PEER ASSESSMENT IN ARCHITECTURE EDUCATION

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Make 2nd year architecture students develop a critical thinking process about Architecture Projects.

Improve quality of their work by providing more and varied feedback.

Evaluate the applicability of peer assessment in the classroom.

Evaluate the students critical thinking as part of their cognitive skills.

CONTEXT

ARCHITECTURE PEDAGOGY



Changing Architectural Education Towards a New Professionalism

David Nicol and Simon Pilling



Assessment focus in studio: What is most prominent in Architecture, art and design?

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Fiona Peterson is Director of Learning and Teaching in the School of Creative Media at RMIT University. She has 29 years' experience as a teacher and educational facilitator spanning high school, vocational education and training, as well as undergraduate and postgraduate higher education programs. Her background is in Communication Studies and she has a PhD in collaborative learning networks. Her research interests include strategic knowledge networks, Mode 2 knowledge, virtual communities and global education.

"Peer assessment develops skills for lifelong learning." in Changing Architectural Education

PEER ASSESSMENT

https://etoilepm.cs-dc.org/



Hypernetwork-based Peer Marking for Scalable Certificated Mass Education

Jeff Johnson, Cristian Jimenez-Romero, David Rodrigues, Jane Bromley and Alistair Willis The Open University, Milton Keynes, MK7 6AA, UK

In the context of the need for massive free education for the Complex Systems Society and the UNESCO Complex Systems Digital Campus, scalable methods are essential for assessing tens of thousands of students' work for certification¹. Automated marking is a partial solution but has many drawbacks. Peer marking, where students mark each others' assignments, is a scalable solution since every extra student is an extra marker. However there are concerns about the quality of peer marking, since some students may not be competent to mark the work of others. Some students are better than others and often the best students are well qualified to assess the work of their peers. To make peer marking high quality we are using new hypernetwork-based methods to extend previous methods² to discover which students are good markers and which students are less good as a course progresses.

Peer marking is becoming increasingly used in education. It has the obvious pedagogic advantage that marking other students' assignments gives students insights into how well or otherwise the marker themself performed. This alone makes peer marking attractive. To allow for variable quality in

IN STUDIO

TEACHING ARCHITECTURE IS A HANDS ON APPROACH



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João Tereso & Giuseppe Schillaci sketches

PEER ASSESSMENT THE EXPERIMENT

Two Classes of the 2nd year of Architecture of ISCTE-IUL corresponding to 45 students.

Two Peer Assessment Phases

- 1. Mid semester, after a few weeks into the semester
- 2. During the final Assessment when Work is presented to Jury

At each phase each student had to Assess the work of three randomly selected colleagues.

PEER ASSESSMENT THE EXPERIMENT

Not anonymous and done in the classroom.

Students presented their models, plans, graphic diaries, etc...

Markers assessed the materials presented against the programme of the exercise and a prepared marking guide.

Students were instructed to assess what was presented and not to take into consideration the past in-class experience

Students were instructed that their marking performance was going to be pondered in the course final mark.

Projecto de:	Aspectos Positivos do Projecto:	Nota (0-100):
Avaliador	Aspectos a melhorar no Projecto:	

ID Area

Projecto de:	spectos Positivos do Projecto:	Nota (0-100):
Avaliador	spectos a melhorar no Projecto:	

Mark (0-100)

Projecto de:	Aspectos Positivos do Projecto:	Nota (0-100):
Avaliador	Aspectos a melhorar no Projecto:	

The Positives of the Architecture Project

Projecto de:	pectos Positivos do Projecto:	Nota (0-100):
Avaliador		

Projecto de:	Aspectos Positivos do Projecto:	Nota (0-100):
Avaliador	spectos a melhorar no Projecto:	

Things to improve in the current project

RESULTS

2 GROUPS MID SEMESTER ASSESSMENT



CRITICAL DISCOURSE APPLIED IN CLASS AFTER 1ST ASSESSMENT

Some students engaged strongly with this process going beyond what was asked.

They adopted aspects of the architecture language learned from other students assessments of their work

Students included in their own work suggestions from the peer assessment.



1 GROUP FINAL ASSESSMENT



MARKS SPREAD LESS THAN 20%



order

FINAL MARKS AGREE WITH PROFESSOR MARKS

Final Mark is the simple average of all markers.

Students Marks are similar to that of Jury (2 professors + external jury).

Average Mark – Jury Mark (20pt scale)

GOOD STUDENTS, GOOD MARKERS?

Who are the good Markers?

Hypothesis Definition: Those who mark in agreement with the jury final mark.

in the étoile platform, we studied another hypothesis:

Two students are good markers if they **mark consistently** with each other over **several iterations** while when in the presence of inconsistent marking behaviour, one of will not be a good marker.

MARKER'S MARKS CORRELATE WITH FINAL MARK



MARKER'S ERROR DOES NOT CORRELATE WITH MARKER'S FINAL MARK



Correlation: -0.063

CONCLUSIONS

BACK TO THE OBJECTIVES

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MAIN POINTS TO TAKE HOME

Peer Assessment is a good pedagogic tool to apply in architecture classrooms.

Peer assessment marks correlate highly with expert assessment.

Prospect of using Peer Assessment for scalability.



Machine Learning

for the textual analysis, summarization and marking of the students critical thought

(Now professor reads all paper slips,

doesn't scale for Massive free education)

Move acquisition to digital realm

étoile peer assessment platform is now ready but...

as seen in this case, a simple analogic works well

as students use the tools they are used to (drawing pads / pens / etc...)

This is a problem for Human-Computer Interface to solve in this particular contexts