

# Continuing education, a job and a family – is e-learning a solution?

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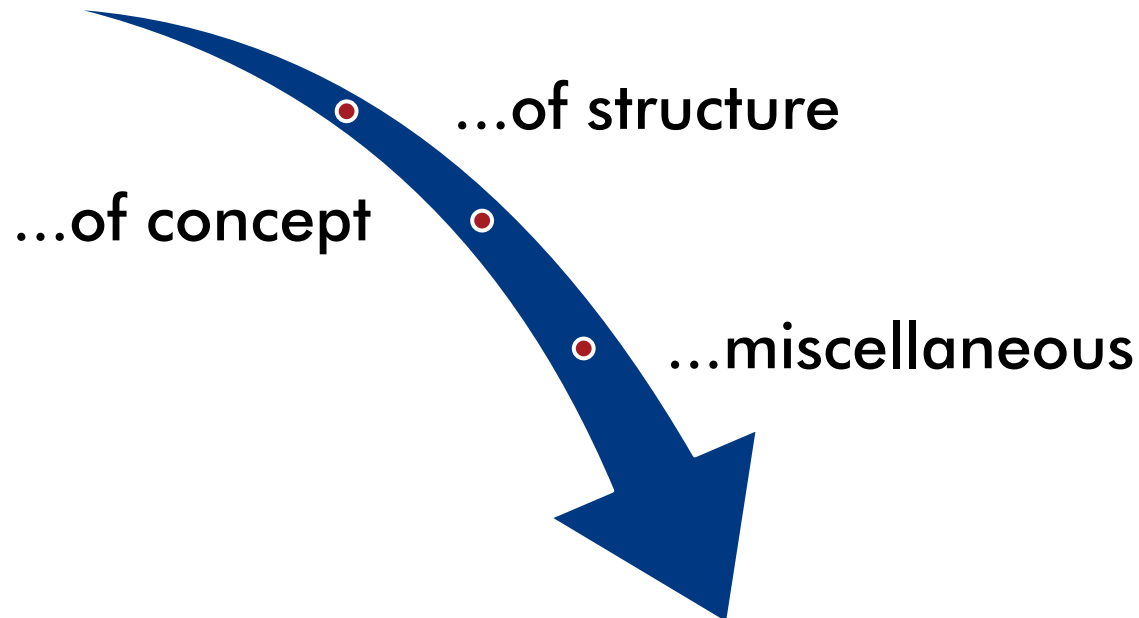
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PHARMAZIE**

# My Conflict of Interest

- spent last 11 years in pharmacist education
- manage a company active in continuous online education of pharmacists

# Agenda

Challenges...



And lots of e-learning solutions.

# Powerful Women in Pharmacy...

tonight on duty

take little Martha to Kindergarden  
in the morning

first prescription – what  
counsel is required?

do the shopping

pitch in for a colleague,  
day after tomorrow

check Tom's homework

aren't 30hrs per week too  
much?

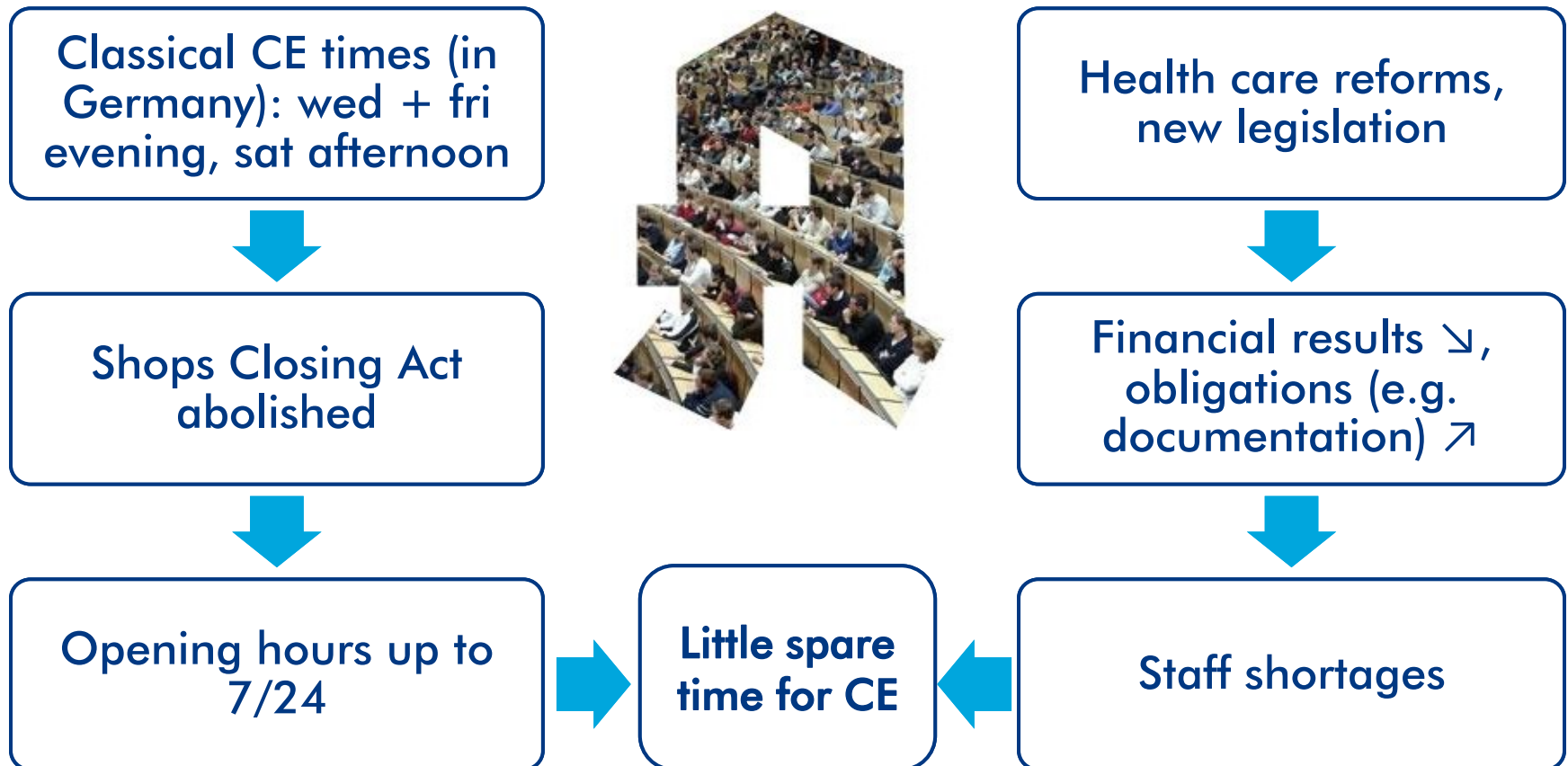
visit aunt Margaret

can I squeeze in the seminar in  
Munich next weekend?

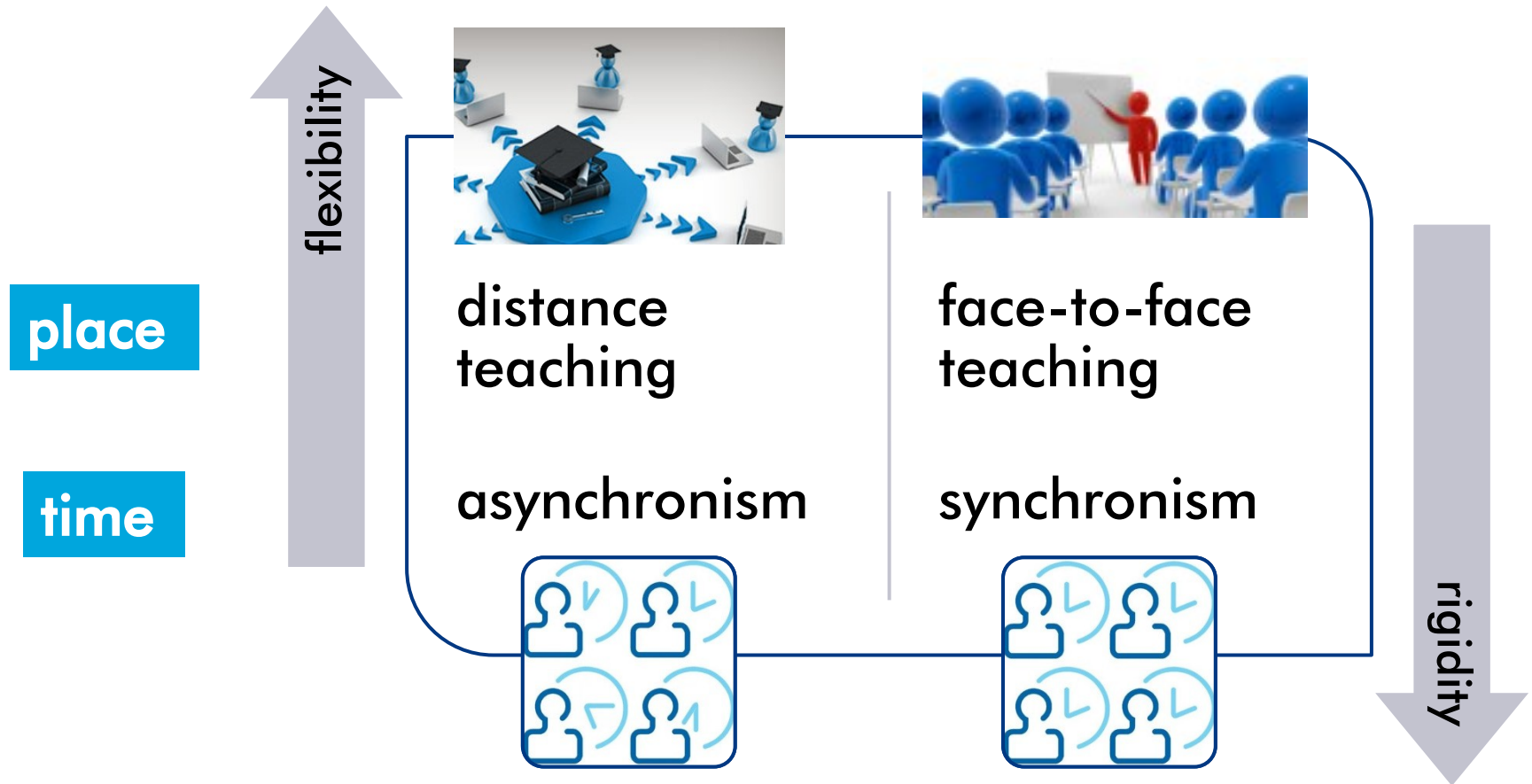
tennis tournament this weekend



# Pharmacist Continuing Education (CE): Structural Challenges



# E-learning Solutions to Structural Challenges



# E-learning Solutions to Structural Challenges

## synchronous events



- evening lecture
- face-to-face seminar
- live-webinar
- virtual classroom teaching
- chat
- audio-video-conference (e.g. skype)

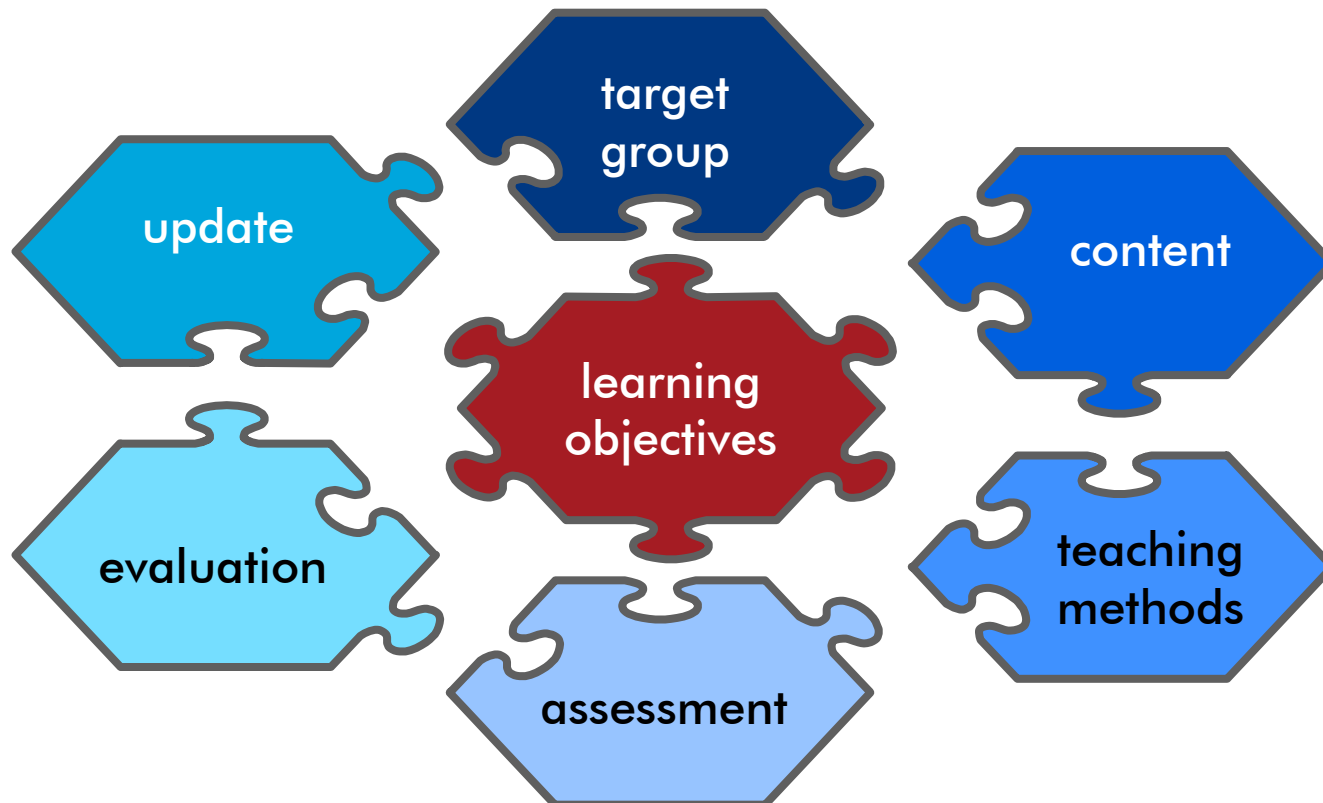
## asynchronous events



- podcast (recorded lecture)
- classical distance learning
- discussion forum
- information media (pdf, websites, CD-ROM, web-based trainings, youtube video etc.)
- online test

# Pharmacist Continuing Education (CE): Conceptual Challenges

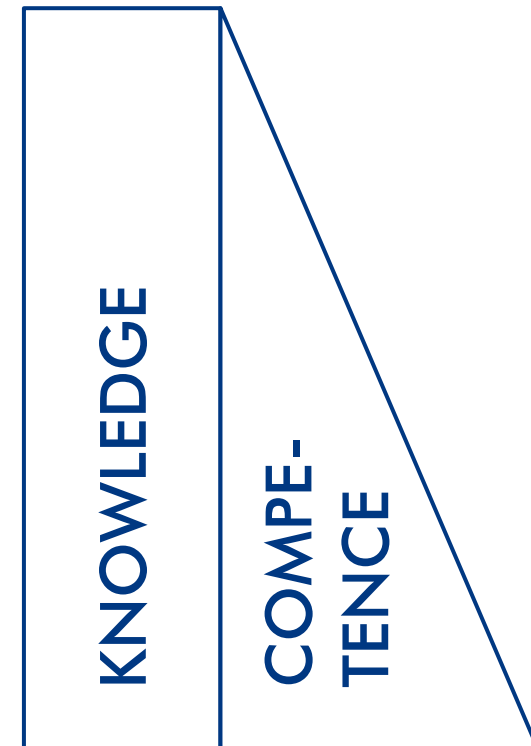
- What is a didactic concept?





# Learning Objectives Can Be...

- to know something
- to be able to...
  - repeat something
  - explain something
  - assess / evaluate something
  - solve a problem



# What learning objectives for pharmacy CE?

- prevalence of DRP in ambulatory care: 21- 45%, dependent on study methodology (Lewinski 2010, Fiss 2010)
- consequences of DRP: GP visits, hospital admissions, suffering & death, health care costs (Dormann 2013, Madea 2009, Schneeweiss 2002, Stark 2011)
- 25% of DRP manifest themselves in ADR (Lewinski 2010)
- 45% of (emergency) admissions caused by ADR or ME (Dormann 2013)

# What learning objectives for pharmacy CE?

- Complex problems need complex skills.
- How much skill does it take to make a difference (that society would be willing to reimburse)?
- e.g. a one-time education of depression patients and subsequent standard care by pharmacists is NOT cost-effective (Rubio-Valera 2013)



# Pharmacists Can Make a Difference

- medication history taking increased the fraction of complete records from 16 to 98% (Gardella 2012)
- patient education and drug therapy management for diabetes and associated comorbidities significantly ameliorated CV risk factors and saved \$800 per year and patient (Sease 2013)
- medication management for elderly patients with chronic kidney disease reduced DRP 2.5- and wrong dosing of renal drugs 3-fold (Via-Sosa 2013)



# What learning objectives for pharmacy CE?

- to know something
- to be able to...
  - repeat something
  - explain something
  - assess / evaluate something
  - solve a problem

Assess individual patient's drug therapy

Solve drug-related problems

## Indication

- missing indication for drug
- missing drug for indication
- inappropriate drug

## Dosage

- overdose (CKD, liver disease, age, doublet prescription)
- underdose (obesity, rapid metaboliser)

## Administration

- inappropriate route
- wrong handling
- cognitive or sensoric impairment
- non-adherence

## Other

- ineconomic therapy
- insufficient monitoring

# What learning objectives for pharmacy CE?

Learning objectives must focus on **competence**, rather than on knowledge alone.



# And the rest of the concept?

- content: practice-oriented and directed at target-group
- teaching methods: adequate to meet learning objectives
- assessment: adequate to check extent to which learning objectives are achieved
- evaluation: anonymous, systematic, specific
- updates: adequate with regards to expansion of scientific knowledge

## And the rest of the concept?

- content: practice-oriented and directed at target-group
- teaching methods: adequate to meet objectives
- evaluation: systematic, specific
- updates: adequate with regards to expansion of scientific knowledge

**Can e-learning achieve all this, especially transfer competence?**



# E-learning Solutions to Conceptual Challenges



# E-learning Solutions to Conceptual Challenges

## Individual & active or passive

- read a textbook / journal article / a guideline
- listen to a podcast
- watch a slide presentation
- do an online test or exam

## collaborative & active

- on a learning platform, in a forum:
  - attend a seminar or online live training
  - discuss problems
  - ask questions
  - obtain a feedback on your ideas from a tutor

# What a learning platform can look like...

cap.moodle-kurse.de/course/view.php?id=31

Parallels Confiox Webmail Pubmed Rote Liste Leitlinien UKMi eMC univadis® - Informati... LEO Rx4Kids Neonat Paed Pharm G... Medi

Parallels Confiox RoteListe® -Wirkstoffsuche- FS FachInfo-Service Kurs: KP / Demo-Seminar

**CAMPUS PHARMAZIE** besser. lernen. online.

Startseite ▶ Meine Kurse ▶ Klinische Pharmazie ▶ KP Demo-Seminar

**Navigation**

- Startseite
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    - Teilnehmer/innen
    - Auszeichnungen
    - Allgemeines
    - Einführung: Lernplattform und Seminarkonzept
    - Organisatorisches
    - Studienmaterial
    - Plenar-Foren
    - Einzelaufgabe
    - Teamaufgabe
    - Multiple Choice-Test

**Einführung: Lernplattform und Seminarkonzept**

Erkunden Sie Seminaaraufbau und die Lernplattform aktiv und ganz gezielt - mit einem Klick auf den "Laufzettel".

- Laufzettel 472.8KB PDF-Dokument
- Foren-Spezial 477.9KB PDF-Dokument
- Team-Spezial 201.9KB PDF-Dokument

**Organisatorisches**

Machen Sie sich mit wenigen Klicks mit den wichtigsten Aspekten der Organisation vertraut:

- Das organisatorische Herzstück ist der **Seminarfahrplan**
- machen Sie sich mit den **Mindestanforderungen und "Spielregeln"** vertraut
- ergänzend eine ausführlichere **Prüfungsordnung**

- Seminarfahrplan 187.2KB PDF-Dokument

# Some more Challenges and Solutions in (e-)Learning

Challenge	Solutions
motivational issues	practice-oriented, appealing, up-to-date study materials, collaboration, facilitation, feedback
self-competence in learning	support and motivation by colleagues and experienced facilitators
quality issues	formal curriculum, defined learning objectives, adequate expertise, technical support
regulatory issues	certification required for distance learning providers

# Experience From Moderated Online Seminars in Clinical Pharmacy

Intensive facilitation

Cross-check content / job

## One week: Run-in

- access to the platform
- orientation & get together
- study material available for early start

## Four weeks: Core seminar

solve individual tasks

discuss relevant topics with all other participants

solve patient cases in small team

## Characteristics:

- formal
- collaborative
- asynchronous
- dynamic

## One week: Run-out

- save the results
- get answers for last questions

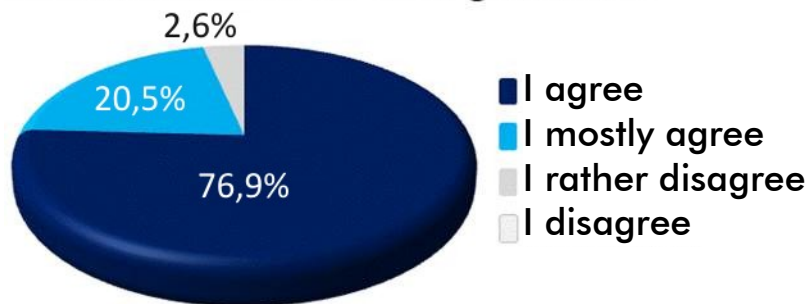
## Indefinitely: Alumni

- network for professional exchange optional for all alumni

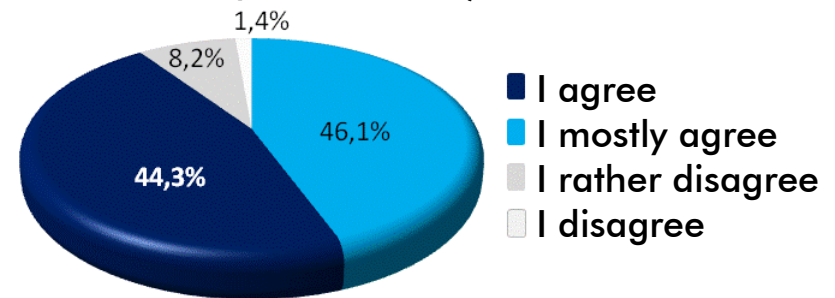


# Experience From Moderated Online Seminars in Clinical Pharmacy

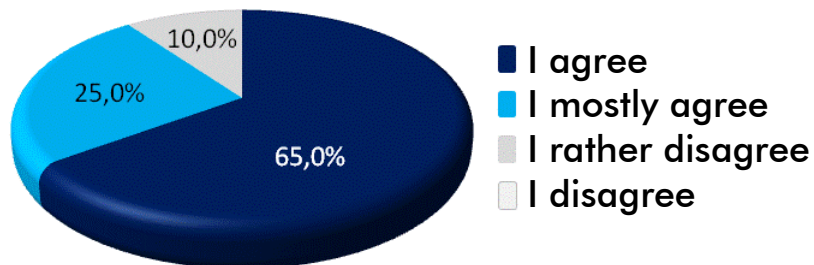
I had no trouble in getting my bearings.



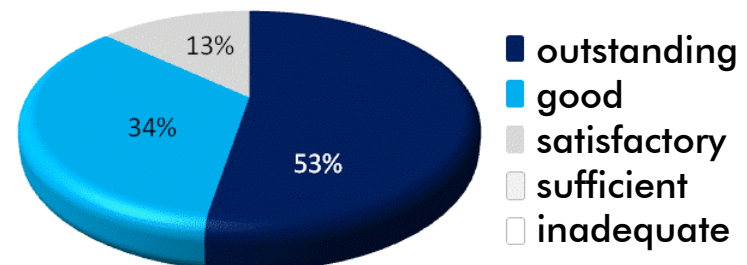
I achieved the curricular learning objectives.  
(mean of all separate results)



The seminars are suitable for extra-occupational continuing education.



Overall score (mean 1.6)



# Conclusions



- e-learning offers greater flexibility than face-to-face training
- with e-learning more pharmacists can put continuing education into practice
- active learning is a prerequisite for enhancing skills and needs facilitation
- active learning is feasible in e-learning scenarios and is adequate to achieve skill-oriented learning objectives