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E-LEARNING AND ONLINE LEARNING

Just-in-Time Teaching – A State of the Art of a Blended Learning and Teaching Approach

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Overview



- ❖ Introduction
- ❖ Definition & Understanding
- ❖ Core Instruments for a Just-in-Time Teaching
- ❖ Benefits, Justifications and Effects of Just-in-Time Teaching
- ❖ Conclusion

Introduction



Q.: What should my students learn for being prepared for their future?

- ❖ Requirements set by the labour market, the students, their parents, the public administration.
- ❖ Institutional accountability set frames:
 - ❖ curricula and syllabi
 - ❖ employment contracts as public servant or lecturer
- ❖ Dynamic approaches requested for flexible approaches
- ❖ Knowledge and experience of individual lecturers to adjust to situations.

Introduction



The objective of this research:

- ❖ Is to elaborate a way out of the dilemma of requirements lecturers are facing
- ❖ Is to explore the suitability of the just-in-time-teaching approach
- ❖ Is to find out whether just-in-time teaching is suitable to up-date the lecture content as well as the teaching methodology without interfering into the curricula and syllabi?

Definition & Understanding



In the teaching context the just-in-time refers to the delivery of knowledge in time, when it is needed.

Teaching is a dynamic process therefore the just-in-time teaching is aligned with the lectures throughout the semester.

Definition & Understanding



Nr.	Teaching Principles (Chickering and Gamson, 1987)	2015 Students* want to	Means to implement the teaching Principles	
			1987	2015
1	Increasing student-instructor (student-student) contact	<ul style="list-style-type: none"> ❖ Have communication with and advice from instructors; ❖ Challenge lecturers and students intellectually 	Class room, phone, meetings, writings	As in 1987, sms, e-mail, social media, virtual platforms
2	Developing reciprocity and cooperation among students	<ul style="list-style-type: none"> ❖ Study and work in teams; ❖ Discuss ideas among peers and with the instructor 	Team works, Discussions with instructors	As in 1987, forums, international team works, international competitions, global class room
3	Encouraging active learning	<ul style="list-style-type: none"> ❖ Link theory with practical approaches; ❖ Be involved in the inductive and deductive reasoning; ❖ Become partners in the lecturing process 	Teaching methodology, expert meetings, discussions, assignments, company visits, students' presentations	As in 1987, globalised teaching and learning approaches through internet, international forums, research assignments with partner universities
4	Providing prompt feedback	<ul style="list-style-type: none"> ❖ Get immediate feedback from the instructor; ❖ Discuss ideas with stakeholders; ❖ Challenge instructors in intellectual discussions 	In class room, during office hours, on the phone, interviews, focus group discussions	As in 1987, sms, chats, e-mails, forums
5	Encouraging time on task	<ul style="list-style-type: none"> ❖ Use time usefully; ❖ Be attracted by tasks; ❖ Become curious to learn more about certain topics; ❖ Be encouraged and motivated to get over difficult chapters and subjects 	Successful completion of the lecture, grades	As in 1987, interest, global interlinkages, collaborative learning, international presentation of learning outcomes
6	Communicating high expectations	<ul style="list-style-type: none"> ❖ See individual expectations, needs and demands reflected in the lectures; ❖ Be seen as junior partners in the lecturing process 	Degree of the university in the given time	As in 1987, labour market, benchmarks with peers from other lectures/faculties/universities, international recognition
7	Providing a variety of teaching styles to increase the learning effectiveness for students with diverse	<ul style="list-style-type: none"> ❖ Attend interesting and entertaining lectures; ❖ Contribute to the lecture; ❖ Follow the individual learning path 	Instructor centred lecture, self-study sessions, discussions,	As in 1987, power-point, YouTube videos, virtual class rooms, internet research, student centred teaching, group works, open source / open access, project work

*Result from various discussions with Indonesian and European students

Definition & Understanding



When the principles of good teaching have been published in 1987, lecturers expected that students can recall knowledge at the time when it is needed. Same is valid today.

Composition of knowledge (Bloom, 1956) :

- ❖ Cognitive domain (knowledge, comprehension, application, analysis, synthesis and evaluation)
- ❖ Affective domain (receiving, responding, valuing, organising and internalising)

Today's lecture time foresees very limited time to focus on basic knowledge transfer. The responsibility of acquiring knowledge is a shared responsibility between lecturer and students.

Just-in-time teaching allows to equip students with the necessary knowledge and comprehension for the upcoming lecture unit in an additional teaching and learning event besides the class room teaching.

Core Instruments of Just-in-time Teaching



UNESCO (2001): “E-learning is more than just on-line distance education. Any programme that uses ICT to enhance the learning process may be considered to fall into the category e-learning. It is in particular the use of the internet and the Web in the teaching and learning process, at all levels”.

Financial criteria determine the accessibility to online courses:

- ❖ hard- and software
- ❖ access to internet
- ❖ tuition fees

Core Instruments of Just-in-time Teaching



E-learning applied in just-in-time teaching is a supplement to classroom teaching:

- ❖ e-learning platforms
- ❖ exchange of files, videos, e-mails, forums, skype conference etc.

Blended teaching and learning approaches make these tools accessible to registered students.

Core Instruments of Just-in-time Teaching



The key for success:

- ❖ Well structured just-in-time teaching assignment based on Bloom's Taxonomy based on the levels of knowledge and comprehension
- ❖ Provision of tasks to students
- ❖ Guidance of students through the lecturer
- ❖ Responses on the tasks need to be delivered before class
- ❖ Feedback to students' responses in-class.

The just-in-time teaching session is considered by many students as

- ❖ *valuable*
- ❖ *additional work (the assignment limited to two to three tasks)*

Benefits, Justifications & Effects of Just-in-Time Teaching



The **benefits on students'** side is categorised in the immediate and the long-term benefits. The literature is listing the following:

- ❖ Improving Pre-Class Preparation
- ❖ Improving In-Class Learning
- ❖ Promoting Long-term Learning

Benefits, Justifications & Effects of Just-in-Time Teaching



On **lecturers'** side the literature lists the following **benefits**:

- ❖ Window into student learning processes
- ❖ Flexible teaching techniques
- ❖ Increased teaching efficiency and effectiveness
- ❖ Improved student preparation for class
- ❖ Transformed classroom

Benefits, Justifications & Effects of Just-in-Time Teaching



The **justification for lecturers'** additional workload caused by just-in-time teaching sessions can be seen in the satisfaction of the lecturer in

- ❖ Having prepared students for their future work life
- ❖ Having introduced students to self-studying skills and abilities
- ❖ Giving students a sound basis of knowledge that they are enabled to handle various challenges in their work life
- ❖ Having challenged students to find their devotion in that what they are studying and their gain in self-confidence in that what they are doing
- ❖ Challenging students to step out of their comfort-zone and take actions
- ❖ etc.

Benefits, Justifications & Effects of Just-in-Time Teaching



The main justifications from university/institution side are:

- ❖ Students get enabled to take their responsibility for their learning path, their growing in to their fields of interest
- ❖ Students becoming experts with a sound knowledge
- ❖ Students develop reasoning skills aside of an understanding for innovation.

Benefits, Justifications & Effects of Just-in-Time Teaching



The main **effects** are:

- ❖ Students develop self-studying skills and a sound knowledge in the respective discipline, which gives them self-confidence to take over the lead in teams
- ❖ Students, who never wanted to become a team coordinator - prior they attended just-in-time teaching sessions - become coordinators through their competences

Conclusion



Just-in-time teaching is

- ❖ A supplement to the classroom teaching
- ❖ Introduced with a minimum of ICT
- ❖ Planned within the frame of the overall in-class lecture session from the cognitive and affective perspective based on Bloom's Taxonomy on critical thinking
- ❖ Designed as self-study unit
- ❖ Needing lecturers' guidance during the just-in-time teaching session
- ❖ Requesting feedback after the assignments have been submitted
- ❖ An additional workload for a lecturer as well as for the students.

Conclusion



Just-in-time teaching would allow lecturers to

- ❖ Introduce students to specific knowledge which is not foreseen in the curriculum
- ❖ Outsource preparatory work as well as topics of specific interest or importance, which are not included in the curriculum for the classroom session - the lecturer could incorporate students' elaboration into the regular lecture
- ❖ Outsource lecturer-centred sequences of the lecture together with task assignments
- ❖ Make space in the classroom sessions for student-centred approaches such as team works, video sessions, discussions, student presentations, competitions, guest speakers, etc.
- ❖ Apply true blended teaching and learning approaches to draw students interest and attention to dig deeper into the topic and develop specific expertise
- ❖ Measure the success of the just-in-time teaching through verifiable indicators as benchmarks
- ❖ Overcome the dilemma.

Thank you

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