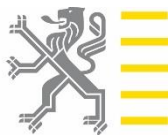# FLAMES
(FLANDERS TRAINING NETWORK FOR METHODOLOGY AND STATISTICS):

A longitudinal analysis of our doctoral training initiative

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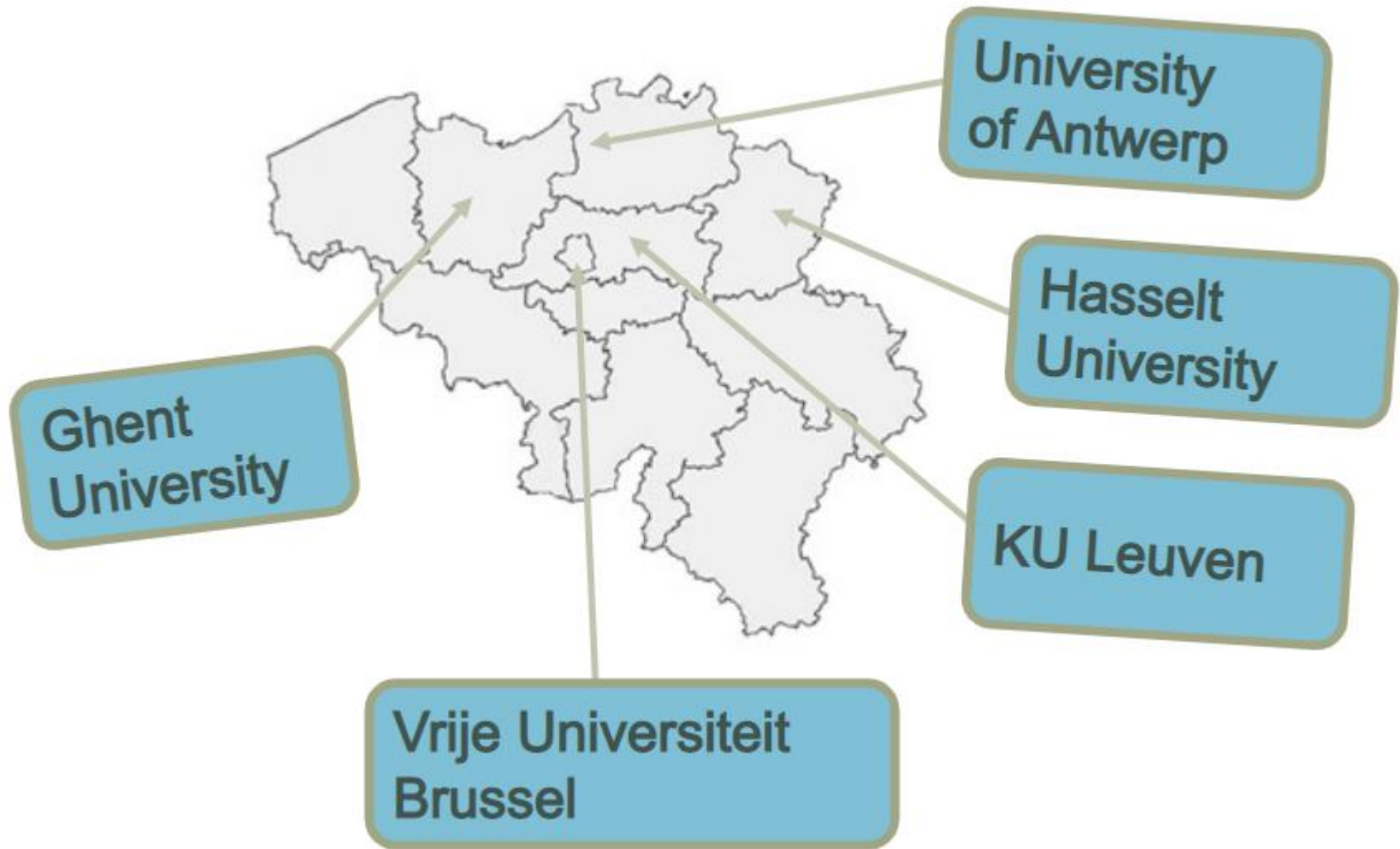

Met steun van de Vlaamse overheid

Vlaanderen In Actie Pact 2020

RICHTING MORGEN

1. Country: Belgium/Belgica

1.1 Flanders & its universities

2. FLAMES: Flanders training network for Methodology and Statistics

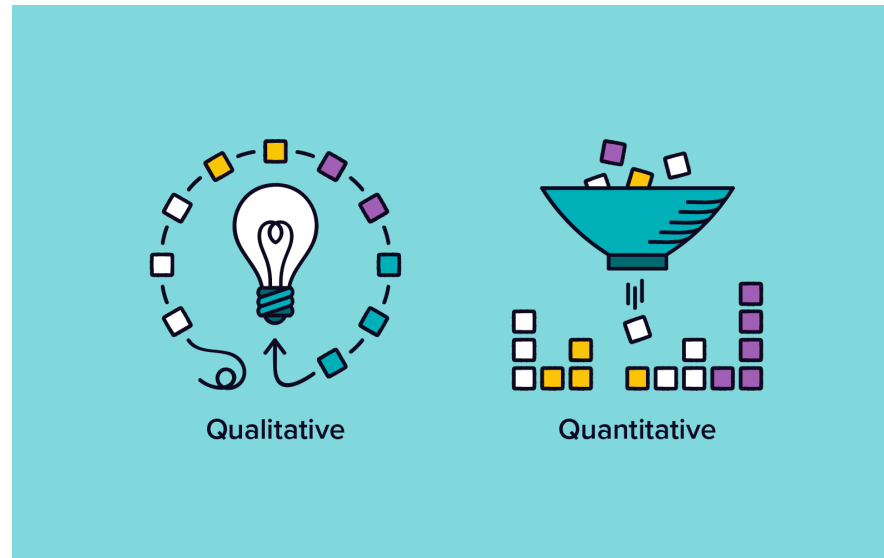- Joint training initiative of the **five Flemish universities**

- **Aim:** To support doctoral students in their pursuit of supreme training in methodology and statistics

FLAMES: Flanders training network for Methodology and Statistics

- **Approach:**

- Courses categorized in **four main domains**:
  - short training local initiatives (colloquia, seminars, workshops)
  - inter-university (IU) courses
  - an annual two-week summer school offering over +/- 16 modules
  - an annual 1-day meeting devoted to a special theme.

3. Popularity of FLAMES to participants

Table 1. Number of student contacts per type of FLAMES activity and per year

	Academic year									
	12-13	**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**18-19**	**19-20**	**20-21**	Total
IU courses	-	59	140	229	302	237	226	727	1671	3591
Local initiatives	246	525	549	367	473	499	615	989	1420	5683
Summer School	278	413	476	460	458	444	521	567	455	4072
Total	524	997	1165	1056	1233	1180	1362	2283	3546	13346

3.1 Summer school

- **First edition:** September 2013 @ KU Leuven
  - Only 4 modules were offered
- Over the years, it has grown into a **two-week program** with +/- 16 modules of different
  - duration
  - format

covering

- qualitative
- quantitative methods,

that are

- basic as well as more advanced techniques,
- pure theoretical, practical, or a combination of both

3.1 Summer school

- **Few courses & their participants over the years:**

Table 2. Number of students enrolled per module and edition of the FLAMES Summer School

	'13	'14	'15	'16	'17	'18	'19	'20	'21	Total
Basic Regression Analysis	62	74	67	49	64	46	43	44	-	449
Research Design	77	41	49	71	62	54	34	37	22	447
Basic Parametric Statistics	-	-	77	49	53	44	48	45	30	346
Multilevel Analysis	-	54	39	28	26	28	28	33	46	282
Data Analysis with Python	-	-	-	-	-	-	31	30	30	91
Basic Nonparametric Statistics	-	-	29	43	49	42	35	35	19	252
Introduction to NVIVO	-	22	36	37	24	25	23	25	24	216
Focus Groups	-	17	33	26	25	22	19	25	17	184
Intro to Machine Learning	-	-	-	-	-	-	30	34	26	90
…	…	…	…	…	…	…	…	…	…	42
Total	278	413	476	460	458	444	521	567	455	4072

3.2 IU courses

- Extra-curricular events organized throughout the academic year

- Duration of 2-3 days (on average)

- Consist of:
  - a theoretical component
  - a practical tutorial component
  - a group work assignment
  - detailed feedback sessions

3.2 IU courses

- **Few courses & their participants over the years:**

Table 3. Number of students enrolled per inter-university (IU) course and per year

	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	Total
Graphics in R	28	30	26	42	29	20	17	51	243
Missing Data	-	-	36	30	21	22	61	38	208
Method in Data Collection	-	36	37	47	24	39	19	48	250
Method in Research Design	-	32	43	52	40	46	29	63	305
Questionnaire Construction and Analysis	31	30	27	31	38	30	37	21	245
Survival Analysis in R	-	-	29	28	30	14	-	28	129
Tools for Multivariate Data Analysis	-	-	-	25	25	30	21	30	131
Essential tools for R	-	-	-	-	-	-	27	183	210
Spatial analysis using R	-	-	-	-	-	-	29	23	52
…	…	…	…	…	…	…	…	…	…
Total	59	140	229	302	237	226	727	1671	3591

3.3 Local initiatives

- Includes various activities, ranging from
  - lectures of 1 or 2 hours,
  - multi-day courses
  - workshops

  on all kinds of statistical and/or methodological topics

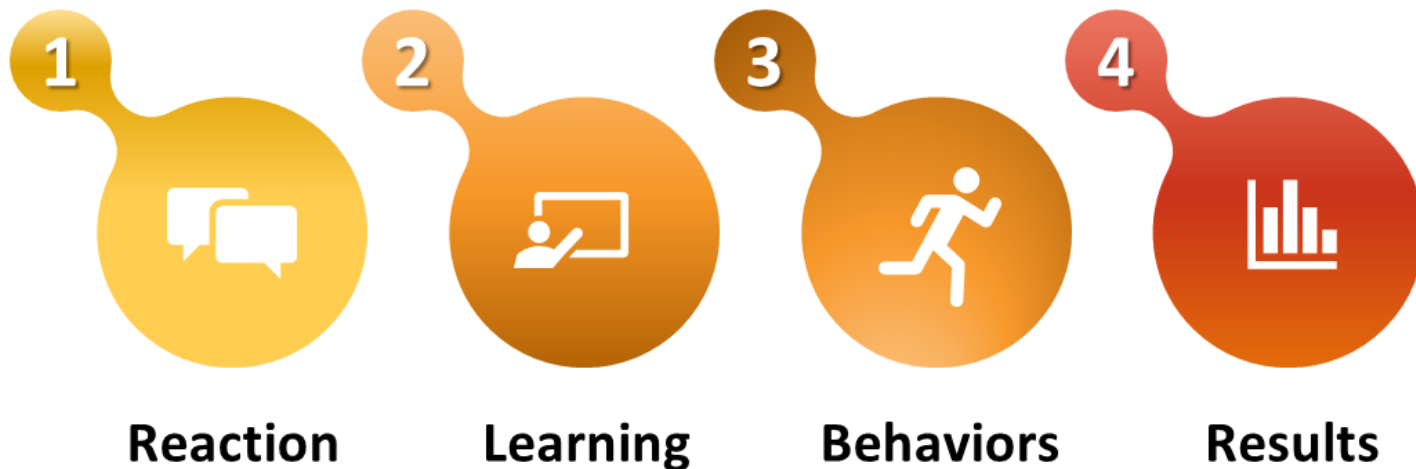# 4. LEARNING FROM FLAMES ACTIVITIES

- The ''measuring is knowing'' principle

- An **evaluation form** is send out to the participants, containing a series of questions and room for open comments
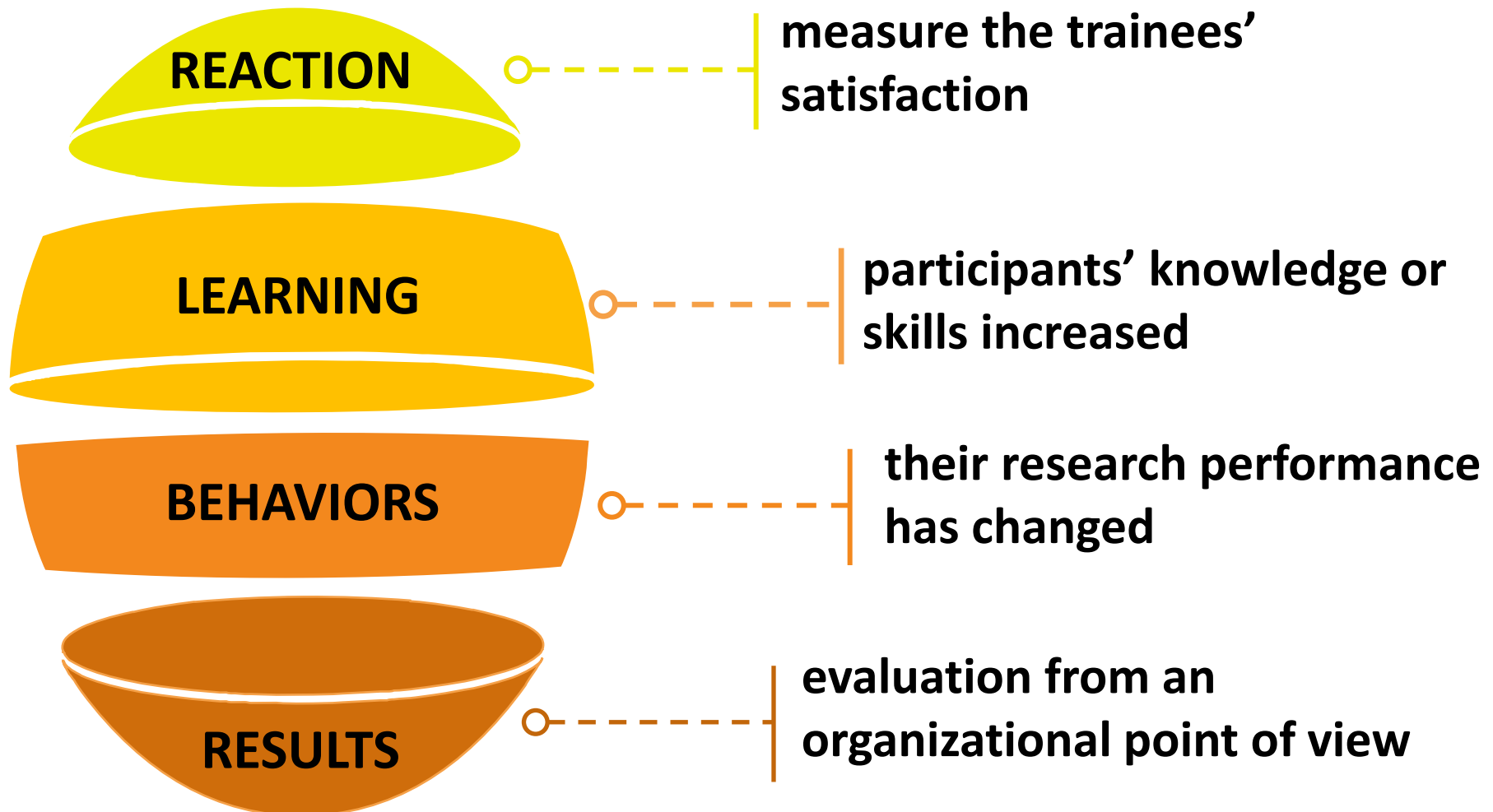- **Aim:** To determine the participants' level of satisfaction towards our events

4.1 Structure of the evaluation form

- The form structure and questions are based on the four levels of the Evaluation Process proposed by Kirkpatrick (1998):

Reaction   **Learning**   **Behaviors**   **Results**

Kirkpatrick's Evaluation of Training levels (1998)

REACTION — — — — — measure the trainees' satisfaction

LEARNING — — — — — participants' knowledge or skills increased

BEHAVIORS — — — — — their research performance has changed

RESULTS — — — — — evaluation from an organizational point of view

1st section

General section: summer school experience

'Will you recommend the Summer School to colleagues?'

FSS 2018: 61% would spontaneously recommended it

'Overall, on a scale of 1 to 10, (1=very poor, 10=outstanding), how do you evaluate the Summer School?'

FSS 2018: average of 7,87 appreciation

2ⁿᵈ section

Specific section: module(s) experience

? *'How do you assess the quality of the lecturing?'*

↳ **FSS 2018: on average, 83% of participants assessed good & very good quality of lecturing.**

? *'How would you assess the quality of the teaching material?'*

↳ **FSS 2018: on average, 82% of participants assessed good & very good quality of teaching material.**

? *'Overall, on a scale of 1 to 10, (1=very poor, 10=outstanding), how do you evaluate the quality of this module?'*

↳ **FSS 2018: raging on average from 6,2 to 8,8 appreciation**

3rd section

Extra section: comments & feedbacks

'In the future I would very much like to attend courses dealing with the following topics' -> short list of topics provided;

'If you have any other ideas for improving the Summer School, please share them with us' -> open comments;

Future training initiatives

4.2 CONCLUSION: INSIGHTS AND LESSONS LEARNED SO FAR

- Focusing on the <u>growing demand of interest by researchers</u>, an **increase amount of teaching modules** have been **added** in the last few years.

- To do so, FLAMES is supported on a yearly basis by **government funds** granted to each university.

- Thanks to this support, we are able to carry on with the training initiatives in methodology and statistics, hereby merely improving existing training materials, and expanding new initiatives.

- While there are countless possibilities for improvement and evolvement, we will continue our mission in statistical and methodological education.

QUESTIONS?

Contacts

FLAMES WEBSITE:

https://www.flames-statistics.com/

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References

- Farjad, S. (2012). The Evaluation Effectiveness of training courses in University by Kirkpatrick Model (case study: Islamshahr university). *Procedia-Social and Behavioral Sciences, 46*, 2837-2841.

- Kirkpatrick, D.l. (1998). Evaluating training programs. The four levels. *In ASTD lnternational Conference, 3,* l-1.