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# An experimental online course for teaching Gender & IT to business and engineering students

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Higher Education (and Research)





## Outline

1. Why an experimental course for teaching gender?
2. Developing a SPOC (Small Online Private Course)
3. Students characteristics
4. Collecting data from the students
5. Students' global evaluation
6. The impact on gender&IT stereotype
7. Women's empowerment in IT
8. Teaching gender online vs. in-class teaching

# 1. Why an experimental course for teaching gender?

## ■ The context

- Since 2006 face to face courses on Gender Stereotypes and on Diversity Management
- 2016 launched *online* course : ***Masculine and feminine in the digital world – a journey of discovery***

## ■ Objectives of the course

- Enable & encourage students to apprehend the gender and technology relation in a more informed and sophisticated way.
- Advance **gender equality in the field of IT**
- Use innovative format to reach a **higher number** of students

## ■ Course Content

1. Women in the history of IT
2. Women in IT careers
3. Gender stereotypes and IT

## 2. Developing a SPOC (Small Online Private Course)

### ■ Workload

- 6 person-months
- one year duration

### ■ Platform

- Moodle

### ■ Videos

- Ubicast

### ■ Documents

- Powerpoint files
- Text associated with PPT



# Homework: examples

## Activité 1 (Forum en groupe élargi)

Forum de discussion: Comment avez-vous fait vos premiers apprentissages de l'informatique?

## Activité 1 (en sous-groupe)

Regarder la vidéo sur Grace Hopper, *The Queen of Code*, et prendre des notes.

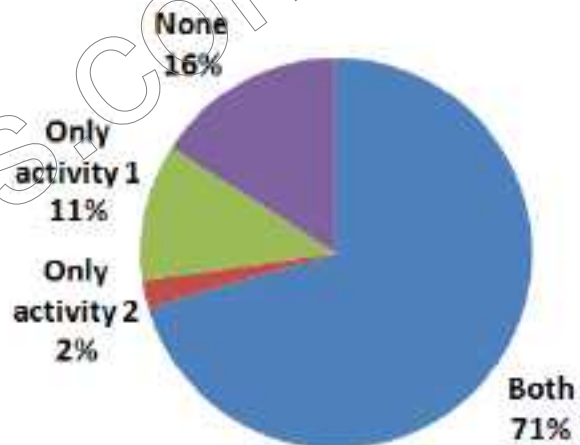
Dans votre sous-groupe, écrire un entretien imaginaire avec Grace Hopper. Retracer le parcours de GH en vous référant aux différents moments de l'histoire de l'engagement des femmes dans l'informatique cités dans cette sous-séquence. (Minimum deux pages, élaborer les questions et les réponses).

## Activité 1 (individuelle)

Savez-vous comment est née la campagne Twitter d'août 2015 #ilooklikeanengineer ? Pensez-vous que cette campagne a eu des retentissements en France (1 demi-page) ?

# Homework: control

➤ Dashboard for each session



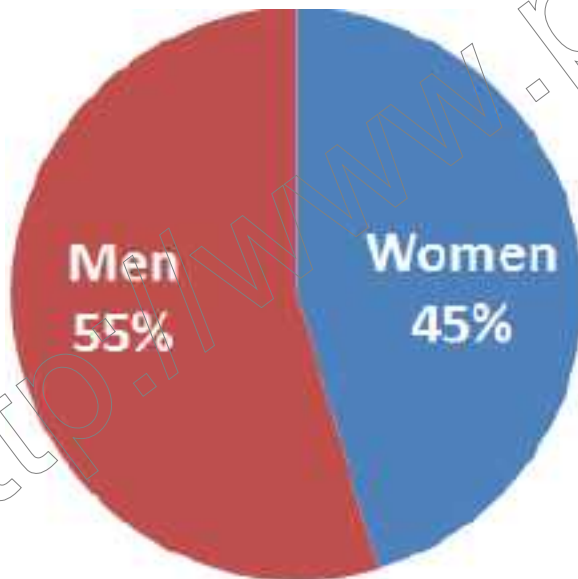
Prenoms	Session 1		Session 2		Session 3	Session 4
	activité	forum en sous-groupe	activité 1	activité 2	activité en sous-groupe	forum
Katia	😊	😊	😊	😊	😊	😊
Jasmine	😊	😊	😊	😊	😊	😊
Poschia	😊	😊	😊	😊	😊	😊
Marwane	😊	😊	😊	😊	😊	😊
Nouhaïla	😊	😊	😊	😊	😊	😊
Raphael	😊	😊	😊	😊	😊	😊
Achref	😊	😊			😊	
Carl	😊	😊	😊	😊	😊	😊

### 3. Students' characteristics

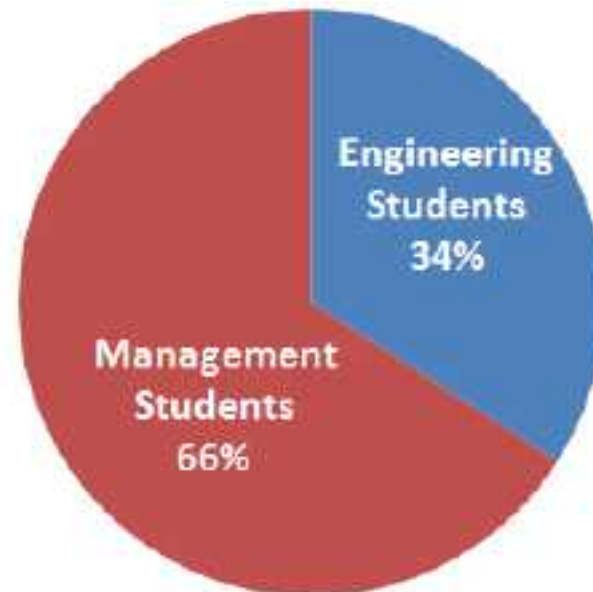
Age: 20 – 22

Number: 44

■ Sex



■ School



## 4. Collecting data from the students

### ■ First questionnaire: 9 open-ended questions

- *What do you think about this online course compared with a face to face course?*
- *What surprised you most in the course?*
- *What has the course brought you personally?*
- *What do you suggest to improve the course?*

...

### ■ Second questionnaire: 20 closed questions

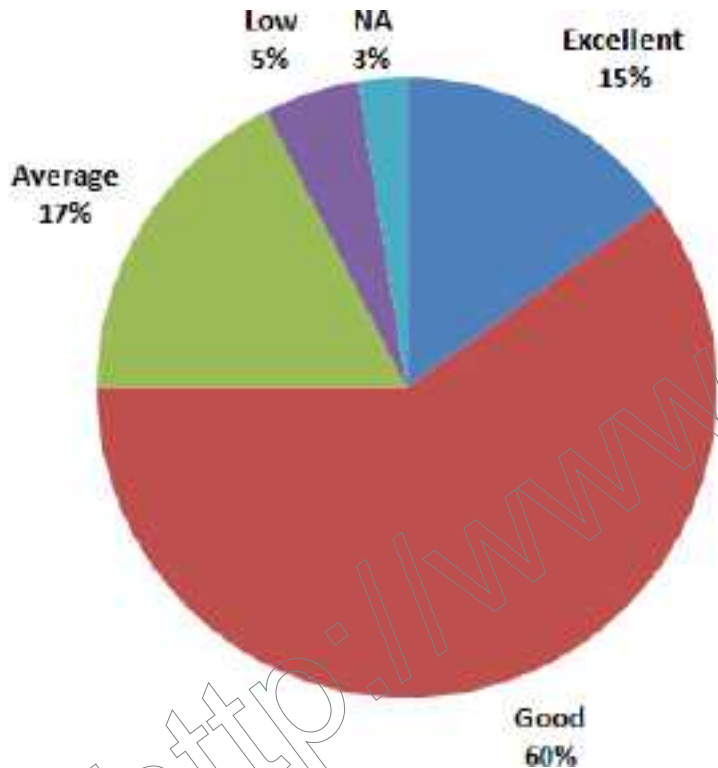
- IT stereotypes
- Empowerment

...

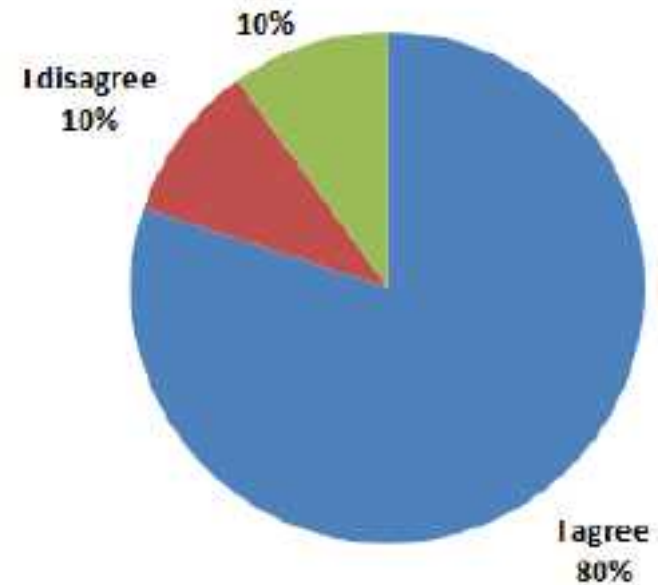


## 5. Students' global evaluation

### 1. Course Rating: 75% good or excellent



### 2. Improved understanding of the complexity of gender & IT relation : 80%



## 6. The impact on gender&IT stereotype



[www.computersciencedegreehub.com/10-notorious-female-hackers/](http://www.computersciencedegreehub.com/10-notorious-female-hackers/)

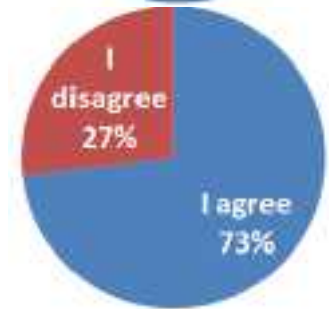
No prior knowledge on gender & IT stereotypes 22%



I discovered the negative impact of gender stereotypes in IT 89%



My view of digital world has become more inclusive 75%



## Some quotes on gender&IT stereotype (men)

I have a more critical approach to .... advertising or magazines etc. but also greater awareness of the stereotypes that I myself may convey

What surprised me most was to learn that women had played such an important role in the history of CS.

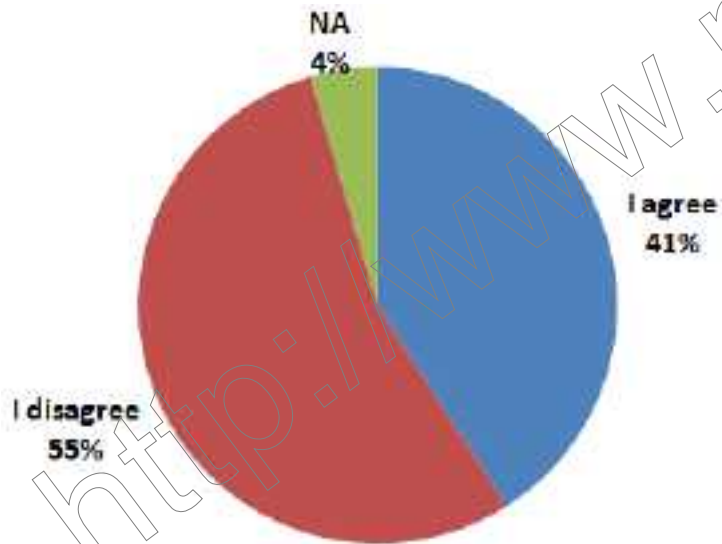
... I did not realize that people working in computer science were treated differently.... depending on their sex or the region of the world they live in.

I now understand better and have tools to deconstruct gender stereotypes

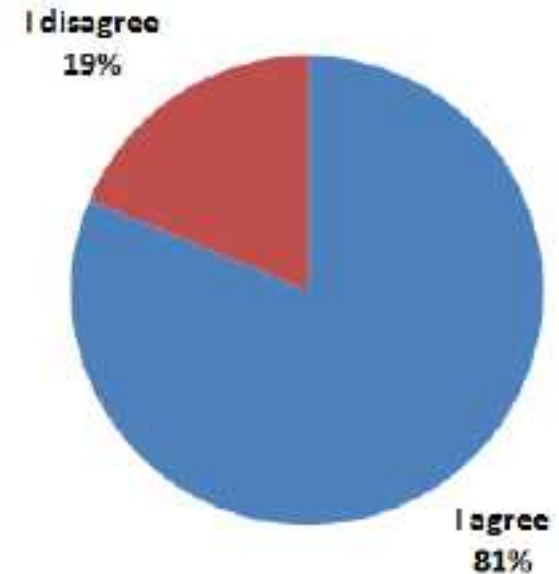
## 7. Women's empowerment in IT

I feel more motivated for working in IT jobs

Men : 55% disagree



Women : more than 80% agree



# Some quotes on empowerment in IT (women)



Marcello – La Pythie

As a woman the course made me aware of many things – it gave me the desire to know more about IT

(The course gave me)... self confidence, encouragement, feeling honored...

What surprised me most was to discover women's participation and skills in CS.

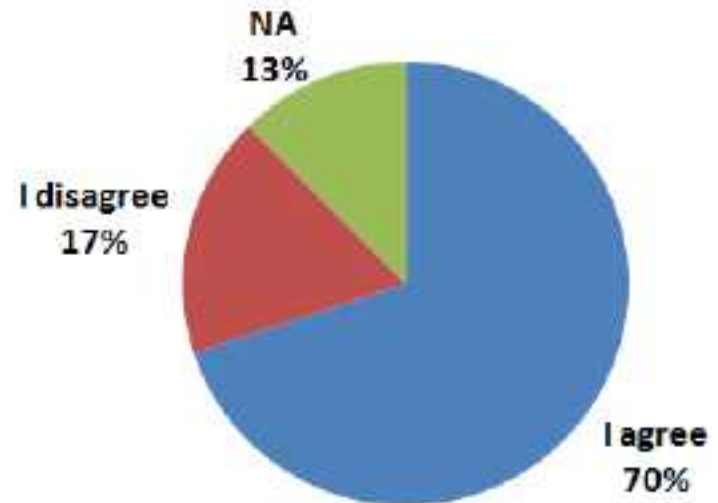
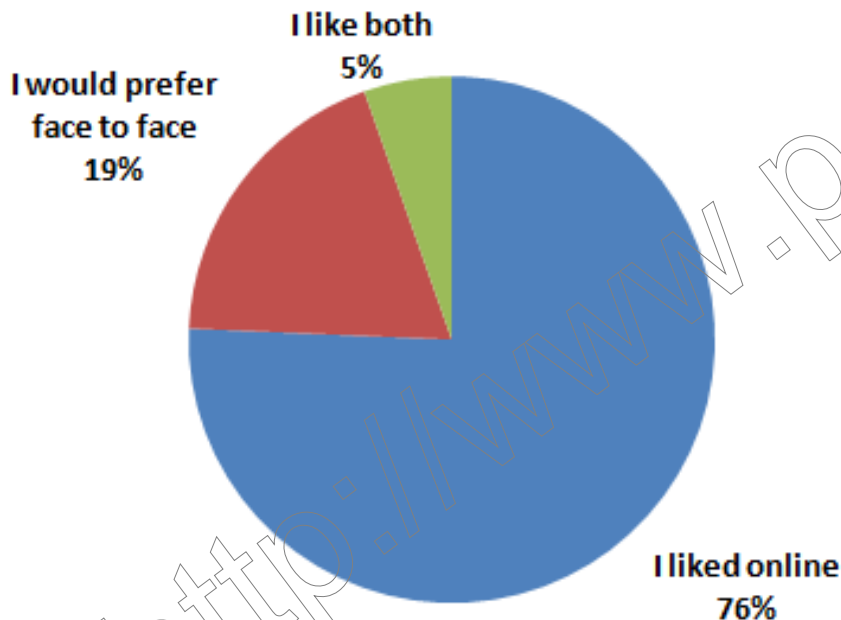
I want to work in IT so as a woman the course interested me immediately.

# 8. Teaching gender online vs. in-class teaching

## 8.1 Students 'opinion

1. Online course is appreciated by more than 80%

2. Online course improves learning about feminine-masculine topics : 70%



## Students' quotes

Quite honestly, I prefer the SPOC...

We put more effort into an online course.

The online course...is much more enjoyable than a face to face class...we can follow the course when, where and with whom we want!

For a humanities course, the online format is appropriate and pertinent.

The online course is better....

Very enjoyable.... it was easy to get in contact with the professors.....

## 8.2 Teachers' opinion



*Frans Hals, Laughing boy*

### ■ Better interactions among students

- More respectful
- More collaborative
- Less gendered (bodies not visible)

### ■ Improved learning performance

- Greater involvement for a strong minority
  - Curiosity (active search on the Internet)
  - More personalised opinions
  - Reflexivity on personal experiences





## To conclude

### ■ Female-Male Equality Education Award

2016 “Prix de l’enseignement de l’égalité” by the CDEFI – the Association of Directors of French Engineering Schools.

### ■ Next step: developing a MOOC ‘Gender diversity in the IT sector’

- Proposal submitted to a call for projects from City of Paris “PARIS-CODE”
- Partners: communicating about the MOOC and conducting training sessions



*Claude Cahun*

**Thank you!**

**Questions?**