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# NETCHEM

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*Survey report –University of Belgrade*

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## Size of the sample:

3 Heads of high education institutions

11 Teachers (3 faculties)

17 Students

11 Analysts (6 laboratories – including accredited lab., faculty and institute lab.)

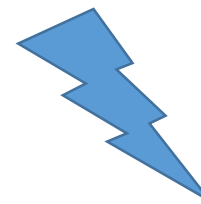
6 Heads of analytical laboratories (6 laboratories)

## Conclusions?

**NETREL project** – what were its downsides and what can we learn from them?

Heads of high education institutions

Heads of analytical laboratories



Teachers



Students



Analysts

	MSc	PhD	Students
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Fundamental chem. knowledge 6,1 6,9 8,6

Theoretical knowledge in EFSC 5,6 6,1 7,1

Theoretical knowledge on analytical methods 5,3 6,1 8,1

**Skills in practical work with instruments 4,0 4,9 5,5**

**Skills in solving complex analytical problems 4,3 5,6 5,3**

Foreign languages (professional terminology) 6,0 6,8 7,1

**foreign languages (professional terminology)**

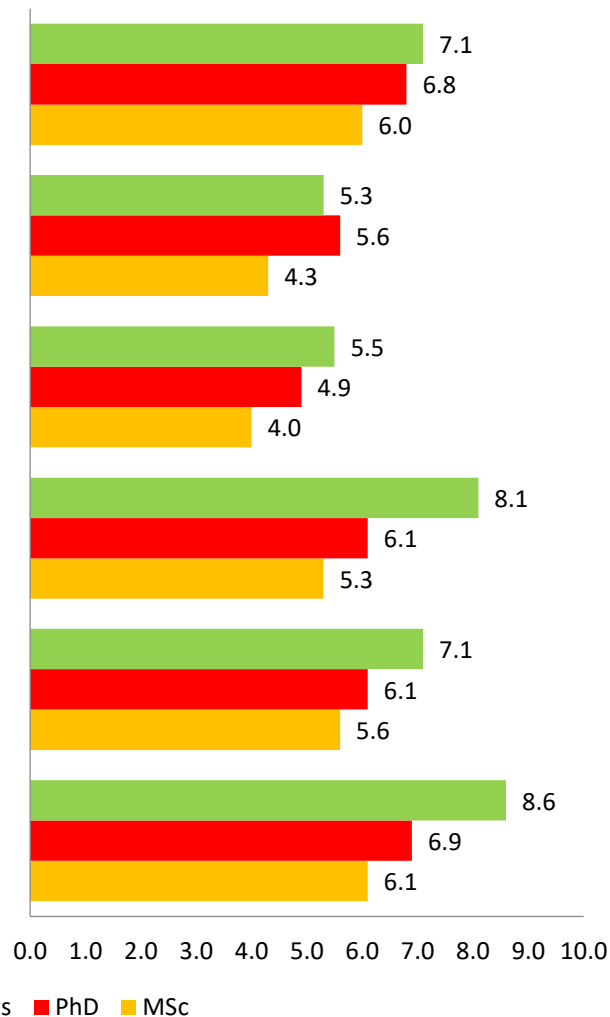
**skills in solving complex analytical problems**

**skills in practical work with instruments**

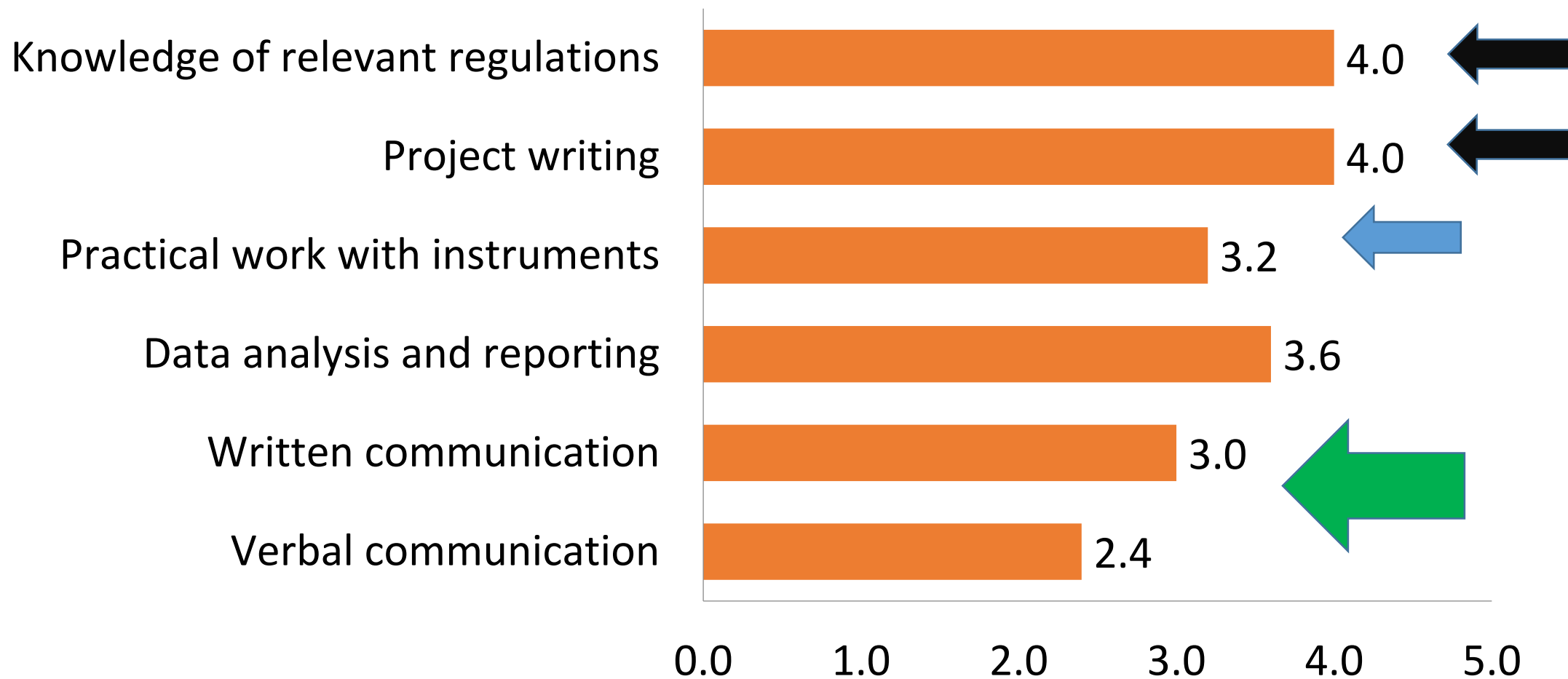
**theoretical knowledge on analytical methods**

**theoretical knowledge in EFSC**

**fundamental chem. knowledge**



## Gaps in knowledge of novice employees



## Comparison of OER

### Conventional means

Scientific papers

Printed publications

E-books

Other text. materials

### Multimedia

Image / Animation

Simulation of phenomena

Simulation work of instrum.

Movies

### IT means

Forum, chat

Webinars

Online courses

Web Conferencing

Databases

	Teachers			Students			Analists		
	never	sometimes	often	never	sometimes	often	never	sometimes	often
Scientific papers	0	18	82	0	29	71	9	27	64
Printed publications	0	9	91	12	41	47	9	27	64
E-books	0	27	73	0	24	71	18	0	82
Other text. materials	0	18	82	0	41	53	9	36	55
Image / Animation	9	45	45	6	41	53	18	45	36
Simulation of phenomena	45	27	27	41	29	24	36	55	9
Simulation work of instrum.	45	36	9	47	35	12	18	64	18
Movies	36	64	0	41	47	6	27	36	27
Forum, chat	55	36	9	35	53	12	27	55	18
Webinars	55	45	0	71	24	0	36	45	18
Online courses	36	55	9	53	41	0	64	27	9
Web Conferencing	45	45	9	82	6	0	73	18	9
Databases	9	27	64	18	53	29	27	45	27

OER should be:

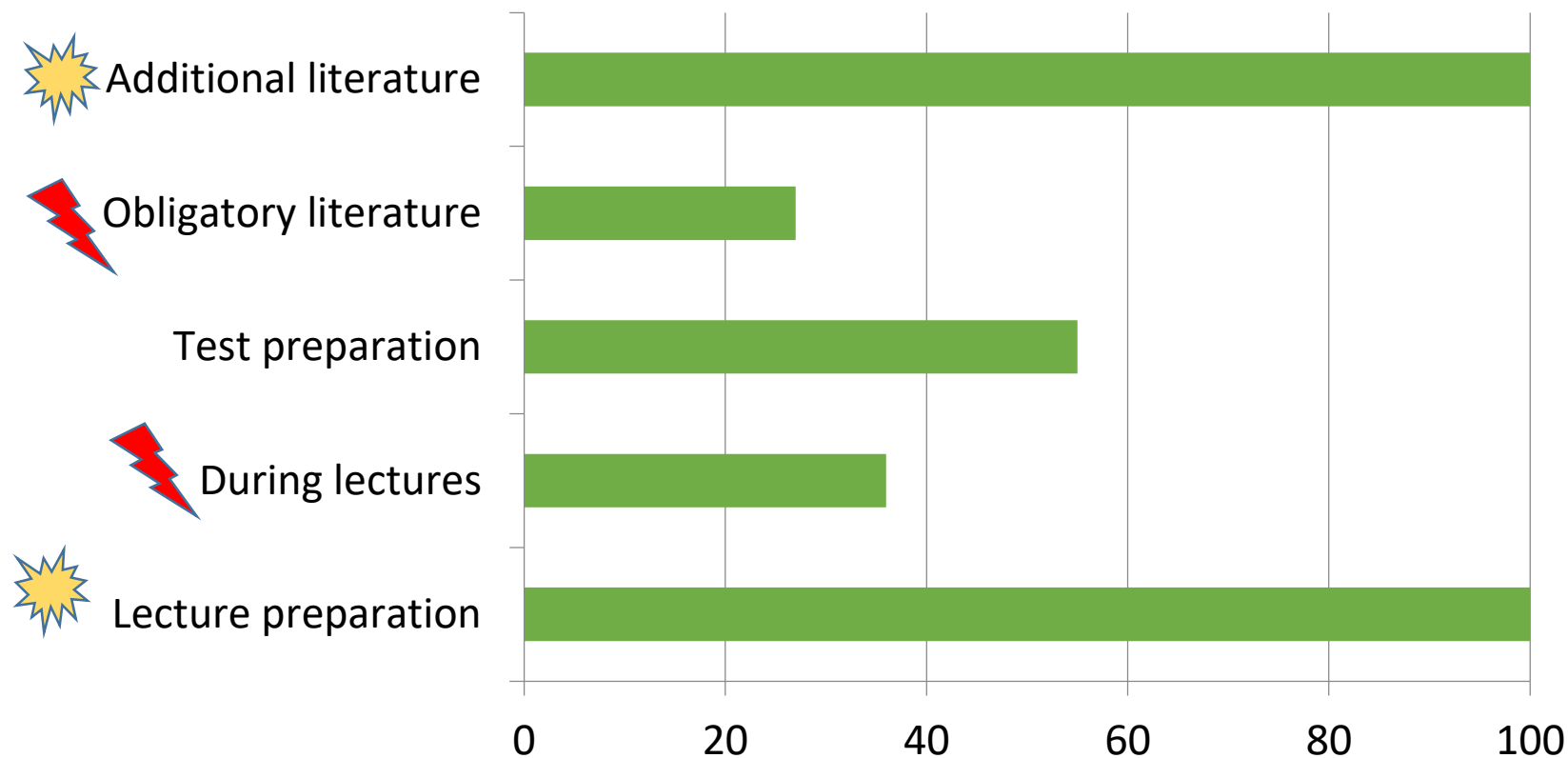
Useful

Available

User must be  
trained to  
use it

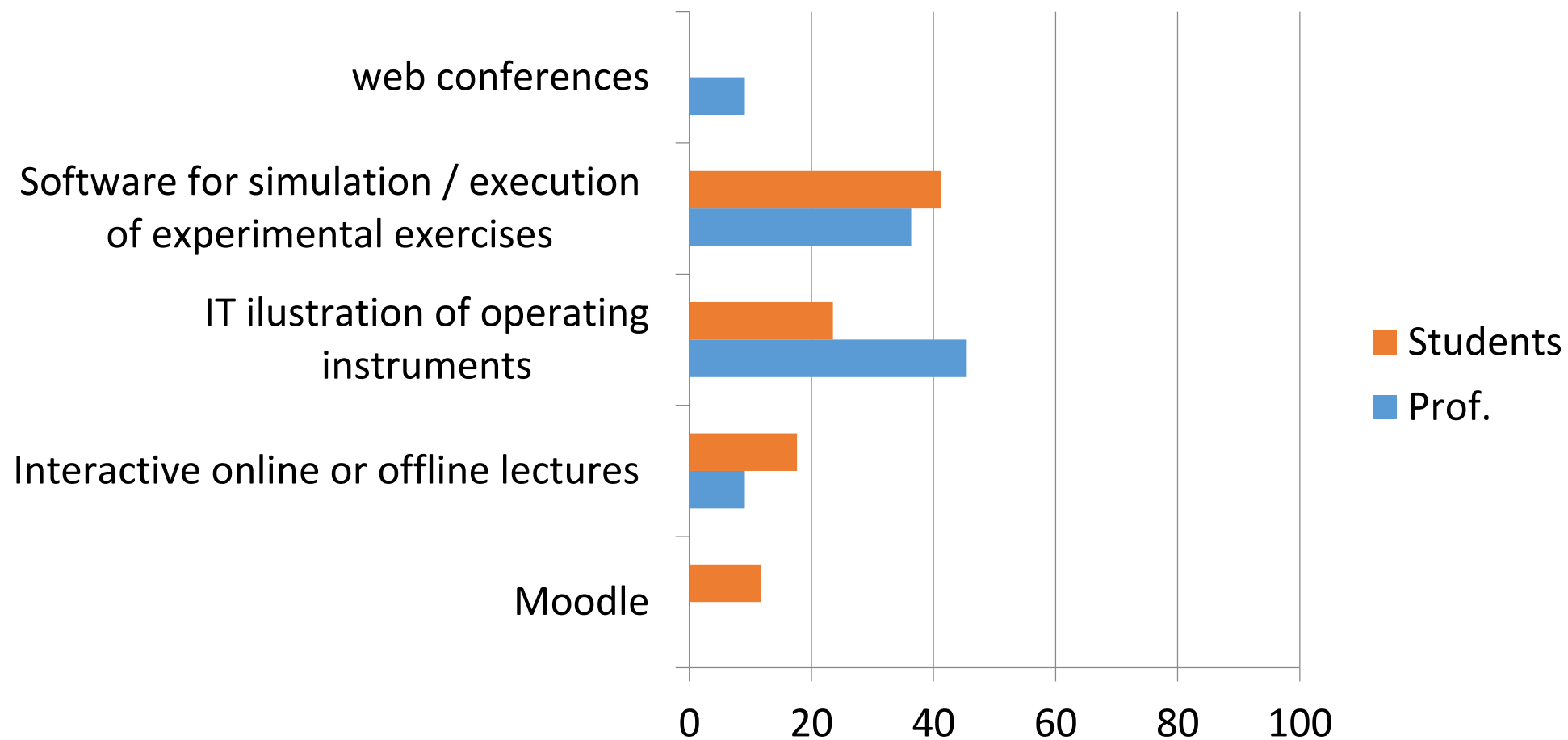
## OER purpose (teachers):

**OER are very  
present,  
but use is  
conservative!**





## Specific types of OER

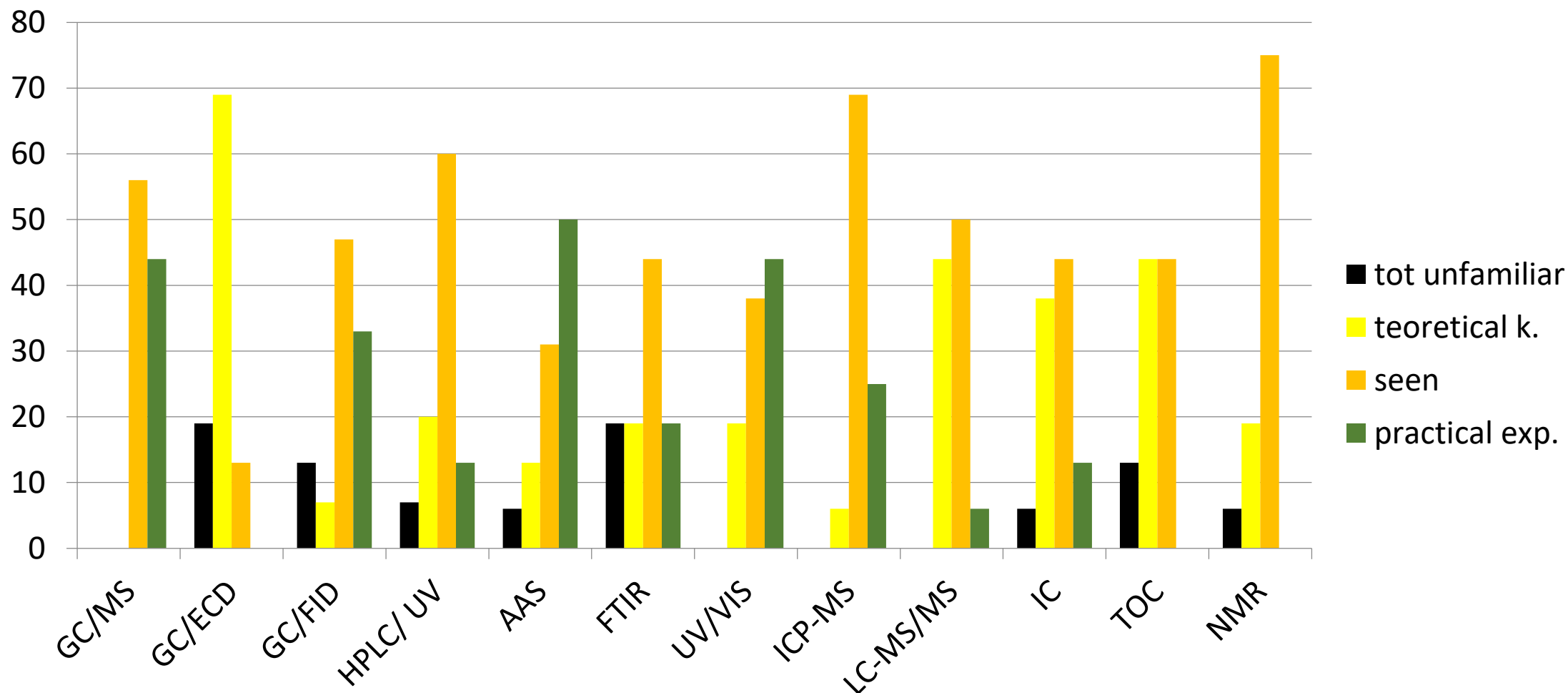


## WARIAL recognition of importance and attitude

	Teachers	Students	Analists
Worked with WARIAL? (%)	9	0	0
Interested in WARIAL? (%)	82	100	73
Unconditional application	27		

**HEADS OF HIGH EDUCATION INSTITUTIONS** have positive attitude toward WARIAL but do not accept it unconditionally

## STUDENTS work just in groups with the instruments or have no practical experience, most often perform just calibration and measurements

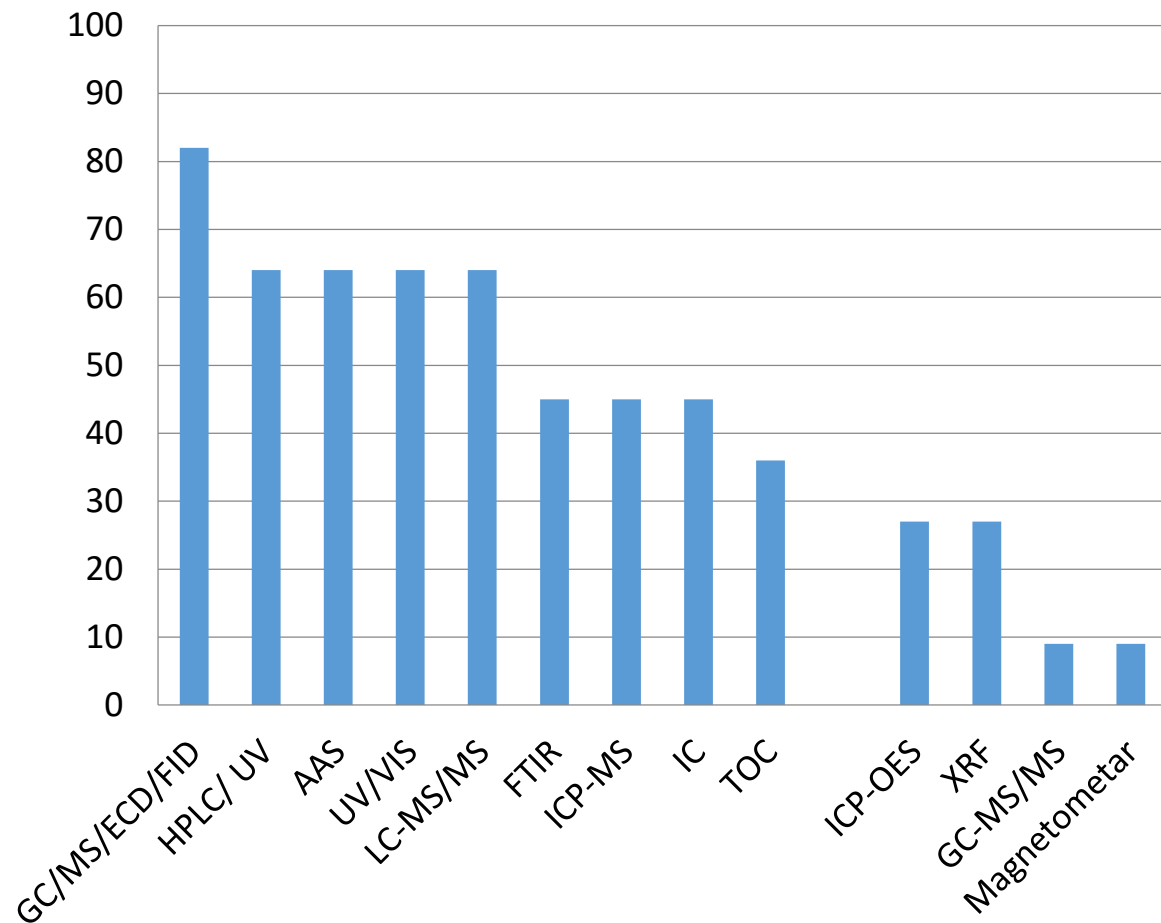




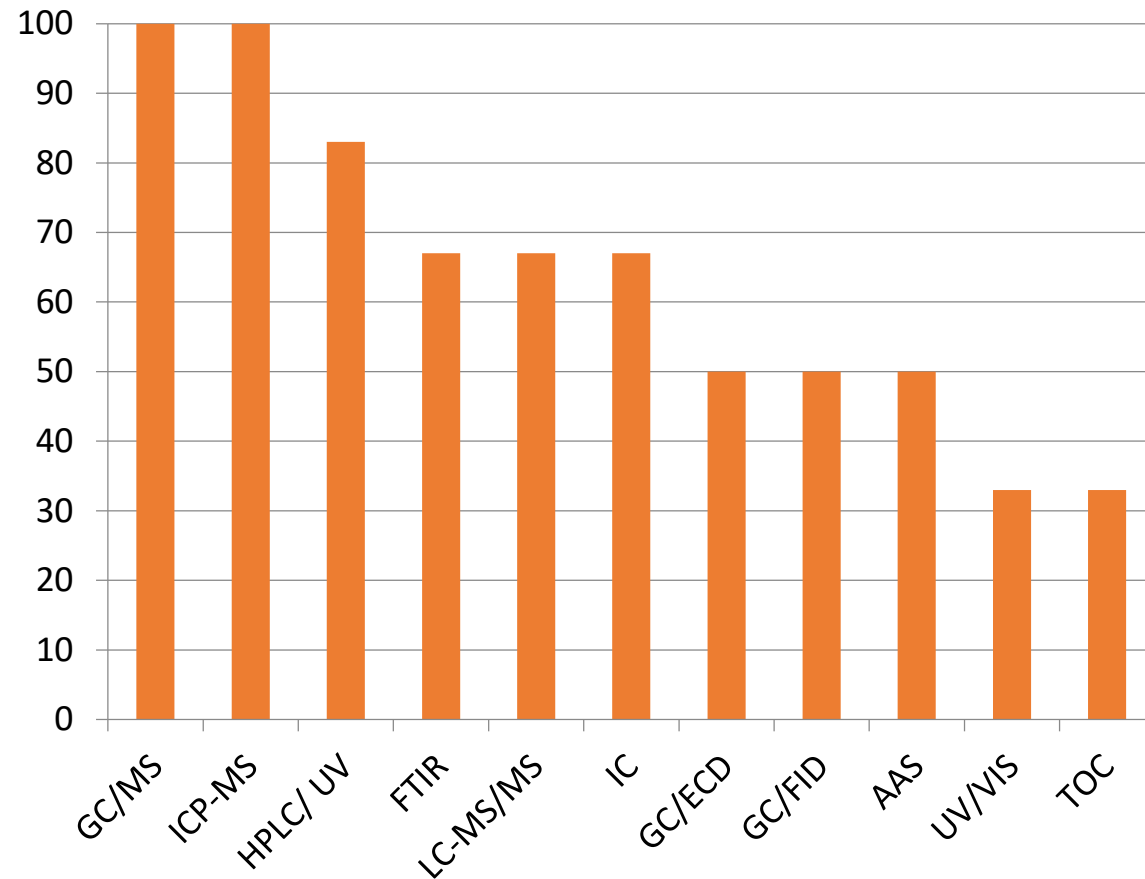
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### Analists



### Professional development needs





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Thank you for your attention