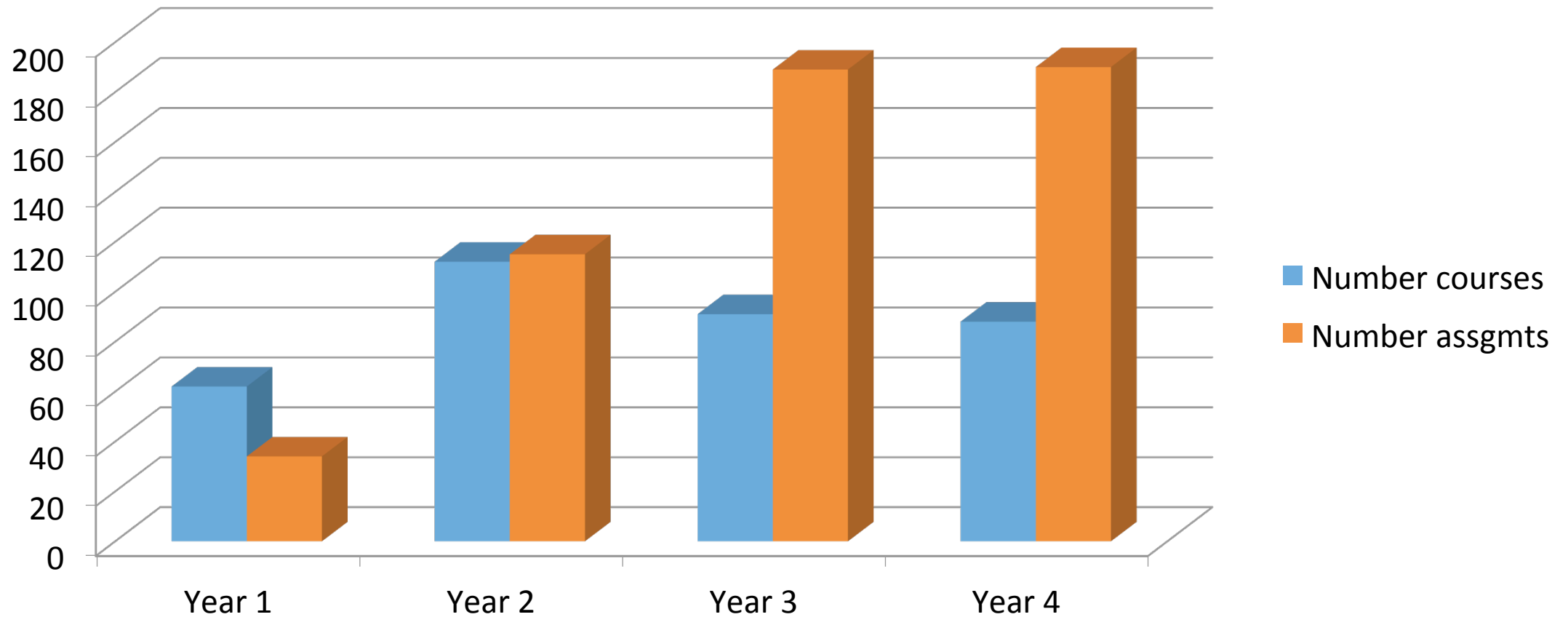
\* most common of 528 assignment labels

## Table 3.

### Number of courses and writing assignments by level


Level	Number of courses	Number of writing assignments	Number of courses with no writing assignments
➤ Level 1	62 (17.6%)	34 (6.4%)	50 (28.7%)
Level 2	112 (31.7%)	115 (21.8%)	69 (39.7%)
Level 3	91 (25.8%)	189 (35.8%)	35 (20.1%)
➤ Level 4	88 (24.9%)	190 (36.0%)	20 (11.5%)
<b>Total</b>	<b>353 (100%)</b>	<b>528 (100%)</b>	<b>174 (100%)</b>

# Table 3. Number of courses and writing assignments by level



# Table 4.

## Writing assignments by length



Length (in words)	Number (n = 528)	Percentage of total
Not Specified	385	72.92%
50 - 500	47	8.90%
501 - 1000	30	5.68%
1001 - 1500	20	3.79%
1501 - 2000	12	2.27%
2001 – 2500	18	3.41%
2501 – 3000	5	.95%
3001 - 3500	1	.19%
3501- 4000	4	.76%
4001- 4500	2	.38%
4501-5000	2	.38%
5000 +	2	.38%

# Table 5.

## Additional characteristics of assignments

Characteristics of assignments	Assignments contained this characteristic	Assignments did not contain this characteristic
➤ Nested	161 (30.5%)	367 (69.5%)
Learning Goal	269 (50.9%)	259 (49.1%)
Description	397 (75.2%)	131 (24.8%)
➤ Grading Rubric	178 (33.7%)	350 (66.3%)
Resources for Assignment	117 (22.2%)	411 (77.8%)
References Required	130 (24.6%)	398 (75.4%)
➤ Feedback	45 (8.5%)	483 (91.5%)



# Program Profile for Biology Department

Level	Courses Offered	Number of Courses with Writing	Percent of Courses with Writing	Number of Writing Assignments	Length: No Details	Length 1 -500 words	Length 1000-2500 words	Value No Details	Value 1 – 10%	Value 11-20%	Feedback
1	2	0	0%	0	0	0	0	0	0	0	0
2	11	1	9 %	10	4	6	0	0	7	3	7
3	17	13	76 %	42	30	8	3	0	28	8	8
4	25	22	88%	63	47	4	12	1	40	14	4
Total	55	36	66%	115	81	18	15	1	75	25	19



# Biology Department Profile summary

- No writing in first-year courses
- Very little writing in second-year courses
- Lots of writing in 3<sup>rd</sup> and 4<sup>th</sup> year
- Length of assignments is usually not specified; when specified it is usually between 2-10 pages
- Most assignments are low stakes (worth 10% or less)
- Students are rarely given feedback in progress

# Questions that profiles raise

- Is the amount of writing we are assigning what we expected to see?
- What types of writing do we want our students to master?  
Are they practicing this?
- Should we plan for more/less writing?
- What supports are we building into assignments to help students understand our expectations?
- Do we have a systematic plan of assignments/goals in place so our students develop writing competence over the 4 years of the program?

# Faculty responses

- Profiles were provided to department chairs in a 1-on-1 meeting
- Some resistance encountered (“we actually do more writing than the syllabi indicate”)
- Some eagerness and gratitude (“we can see what we’re doing and where we need to make changes”)
- Some departments are pro-active and involve all faculty in developing effective writing pedagogy to achieve specified learning goals
- Some departments feel under-prepared to teach writing
- Some departments (e.g., Math) felt the profiles aren’t helpful because the writing they do is “different”

# Conclusions

- Profiles are most useful when the whole department acknowledges a need to change pedagogical practices
- Profiles can identify existing strengths as well as weaknesses in programming
- Profiles are teaching tools – can help faculty/depts identify best practices
- Profiles are least successful when viewed as a critique of the department or its members
- Profiles allow easy comparison over time to measure changes (i.e., program evaluation tool)
- Whole faculty profiles may use comparison between departments to effect change

# Implications and connections to literature

- Lack of coherent curriculum planning
- Systemic differences between research and practice work against faculty prioritization of writing (see Reynolds, Thaiss, Katkin, & Thompson, 2012)
- Academic writing instruction early in university students' careers may be beneficial (see Smith, T.A., 2006), in addition to ongoing instruction

Future:

How can these barriers and the goal of early instruction be addressed?

Thank you.

Questions?