

## **To assign or not to assign? Role Taking in Higher Education.**

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## **Abstract**

The study here presented focus on Role Taking, a collaborative learning strategy considered as effective to support learning and participation. It's aims at exploring students' perceptions about the efficacy of having a role assigned compared to having chosen a role. As such, it was adopted in a university course about "Knowledge Technologies", held during the third year of the undergraduate course for Social and Cultural Educators. 42 voluntary students (M=4; F=38; average age 22) took part into the activities. Divided in groups, students worked around topics concerning educational potentials or issues relating to ICTs. During the activities, students covered a specific role: some of them choose the role, some others had the role assigned from the teacher. Data analysis shows that, in students' opinion, an assigned role is more effective in terms of quality of learning, social dynamics and satisfaction with the experience.

**Keywords:** Online Collaborative Learning; Role Taking; Higher Education; Collaborative Knowledge Building.

# **To assign or not to assign? Role Taking in Higher Education.**

## **1. Introduction**

The study here presented focus on Role Taking, a collaborative learning strategy considered as effective to support learning and participation, both online and in face-to-face educational contexts (De Wever et al., 2008; Strijbos & De Laat, 2010). Its effectiveness relies to the possibility to enhance actual collaboration around the assigned tasks, often requesting students to exchange ideas, discuss and debate specific learning issues (Cacciamani et al., 2012). As such, Role Taking is deemed to be particularly useful in collaborative online learning in which students are asked to discuss around learning content and produce new knowledge.

## **2. Theoretical framework**

In line with the main socio-constructivist theories (Jonassen, 1994; Pontecorvo et al., 1995; Varisco, 2002) applied to digital environments (Laurillard, 2008; Trentin, 2005; Wenger, 1998), students' interaction needs to be first promoted and then structured according to specific scaffolds. Various studies (Cesareni et al., 2015; Delfino et al., 2006; Sansone et al., 2016b; Strijbos et al., 2004; Weinberger et al., 2010) have indeed showed that it is not guaranteed that – when involved in collaborative online contexts – students will effectively participate, by providing valid contributions to the group activities. Effective and significant collaborative learning requires structured interactions drawn around scripts assigned to students. These scripts should be well defined and anchored to precise pedagogical models (Cesareni et al., 2018; Laurillard, 2008; Ligorio & Sansone, 2016).

Many learning strategies proved to be useful to promote active and constructive participation. Among them we here focus on Role Taking. Literature shows how Role Taking is effective in supporting collaborative knowledge-building and socio-relational processes between group members (De Wever et al., 2008; Sansone et al., 2011) especially when combined with other strategies such as a specific attention to the characteristics of the assigned task, an appropriate configuration of the digital environment, an adequate composition of the groups.

In particular, Role Taking is considered as a useful scaffolding tool for effective collaborative learning (De Wever et al., 2008; Ligorio & Sansone, 2016; Strijbos & De Laat, 2010) since it is based on the provision of collaborative scripts; these scripts – or task assignments - seems to help students: taking on duties and responsibilities, optimising and supporting the

cognitive and social building of knowledge, and activating different forms of reasoning and interaction. Moreover, supporting social interaction through Role Taking seems to assist the acquisition of individual and social agency, enabling every member of the group to participate and grow (Ligorio & Sansone, 2016). In this sense, Role taking was used as a powerful strategy in the course here described. The course, in fact, is based on the Trialogical Learning Approach (Paavola & Hakkareinen, 2005) whose main goal is to promote individual and collective agency while students are engaged in the collaborative creation of a shared object. According to this theory, a significative learning is only possible when the educational experience is well structured around specific design principles supporting collaboration and a flexible use of mediating tools (Sansone et al., 2016a; Sansone et al., 2016b; Sansone et al., 2019).

### **3. Aims of the study**

This study aims at exploring students' perceptions about the efficacy of having a role assigned compared to having chosen a role. In particular, this paper sets out to identify any possible differences regarding the perception of the group collaboration, and the students' satisfaction with the learning experience.

## **4. Method**

### **4.1. Context and participants**

The course here described is a university course about "Knowledge Technologies" (a.y. 2018-2019), held during the third year of the undergraduate course for Social and Cultural Educators, in the Department of Educational Sciences, at the University of Bologna (IT).

42 voluntary students (M=4; F=38; average age 22) took part into the activities. The course lasted eight weeks. Divided in groups, students worked around topics concerning educational potentials or issues relating to ICTs, by reflecting on their main dimensions, deepening theories and constructs, and in the end producing a shared object: a learning scenario. The group-work was mediated by different tools and environments able to support collaboration and discussion.

The whole learning activity was structured into two modules (Tab. 1): 1) research/documentation activity: each group chose an ICT-related topic and analysed its possible potentialities and issues by compiling a research format supplied by the teacher; 2)

design proposal: following the previous research, each group designed a learning unit addressed to a specific target by using a didactic design schema<sup>1</sup> supplied by the teacher.

Table 1. Modules and features of the course

<i>Module</i>	<i>Topic</i>	<i>Artefact</i>	<i>Materials and Inputs</i>	<i>Digital Environments</i>
1 Research/ documentation activity	Educational topic chosen by the groups and relating to ICTs in daily life	Research report: problematical analysis of the potentialities and criticalities of the digital tool	<ul style="list-style-type: none"> <li>• Lessons</li> <li>• Research articles</li> <li>• Research schema/format</li> </ul>	<ul style="list-style-type: none"> <li>• Web Forum</li> <li>• Wiki (Google Doc)</li> <li>• Google Suite shared folder</li> </ul>
2 Design proposal	Learning design	Learning Scenario	<ul style="list-style-type: none"> <li>• Lessons</li> <li>• Educational design examples</li> <li>• Educational design schema</li> </ul>	<ul style="list-style-type: none"> <li>• Web Forum</li> <li>• Wiki (Google Doc)</li> <li>• Google Suite shared folder</li> </ul>

The teacher supported the collaborative learning process both during the face-to-face lessons and within the digital environments.

## 4.2. Procedure

During the course, students were divided in groups of three to four members which they compose autonomously. In each group, students took a specific role (Ferrari, 2015):

- *leader*: in charge of organizing the group-work;
- *secretary*: monitoring the group final output, keeping track of the discussion;
- *outsider/critic friend*: challenging the groupmates with alternative visions and “prolific doubts” (Cesareni et al., 2018, p. 152);
- *animator/facilitator*: promoting the group participation and interaction.

In 6 groups (23 students, from now on defined as Subgroup A), the roles were assigned randomly from the teacher, while in other 5 groups (19 students, from now on defined as Subgroup B), the roles were freely chosen from the students, in agreement with the other members of their own group. Before taking the role, the students received details and explanation on how to perform it, as well as on the timing of the group output to be produced. Each role, be it assigned or chosen, was taken from the beginning to the end of the learning experience.

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<sup>1</sup> The design schema comprised the dimensions that the students had to include in their proposal, such as title, topic, learning context of application, learning aims and objectives, tools and resources, timing, assignments, evaluation criteria.

### 4.3. Data collection and analysis

At the end of the experience, students were asked to answer to an anonymous semi-structured online questionnaire. To the aims of this study, the questions listed in Table 2 were considered. Specifically, two key learning-related dimensions were investigated: social collaboration (items section d-8 and section e-9.b) and students' satisfaction (items section b-6).

Table 2: *The Role Taking Questionnaire.*

Section	No.	Question	Type
a)	3	Was it beneficial to have a role assigned by the teacher? (question addressed to Subgroup A) Was it beneficial to choose a role by agreement amongst your group members? (question addressed to Subgroup B)	Likert scale (1: not at all – 5: very)
	3.a	Why?	open question
	3.1	To what extent do you think you managed to fulfil the role assigned/agreed with the group?	Likert scale (1: not at all – 5: completely)
	3.2	Did you find it hard to “get into/maintain” the role?	Likert scale (1: not at all – 5: very)
	3.2.a	Why?	open question
b)	6	Score your level of satisfaction with the whole teaching-learning experience just received	Likert scale (1: completely unsatisfactory – 5: very satisfactory)
c)	7	Score the effectiveness of the online Role Taking activity regarding your learning experience	Likert scale (1: not at all effective – 5: very effective)
d)	8	Considering the online collaborative learning activity, how satisfactory do you consider the level of collaboration established with your peers?	Likert scale (1: not at all satisfactory – 5: very unsatisfactory)
e)	9.a	Report any difficulties you may have encountered when organising the work	open question
	9.b	Report any difficulties you may have encountered regarding relations with the members of your group	open question
f)	14	Strong points of the learning experience	open question
	15	Weak points of the learning experience	open question

First, close questions of the two subgroups were compared in a descriptive way. Moreover, means of these items were computed and differences between Subgroup A and B were analyzed using the Student T-test, in order to check whether the differences between the two groups are statistically significant. The open questions have been categorized through a

content analysis. Response percentages of subgroup A and B were therefore compared in a descriptive way.

## 5. Results

Thirty eight students answered the questionnaire (90%).

At first glance (Fig. 1 and 2), the chance to choose the role to be taken would appear to be much more beneficial: 94% of students considered being able to decide their role as positive or very positive versus 76% of students having the role assigned from the teacher. No students considered as not positive at all to choose the role, compared to 19% of students having been the role assigned.

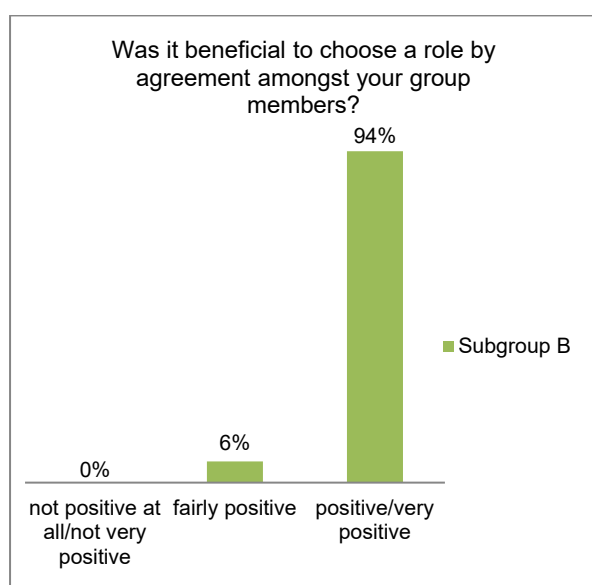


Figure 1. “Was it beneficial to choose a role by agreement amongst group members?”

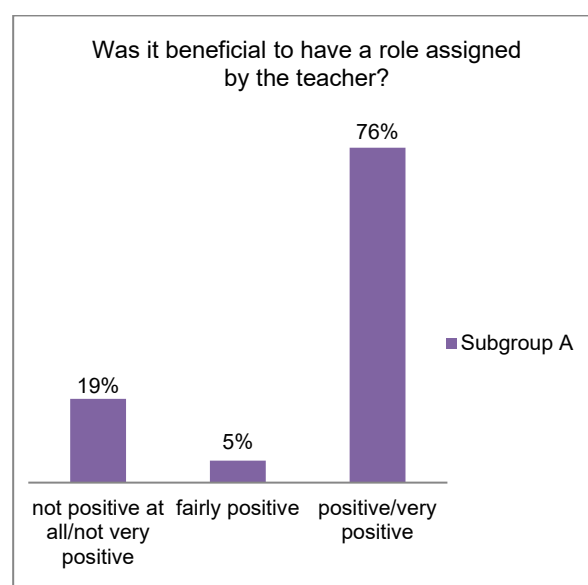


Figure 2. “Was it beneficial to have a role assigned by the teacher?”

From the open answers (a section n. 3.a), it emerges that Subgroup B students consider the chance to choose their role as enabling them to:

- totally adapt to their personal characteristics, thus respecting their limits and potentials (53% of students);
- fulfil the duties implied by the role in a more active way, contributing to the success of the group-work (26%);
- grow in motivation and in sense of collaboration, also thanks to the feeling of “freedom” and “autonomy” implied by being given a choice (21%).

Subgroup A students, on the other hand, consider the fact of having assigned a role as enabling them to:

- testing themselves in a different role from the one they would normally undertake (29%);
- have an easier start-up the working process, with regard to work scheduling and management, especially within a group whose members do not know each other well (24%);
- be more careful and responsible in complying with the specific nature of the assigned role (24%);
- reduce conflict between group members, by encouraging a positive and cooperative climate within the group (12%);
- reach a greater clarity in the subdivision of work (11%).

Moving to the question investigating students' perception of being able to cover the role (Fig. 3), less difference can be observed between the subgroups: 71% of students who chose the role believed that they completely managed to cover the role, compared to 62% of students having a role assigned.

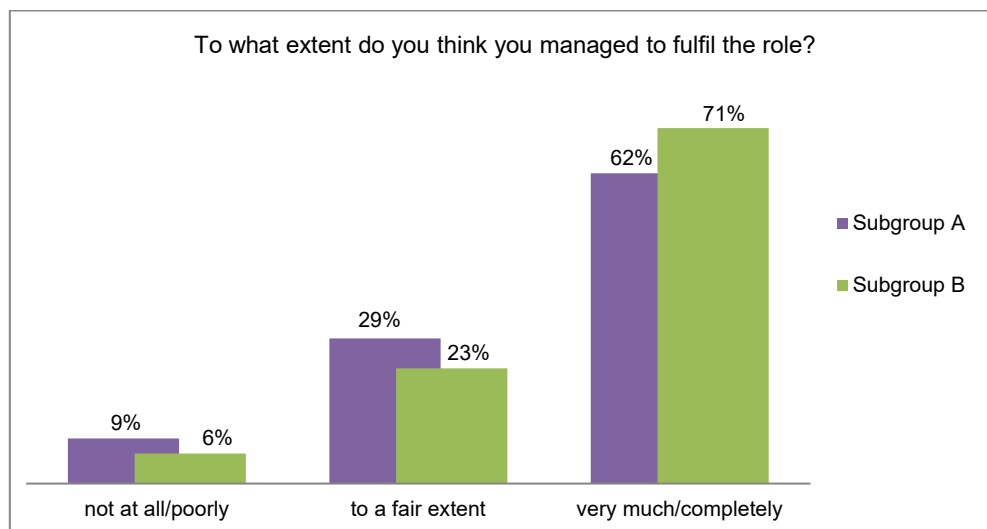


Figure 3. "To what extent do you think you managed to fulfil the role?"

The T-test analysis confirmed that there was no difference between the mean of Subgroup A ( $M = 3.90$ ) and Subgroup B ( $M = 4.18$ ):  $t(36) = -0.94$ ,  $p = ns$ .

When considering the perception of difficulty in getting into/maintaining the role (Fig.4), it is interesting to notice how 70% of subgroup B students found it not hard, compared to only 38% of subgroup A students, most of whom (62%) considered it hard. The T-test analysis showed a nearly significant difference between the mean of Subgroup A ( $M = 3.14$ ) and Subgroup B ( $M = 2.35$ ):  $t(36) = 1.76$ ,  $p = .08$ .



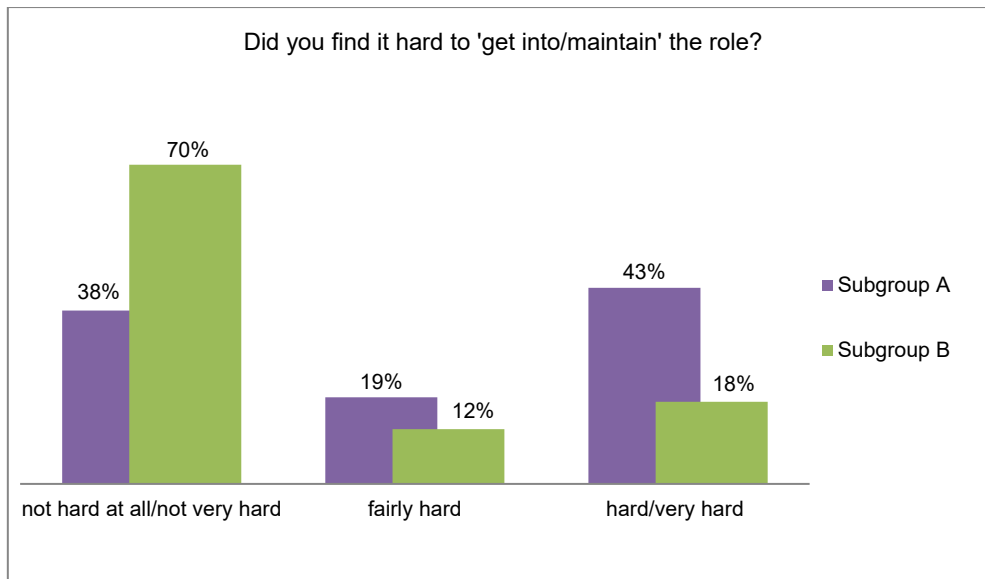


Figure 4. “Did you find it hard to ‘get into/maintain’ the role?”

Subgroup A students refer difficulties regarding:

- the need to adapt their behaviour to a role considered as not in line with their personal characteristics (41%);
- feelings of inadequacy in the fulfilment of the assigned role (23%);
- unsponaneously adapting interpersonal communication to suit the assigned role (18%);
- the risk of trespassing into the groupmates’ roles when considered as more in tune with their personality (18%).

Subgroup B students, on the other hand, refer difficulties regarding:

- conflicts spreading around respecting other people's roles and their decisions (37%);
- a general lower compliance to the defined schedules and group management (27%);
- greater uncertainty and difficulties when subdividing and managing group work (27%);
- a certain less participation and cooperation by some members (9%).

The last Figure (Fig.5) reports the percentage of students referring to be very satisfied with the learning experience, with the Role Taking effectiveness, and with the group collaboration.

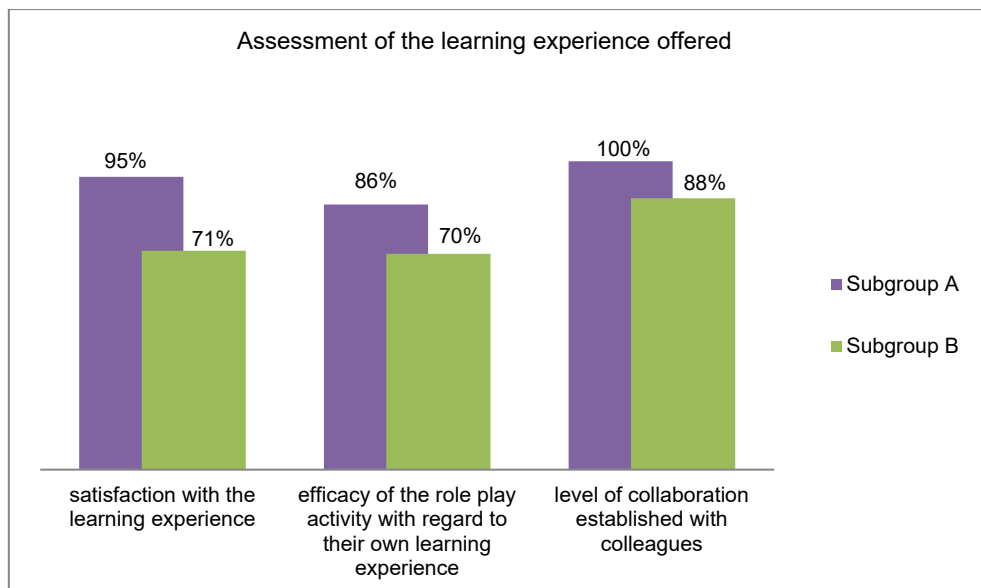


Figure 5. Assessment of the learning experience by the two subgroups.

As concern satisfaction with the learning experience, the students having the role assigned from the teacher report a quite better experience, with 95% of them being very satisfied with the whole learning experience versus 71% of the students having chosen the role. This is confirmed by the T-test analysis which showed a significant difference between the mean of Subgroup A ( $M = 4.52$ ) and Subgroup B ( $M = 4.12$ ):  $t(36) = 2.49, p = .02$ .

Being “forced” to take a role assigned by the teacher seems to increase the fluidity of the whole learning experience, with regard to the quality of intragroup relations, seen as necessary to the joint task (100%), and to the perceived efficacy of the online Role Taking for the individual learning (86%). However, T-test analysis showed no statistical difference both as concern the perceived efficacy [ $M_{\text{subA}} = 4.05$  and  $M_{\text{subB}} = 3.76, t(36) = 0.95, p = \text{ns}$ ] and the level of collaboration [ $M_{\text{subA}} = 4.38$  and  $M_{\text{subB}} = 4.24, t(36) = 0.60, p = \text{ns}$ ].

Subgroup A students consider that having a role assigned:

- stimulate each groupmate to be more careful in complying with the specific nature of the role assigned (27%)
- enables students to test themselves in a role different from the one they would normally choose to undertake (27%);
- reduces conflict between group members and encourages a positive and cooperative climate within the group (19%);
- makes easier to start-up the working process, with regard to work scheduling and management, especially within a group whose members do not know each other well (15%);

- lead to a greater clarity in the subdivision of work (12%).

Subgroup B students seems to imply:

- conflicts spreading around respecting other people's roles and their decisions (27%);
- a general lower compliance to the defined schedules and group management (27%);
- greater uncertainty and difficulties when subdividing and managing group work (26%);
- a certain less participation and cooperation by some members (20%).

## **6. Discussion and conclusions**

In a descriptive way, results seem to suggest that choosing a role would be the preferable learning condition, since a chosen role enables students to exploit their individual characteristics, encourages group motivation, and supports collaborative work. Yet, when asked to express their overall satisfaction, this freedom seems to be related to growing issues concerning group collaboration and individual responsibilities: more internal conflicts, less respect for the groupmates' roles, more delegation of responsibility, less interest in the project work.

However, in students' opinion an assigned role is more effective in terms of quality of learning, social dynamics and satisfaction with the experience, since it simplifies and speeds up the sharing of tasks and the initial distribution of the work between group members, thus containing intragroup conflicts. Furthermore, the opportunity to test themselves in a role different from the one they would normally undertake is a challenge that seems to lead to further learning outcomes.

These differences between the two subgroups are however only partially confirmed by the statistical analysis of the T-test. The significances indicate that Subgroup A has more difficulty in taking the role but that the overall experience is more satisfactory. Nevertheless, it should be noted that the non-significance of some items is probably due to the small number of components of the two groups.

In conclusion, despite the limitations of the study that do not allow any generalization of the results – first of all considering the small number of participants and the not-experimental method here adopted –, we were however able to grasp some insights about the processes emerging when a role is chosen or assigned. Nevertheless, future developments are needed in the design of the learning activity, such as: engaging the students in a “learning by

modelling” (Palincsar & Brown, 1984) experience, envisaging that the members of each group will take turns in the various roles for each module of the course; in this way, each student would experience the effects of and the contents and process skills associated with each role (Cesareni & Cacciamani, 2015; Sansone et al., 2011; Strijbos et al., 2004). Moreover, further digital tools and environments could improve the students’ experience, providing them with more chance to synchronously and friendly interact, finally facilitating their collaboration and group management. Lastly, a better balancing between classroom and online activities will be improved, altogether with longer time devoted to online group work, thus enabling artefacts to be revised and improved in response to peer feedback (Cesareni et al., 2018).

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