


Zürcher Hochschule  
für Angewandte Wissenschaften

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Management and Law

## Flexible Learning Study Format FLEX

The New Student: Flexible Learning Paths and Future  
Learning Environments, 20-21 September 2018, Vienna



**Building Competence. Crossing Borders.**

Prof. Dr. Claude Müller, Head Center for Innovative Teaching and Learning, Zurich University of Applied Science

## Agenda

1. Introduction Zurich University of Applied Sciences (ZHAW)
2. Flexible Learning Study Format FLEX
3. Implementation of FLEX
4. Research Results
5. Conclusions and Transfer

## Welcome to the Zurich University of Applied Sciences



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## Flexible Learning Format FLEX

- **BSc** Banking & Finance (B&F), General Management (GM) with 180 ECTS
- **3 Formats:** Full time, part-time, FLEX
- FLEX is a **blended learning** study program
- The **presence time** is reduced by more than 50%, students visit university **every 3 weeks**
- A comprehensive e-learning environment with **instructional videos** is available
- Diploma, lecturers, **course content and examinations are identical** to the part-time program

## Time Structure FLEX / Part Time Program

Week	Part-Time		FLEX-Format	
	Presence days	Lessons	Presence days	Lessons
1	3	14	2	16
2	3	14		
3	3	14		
4	3	14	2	16
5	3	14		
6	3	14		
7	3	14	2	16
8	3	14		
9	3	14		
10	3	14	2	16
11	3	14		
12	3	14		
13	3	14	2	16
14	3	14	2	16
<b>Total</b>	<b>42</b>	<b>196</b>	<b>12</b>	<b>96</b>
<b>%</b>	<b>100%</b>	<b>100%</b>	<b>29%</b>	<b>49%</b>

## Definition Flexible Learning

Students gain access and flexibility in regard with at least the one following criteria  
(Chen 2003):

- Time
- Place
- Pace
- Learning style
- Content
- Assessment
- Learning path



student perspective



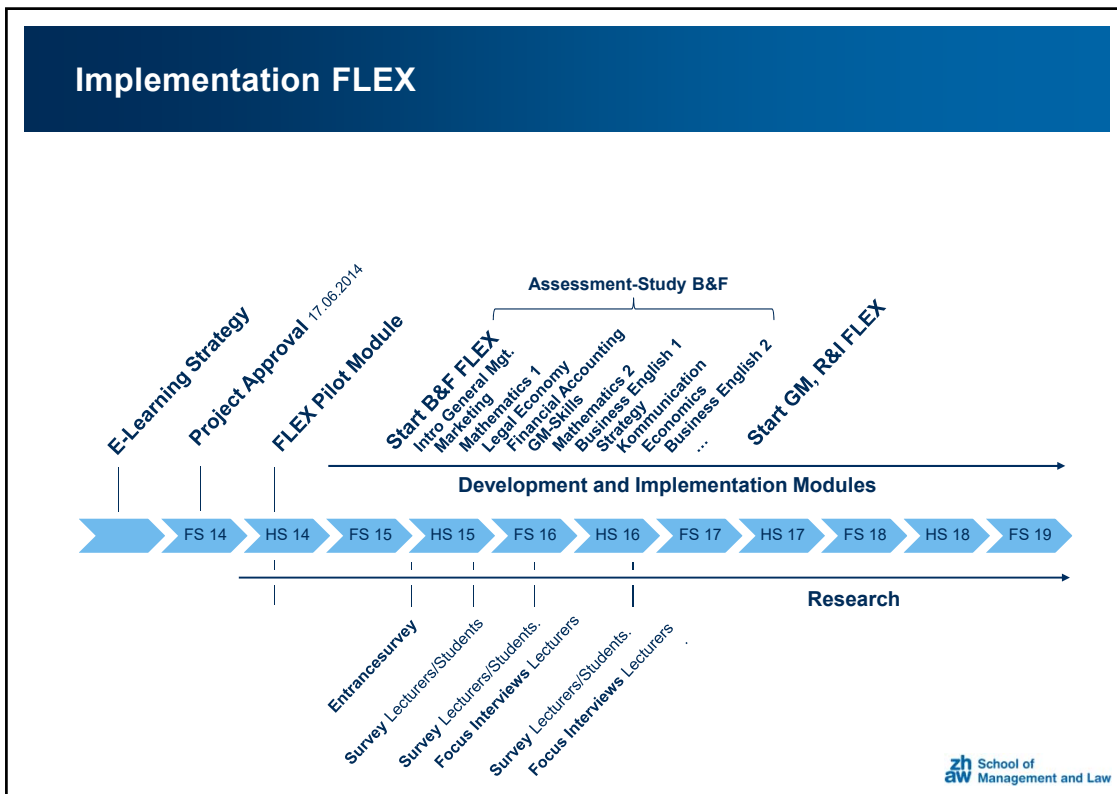
institutional perspective

Source: Chen, D.-T. (2003). Uncovering the Provisos behind Flexible Learning. *Journal of Educational Technology & Society*, 6(2), 25-30.

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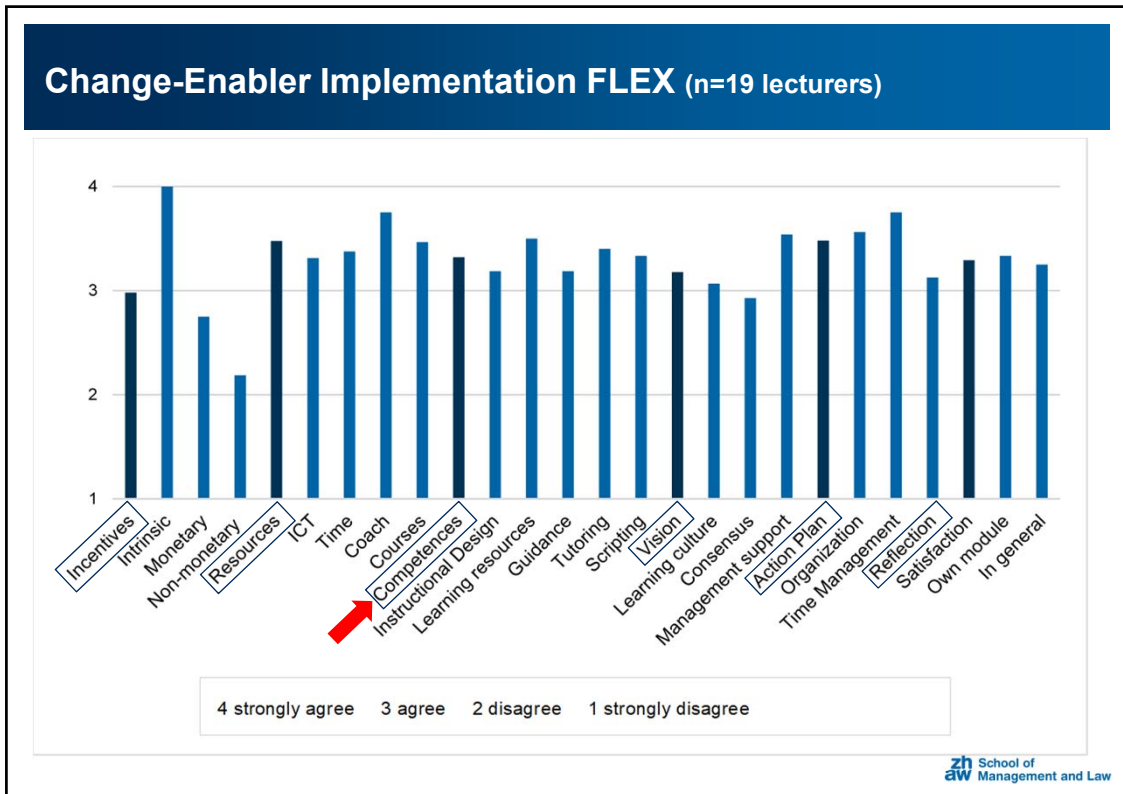


## Knoster-Change-Matrix

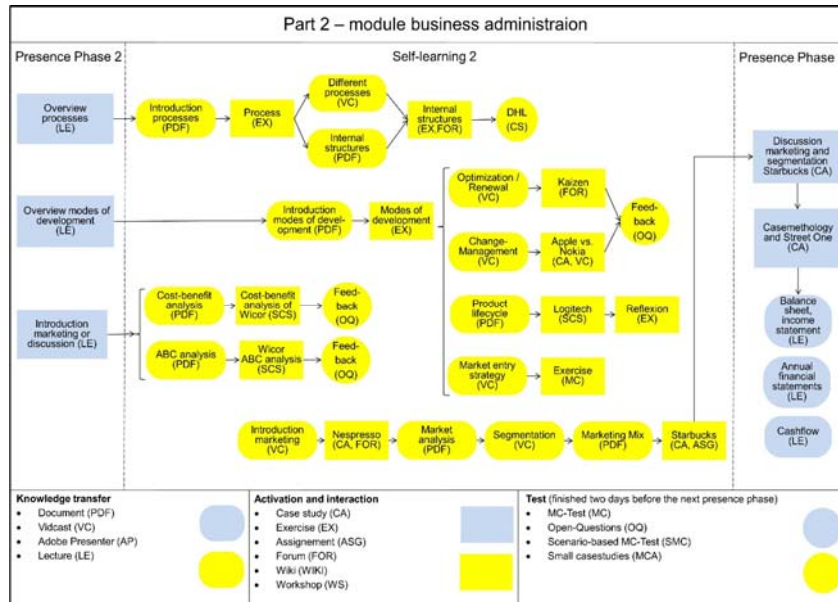
Conditions for Successful Implementation					
Vision	Competences	Incentives	Resources	Action Plan	= Change
	Competences	Incentives	Resources	Action Plan	= Confusion
Vision		Incentives	Resources	Action Plan	= Anxiety
Vision	Competences		Resources	Action Plan	= Resistance
Vision	Competences	Incentives		Action Plan	= Frustration
Vision	Competences	Incentives	Resources		= Dreadmill

Source: Adapted from Knoster, T. P., Villa, R. A. & Thousand, J. (2000). A framework for thinking about systems change. In R. A. Villa & J. Thousand (Eds.), *Restructuring for caring and effective education: Piecing the puzzle together* (pp. 93–128). Baltimore: Paul H. Brookes Publishing.

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## Scripting Process FLEX



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## Challenges FLEX for Lecturers

### Activation and Participation

« Our main problem was not only to teach knowledge, but to build up a competence. This was diametrically opposed to the students' desire for optimisation in that it was not sufficient to examine the relevant material shortly before the examination, but to work on the tasks step by step during the semester. » D03B\_1602

### Self-Management and Self-Regulation

« We must make it clear to students from the very beginning that [...] they are not studied here, but must continue to study themselves. I don't think most people understand that. Statements like "you have to understand that you can't go online for four weeks if there is a lot going on at work" I don't want to hear any more.. » D05B\_1502

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## Characteristics FLEX Students (compared with part-time)

FLEX group: Cohort FLEX 15 (n=28), cohort FLEX 16 (n=28),  
Control group: Part-Time (PT) 15 (n=100), Part-Time (PT) 16 (n=117)

Employment	PT (Ø 70%), FLEX (50-100%, Ø 79% constant)
Compatibility study/work	Greater time flexibility for FLEX students, no working hours provided by employers for FLEX students
Affinity for teamwork	Lower for FLEX students (p=0.00**)
ICT-Literacy	Higher self-assessment FLEX students (p=0.01**)



## Learning Effectiveness Assessment Level Cohort 15

Courses (Semester)	<i>FLEX format (FLEX)</i>			<i>Part-Time format (PT)</i>			<i>d</i>	<i>t</i> -test	E-Test
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>			
Business Administration (1)	27	4.24	0.53	93	4.17	0.67	0.12	n.s	sign.
Mathematics 1 (1)	27	4.19	0.90	92	4.11	0.76	0.10	n.s	sign.
Business Law (1)	28	4.23	0.88	92	4.15	0.90	0.10	n.s	sign.
Marketing (1)	28	4.18	0.56	94	4.29	0.50	-0.22	n.s	n.s
Mathematics 2 (2)	21	4.31	0.73	81	4.23	0.83	0.09	n.s	sign.
Business English 1 (2)	18	4.50	0.64	83	4.33	0.73	0.24	n.s	n.s
Financial Accounting (2)	20	4.08	0.78	79	4.25	0.79	-0.22	n.s	n.s
Strategy (3)	21	4.83	0.53	78	4.82	0.68	0.02	n.s	sign.
Communication (3)	20	4.20	0.66	76	4.11	0.65	0.15	n.s	n.s
Microeconomics (3)	21	3.71	0.73	74	3.74	0.76	-0.04	n.s	sign.
Business English 2 (3)	19	4.58	0.51	75	4.43	0.60	0.26	n.s	n.s

Note: E-Test = Equivalence-Test. Significance level *t*-test = 0.05.

## Combining Results for Difference and for Equivalence FLEX

*t*-test ( $H_0^+$  hypothesis = two groups are equal)

*Equivalence-Test*  
( $H_0^-$  hypothesis = two  
groups are different)

	Reject $H_0^+$	Not Reject $H_0^+$
Reject $H_0^-$	<i>Trivial difference</i> (0 Courses)	<i>Conclude equivalence</i> (9 Courses)
Not Reject $H_0^-$	<i>Conclude relevant difference</i> (3 Courses)	<i>Conclude indeterminate</i> (10 Courses)

## What do Students like about FLEX?

### Temporal and spatial flexibility

"Allot your own time, no evening classes, ZHAW despite living in Canton Lucerne, everything on Moodle, everything there." 17\_160216

"I can schedule my own study time and have the opportunity to have a career at work on the side." 16\_17015

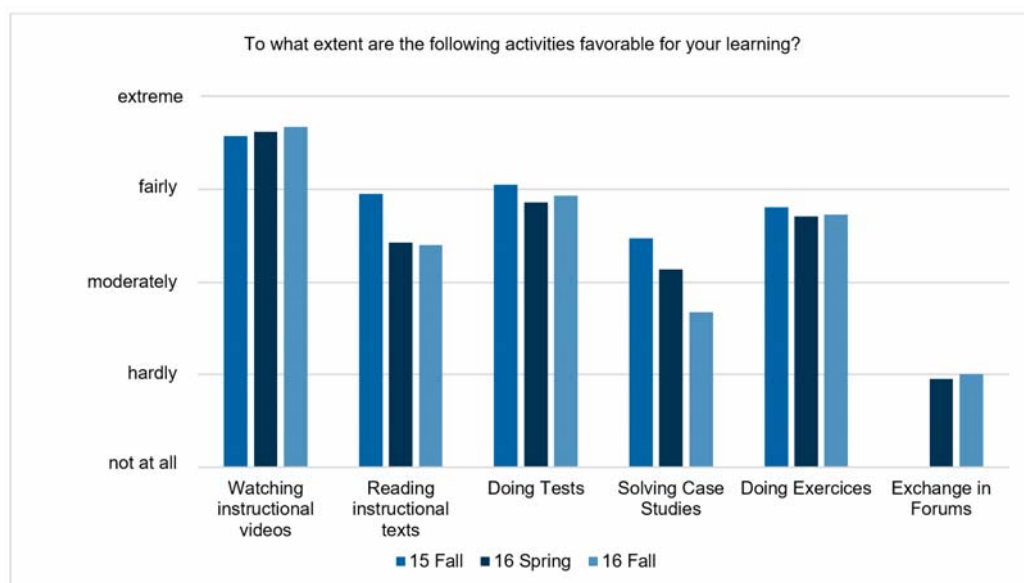
### Learning with instructional videos

"The learning effect as well as the motivation of instructional videos are significantly higher for me." 14\_160216

### Individual responsibility

"High personal responsibility, everyone learns when and where they want." 06\_17015

## Favourite Learning Activities



## Challenges FLEX for Students

### **Motivation and self-discipline for self-study**

"Sometimes there is no motivation to learn. Especially on sunny days." 18\_160216

### **Time management**

"To organize myself and find time for self-study." 22\_160115

"In the beginning I learned more and now I postpone it more and more." 18\_160215

### **Partial comprehension problems with complex contents**

"Very complex issues are difficult, as you can't ask questions face to face." 17\_160216

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## Conclusions

**(a) Does the flex learning design influence the effectiveness of learning?**

- Direct presence instruction time reduced by half, but no significant difference in final test results

**(b) What are the lecturers' and students' perceptions of the flex learning design?**

- Positive perceptions reported in the surveys and in the standardized student evaluation

**(c) How has the flex learning design influenced the learning process of the students?**

- Temporal and spatial flexibility as biggest advantages
- Self-regulated learning skills (planning, organizing and reflecting on their learning process) as major challenge

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## Contact

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