

TRAINEE TRANSLATORS' PERCEPTIONS OF COOPERATIVE TEAMWORK

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Abstract

In practice, translator training generally combines two well-established approaches to teaching/learning: project-based learning and cooperative/collaborative-learning. In the Professional Approach to Translator Training, these didactic models have been merged and adapted to the teleworking context of professional translation and presented through the medium of blended e-learning. In this context, translator training has embraced the full range of competencies specified in the undergraduate program currently taught at the University of Granada (Spain) and opens up the learning experience to cover areas often ignored due to the difficulties inherent in both teaching and assessment. Instrumental and personal competencies such as teamwork and interpersonal communication skills, decision-making and organization skills are seldom taught explicitly and even less often assessed despite our attempts to fulfill the requirements of the Bologna process. A social constructivist approach to tertiary education appears to take these competencies for granted rather than incorporating them into the wider learning experience.

The present study focusses on small group composition and learners' perceptions of small groups and teamwork. The role of the tutor in team composition is crucial if teams are to work efficiently and learners are to benefit from the experience. However, while research has been undertaken at primary and secondary level, little has been published about this issue in the university; moreover, that which is available draws heavily on the school experience. In response to unexpected results, we have taken a proactive role in small group formation by using a random selection process, with subsequent manipulations. This has been followed by using structured activities designed to create qualitative responses from learners from which we have constructed a corpus of group and individual reflections. Our analysis of this corpus leads us to conclude that group composition has little influence on product-based assessment but can improve

process-based assessment, which we believe is, at least, an accurate reflection of learning and an often ignored component of tertiary education. Our learners' perception of small group formation and teamwork focusses on issues of task, team, attitude, process, and conflict about which they indicate substantial concern which, we consider, merits a comprehensive response from tutors.

1. INTRODUCTION

The present study is a further development in innovative teaching at tertiary level conducted by members of a long-standing research group based at the University of Granada (Spain) and including members of faculty at other centres in Spain (See <http://aulaint.es/index.php/es/miembros-2>). While initial research (See <http://aulaint.es/index.php/es/proyectos/proyectos-desarrollados>) focussed on translator training within the undergraduate program taught by participating faculty, current research - although based on the recently revised undergraduate curriculum - embraces a wide range of issues equally applicable throughout tertiary education in Europe following the Bologna process of university reform. Most recently our research has centred on issues derived from competence-based learning and on aspects of self- and peer-assessment (Robinson et al 2013, Robinson 2014).

Within the Spanish university system, translator training at undergraduate level generally combines two social constructivist approaches to teaching and learning that are applied at all levels from primary to tertiary. The first and most widely used approach is project-based learning (PjBL) (Ribe and Vidal 1993) exemplified in the Translation Studies literature through works by Olvera et al (2003a, 2003b, 2005, 2007), Kiraly (2005) or Duran Munoz (2014); the second is termed cooperative learning (CL) (Johnson et al 1984, 1986) or collaborative learning (CoL) (Panitz 1999). Project-based learning is generally defined as a dynamic approach to learning that enables students to focus in a structured manner and for an extended period of time on a real-world task. It has been widely exploited from primary to tertiary levels and was for some time a leading trend in Foreign language learning (Ribe and Vidal 1993). Most importantly, PjBL encourages a shift from teacher- to learner-centred learning and moves the teacher into the background to occupy the role of facilitator. Cooperative learning is defined as an approach based on small group work that involves five key elements, previously structured by the teacher: positive interdependence, individual accountability, face-to-face interaction, interpersonal and small group social skills, and group processing (Johnson et al 1999; Johnson et al 2006). In its original form, in primary and secondary education, small group composition was considered a primary concern of the teacher, whose principal objective was to ensure that groups comprised a heterogeneous mix in terms of academic status with high, average and low level performers working together in order to facilitate interaction: hence, cooperative learning. Collaborative learning as defined by Panitz (1999:3) stands apart from CL: "Collaboration is a philosophy of interaction and personal lifestyle

where individuals are responsible for their actions, including learning and respect the abilities and contributions of their peers”. We will describe the relation between these two concepts in more detail later, and illustrate them within the context of our approach to translator training.

In the Professional Approach to Translator Training (PATT), Olvera-Lobo et al (2007) adapted PjBL to the teleworking context of professional translation (Figure 1) and delivered translator training courses through the medium of blended e-learning-at that time, very much in its infancy. This approach was later refined to incorporate many elements of CL (Robinson et al 2013), adapting the PATT model to incorporate changes demanded by the Bologna process and interactive Web 2.0 technology, and applying PATT to the newly introduced undergraduate programs. This revision aligned blended e-learning with newly developed online applications that coincide with systemic, instrumental and personal competencies, producing learning activities that develop higher order cognitive skills and integrating Web 2.0 tools into teaching, learning and assessment. To achieve this, transparent self- and peer-assessment tools were designed to evaluate a wide range of competencies. The refined PATT model draws on the strengths of “digital native” learners, offering them a learning experience in harmony with their generation.

Accordingly, translator training on a number of courses in the undergraduate program introduced at the University of Granada (Spain) in 2010-11, has embraced a wider selection of the competencies specified and opened up the learning experience to cover areas often ignored due to the difficulties inherent in both teaching and assessment. Instrumental and personal competencies inherent to CL —such as teamwork and interpersonal communication skills— and to PjBL —such as decision-making and organization skills— are seldom taught explicitly and even less often assessed despite attempts to fulfil the requirements of the Bologna process. Often, a PjBL approach in tertiary education takes these competencies for granted rather than incorporating them into the wider learning experience. Nonetheless, ongoing research into different facets of the learning process have begun to embrace these competencies, as we have described elsewhere in our attempt to promote self- and peer-assessment of small group work competencies through the use of student-derived criterion descriptors (Robinson 2014).

Furthering our research in this same direction, the present study focusses on small group composition and learners’ perceptions of its effects. The role of the tutor in team composition is crucial if teams are to work efficiently and learners are to benefit from the experience. However, although of major importance in CL and the focus of research at primary and secondary level, little has been published about this issue in the university and that which is available draws heavily on research in the school. Following our experience of unexpected results from specific individuals working in small groups formed by the participants themselves

—essentially groups based on friendship— and in line with the essential principles of CL practice, we have taken a proactive role in group formation by adopting a principled approach that applies a substantial element of random selection.

2. OBJECTIVES

The objectives of the present study are:

- to demonstrate the importance of small group composition and teamwork in tertiary translator training
- to describe the context in which small group composition and teamwork play a part
- to describe a principled randomization approach to small group composition
- to analyse qualitative data gathered to study the application of this approach
- to discuss learners' perceptions of the issues involved, and
- to propose further research

To achieve these objectives (1) we will review the basic concepts underlying CL and PjBL, and make what we consider an important distinction between effective and ineffective cooperative learning, which we will exemplify with reference to the PATT model; (2) we will discuss some of the major conclusions of research into small group work at primary, secondary and tertiary levels and indicate how little has been determined at university level; (3) we will highlight the competencies we consider small group work encompasses; (4) we will describe the method of assigning members to small groups that we have applied; and (5) we will analyse qualitative data gathered from students who have participated in courses on which we have trialled this approach.

3. COOPERATIVE LEARNING VERSUS COLLABORATIVE LEARNING, AND PROJECT-BASED LEARNING

As we have stated earlier, CL is based on the presence of five basic elements in the learning process. These are variously described as positive interdependence, individual accountability, face-to-face interaction, interpersonal and small group social skills, and group processing (Johnson et al 1999; Johnson et al 2006).

- Positive interdependence is the term used to refer to the learners' perception that they "sink or swim together". In CL, the tutor's task is to structure the learning process so that learners are mutually dependent in their approach to the PjBL task.

- Individual accountability describes the balance that the tutor, in structuring the task, must seek to achieve in the contributions individuals make to the overall project. Each individual must be required to assume responsibility for a specific task but it has to be the sum of these tasks that represents the product of the group's work. Hence, there is no opportunity for "free-riders" - perhaps the aspect of small group work most commonly feared by tutors and students alike.
- Face-to-face interaction is the key socio-constructivist element in the process. Learners should be required to discuss and debate key concepts, developing and honing their higher level cognitive skills. Through a structured task demanding substantial interaction - in the case of our model both face-to-face and in synchronous and asynchronous online chats - learner interaction develops individual's abilities to debate translation challenges and handle the social demands of their debate.
- Interpersonal and small group social skills are those which are essential to productive teamwork and include issues of leadership, decision-making, trust- building, communication, and conflict management. It is widely recommended these are explicitly taught prior to embarking on small group work (Johnson, Johnson and Johnson-Holubec 1998).
- Group processing involves four stages through which members give and receive feedback, reflect on that feedback, set goals for improvement and celebrate their work and achievements. (Johnson, Johnson and Johnson-Holubec 1998).

In the context of Foreign language learning, where content and process are uniquely intertwined, the explicit input described in the aforementioned key elements of CL are drawn together in a single classroom. However, in translator training at tertiary level the issue is rather more complex. Essentially, the linguistic aspects of this input are within the domain of the Language B modules. Hence, in our particular context, we are required to assume that the pertinent interpersonal and small group social skills have been adequately learned prior to students undertaking the course. In response to this situation, as we will describe later in discussing our feedback instruments, so as to reinforce the conceptual foundations of CL we adopt a deductive approach to the issues arising from small group work and draw out the key elements in our feedback response to the students' group processing of their individual and collective perceptions.

In the literature, the term collaborative learning is frequently used as a hypernym (Panitz 1999) and/or synonym of CL. However, for the purposes of the present study we wish to make an important distinction between the two derived from our observations in the day-to-day application of the PATT model. The purpose of this distinction is to highlight the optimal- cooperative-versus the less-

than-optimal but nonetheless adequate-collaborative-approach that students often take to PjBL in translator training and to stress the importance of the transition between the two taking place in an ordered, natural manner. Translation projects are essentially “all the same” in that, while the specific details of a translation brief and the corresponding source text will obviously differ, the essential phases of the project are fairly rigid. In the translator training context, this fixed structure (Figure 1) is pedagogically important, constituting what socioconstructivism would call “scaffolding”. We are training students to develop what we consider good professional habits and the very fact that each project follows a similar pattern is important.

If we begin with the PATT model depicted in Figure 1, we can see that when moving from ‘Start’ to ‘Finish’ for the learning process to be cooperative, the exchanges represented by the narrow, two-headed, broken black lines should take priority. These arrows indicate the third of the key elements in CL: interaction, namely a reciprocal flow of didactic communication between peers. They represent the mutual exchange of information all interaction entails and constitute the contexts in which learners need to use interpersonal and small group social skills. In this exchange of information, ideas and opinions, team members accept group responsibility for their work and learn from each other.

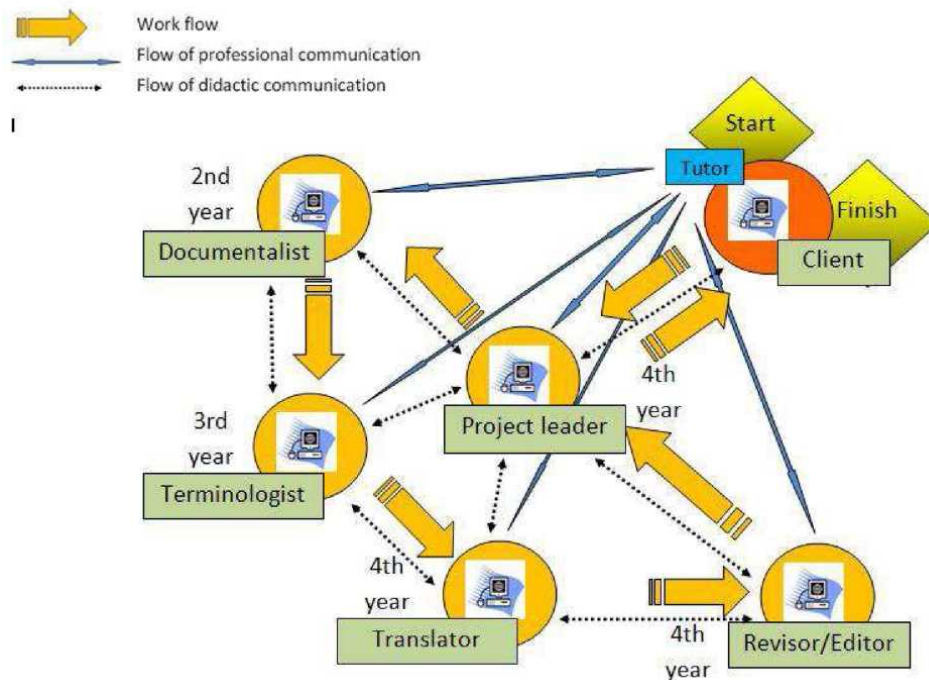


Figure 1 The Professional Approach to Translator Training model (Robinson 2013, adapted from Olvera et al 2007)

Once work routines and a satisfactory level of positive interdependence have been established within the small group, interaction tends to follow the pattern of the work flow. In Figure 1, the broad single-headed yellow arrows indicate the direction of work flow in a translation project and represent the established routine of the structured work process. In this context, assuming one or more learners takes on each of the given roles-Project leader, Documentalist, Terminologist, Translator, and Reviser/Editor-cooperation tends to be in one direction only. Now, each participant cooperates with the others but they work in isolation, completing their assigned part of the task alone and passing on their specific product-be it documentation, a glossary, the first draft translation or a revised/edited draft of the text-to the individual who constitutes the next link in the sequence. If this occurs as the result of a successful prior cooperative phase, all is well and good: it demonstrates the internalisation of the work routine and, probably, the fact that participants have moved ahead in their learning. Learners are demonstrating a higher level of command of the skills demanded by the translation task and a level of automatization of this. The proof that this is a natural consequence of successful CL can be seen in the degree to which small groups are able to handle unexpected difficulties and revert to a more interactive approach in order to do so.

However, when a less/structured collaborative approach is adopted first, this amounts to a “divide-and-conquer” strategy that minimizes the need for interaction between team members and eliminates the essence of individual accountability. Individuals only accept responsibility for their specific contributions; they can-and often do-“pass the buck,” to the extent that the revisor/editor, being the last link in the chain, finds they shoulder most responsibility for the final product. Furthermore, interaction becomes purely transactional and any prior teaching of effective interpersonal and groupwork practices goes unheeded because the group, as such, becomes largely irrelevant. This development must be avoided to ensure learning is successful.

4. COMPETENCIES

Explicit in current undergraduate syllabuses in Spain is the preparation of students so that they can demonstrate their command of a wide range of competencies. In the University of Granada program in Translation and Interpreting, the competencies include those that appear in Table 1. The examples in the table are drawn from our program but with the exceptions of the sub-competencies 9a, 13a, 15a, 21a and 23a, all of the others are fundamental to wider academic and professional practice beyond the confines a single academic program. Hence, our belief that while we draw on research in our own classrooms, the potential application of our work has a much wider scope.

Instrumental competencies

7. To be able to organize and plan
8. To be able to solve problems
9. To be able to analyse and synthesize

- 9a. To be able to analyse texts in order to translate them
10. To identify issues arising from the relation between language and text genre
13. To be able to manage information

13a. To be able to document themselves for a translation

14. To be able to make decisions
15. To know how to clearly present and defend the objectives and results of their work

15a. To know the metalanguage of translation

Personal competencies

16. To adopt an ethical approach to professional practice
17. To be able to develop critical reasoning
18. To learn to recognize diversity and intercultural processes
20. To be able to work in a team
21. To be able to work in an international context

21a. To be aware of the translator and interpreter's role as a mediator in promoting a culture of peace and democratic values

Systemic competencies

23. To revise thoroughly and to check, assess and guarantee quality

23a. To be able to apply the norms of the target language's typographic syntax and the stylistic norms for presenting a translation

24. To be able to work independently

29. To organize work and design, manage and coordinate projects

Table 1. A selection of the competencies included in the undergraduate program in Translation and Interpreting taught at the University of Granada [Author's translation]. Available at:

<http://grados.ugr.es/traduccion/pages/infoacademica/guiagrado pp 10-11>.
[Accessed 10/01/2015](#).

5. SMALL GROUP COMPOSITION

5.1. Primary-level research: laying the foundations for learning

Authors are concerned to achieve wide-reaching objectives such as the development of a cooperative knowledge-building culture in the science classroom (So et al 2010) or the fostering of a social constructivist approach to education (Kurubacak 2007). Group formation takes on a significant role in research proposals as authors attempt to deal with multiple variables and their potential influences on learning and the learning process. While these issues also appear at secondary and, but to a much lesser extent, at tertiary level, it is in the early years of learning that researchers have paid most attention to issues that parallel personal and psychological development (Cohen 1994, Wegerif et al 1999). Gender, ethnicity, academic status (Fuchs et al 1998) and peer-status (Kiuru 2009), friendship, affiliation and perceptions of affiliation, expectations, and motivation are among the major variables that researchers have described in their studies over and above discipline-related topics (Arvaja and Hakkinen 2010, Strough et al 2001, Webb 2001).

5.2. Secondary-level research: a question of nuts and bolts

At secondary school level much of the research available centres on the mechanics of applying cooperative learning techniques in the classroom. Authors of studies drawn from adolescent learners are concerned with the practicalities arising from adopting the approach.

In a survey of teacher perceptions at secondary school level, the authors report both positive and negative views of cooperative learning as well as a number of other issues of concern to their respondents (n=10) (Gillies and Boyle 2010). Difficulties of implementation are closely linked to practical, day-to-day concerns over issues such as the time involved and classroom noise levels that can be generated. Group formation does, also, constitute a matter of concern although little is said about how it can be handled. Interestingly, the more significant issues to be resolved focus on the nature and design of the task - whether it is clearly "scripted" or open-ended - the need for social skills training input to the learners, and the use of self- and formative assessment.

5.3. Tertiary-level research: work-based learning in translator training and other fields

At the tertiary level, published research generally follows the pattern of the PATT model that we have developed for translator training (Olvera et al 2007, Duran Munoz 2014). In fields as diverse as biomedical engineering (Elsarnagawy and Alhamwi 2011), chemical engineering (Delgado and Fonseca-Mora 2010), design (Shih et al 2006), medical education (Turan et al 2012), teacher training (Biasutti 2011, Komorowska 2009), in-service teacher training (Gillies and Boyle 2010), veterinary science (Mills 2004), and telecommunication engineering (Alorda et al 2011), we have encountered reports of work-based learning aimed at providing participants with project-based courses or course components delivered by using a variety of interpretations of cooperative learning and involving the creation of small groups. These courses feature aspects of the real-world professional realities students can expect to encounter in their careers. Explicitly or implicitly, the courses focus on instrumental, personal, and systemic competencies most of which are applicable in all of the aforementioned disciplines. Authors report on modules and module design issues but seldom touch on group formation. In writing about a teacher training course, Gillies and Boyle (2010) describe students' perceptions of their experience and among these they rank order issues that arise. In order of importance, these issues correspond to "norming" - i.e. establishing the ground rules by which team members should cooperate - and the allocation of roles with the group; "performing," in the sense of carrying out the assigned task; teamwork itself, as a concept both within their course and in their professional context; and the emotive and ethical issues arising from their co-responsibility for their work as team members. In contexts as diverse as medical education and information technology, authors recognize that small group learning as such has no apparent influence on academic achievement (Turan et al 2012, Alorda et al 2011) despite suggestions to the contrary in primary and secondary education (REF). However, Turan et al report their learners' perceptions that this small group cooperative learning is "fun" and "satisfying", and that they appreciate the sensation that their co-learners help them learn.

6. GROUP FORMATION AND GROUP PROCESSES

Group formation in primary and secondary school research is often based on dyads or triads (Alorda et al 2011, Barron 2003, Strough et al 2011). In older learners, teams can number 3, 4, 5 (Biasutti 2011, Delgado and Fonseca-Mora 2010, Webb 2001) or even 17-20 members (Turan et al 2012). Team formation is sometimes manipulated in that teachers attempt to blend combinations of variables such as gender or academic status in order to form balanced teams in pursuit of equal interaction. Authors report on the specific consequences of teams that are unbalanced in terms of gender or academic status. They identify contrasts between all-female or all-male teams and in equal or unequal female-male

groupings. In other contexts, authors describe the benefits and disadvantages accruing to learners of high, average or low academic ability.

In the field of Human resource management, the issues arising from small group learning and teamwork have focused the attention of practitioners and researchers. The Team Development Wheel-a four-stage model of the team development process (after Tuckman 1965) illustrated in Figure 2-is widely used as an instructional instrument.

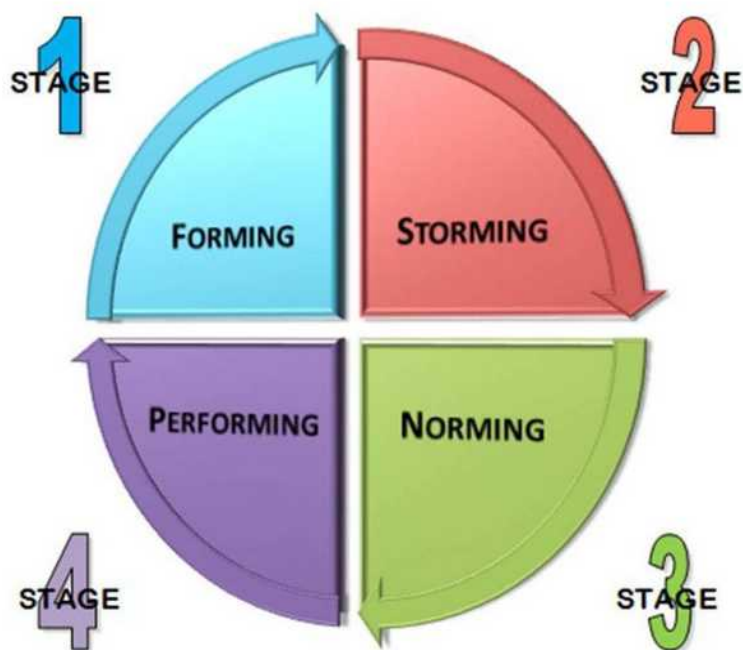


Figure 2. The Team Development Wheel (after Tuckman 1965).
(Mackin 2011)

6.1. Proposal

Like many university teachers who are faced with irregular attendance and a clear reluctance on the part of learners to accept a teacher-directed alternative, our standard practice for years was to instruct learners to “get yourselves into groups”. In general, this meant learners worked with friends or acquaintances on whom they believed they could rely. This also led to late arrivals being grouped together in the face of already formed groups and entire groups composed of Exchange students who knew nobody at all, or knew only other Exchange students from their home universities or countries. For some years, this approach was the easiest option for all concerned and produced no major difficulties. Until one student wholly unexpectedly failed the course. In this particular case, his failure was perhaps more of a surprise to the tutor than to the learner himself and, consequently, motivated a brief investigation. It transpired that the group in which he had worked was the same group he had worked with on several modules (four male and one female student, who were good friends, some of whom shared a flat). Throughout the semester the team had “carried” this individual and all, including the failing student, were well aware of his weaknesses. As a consequence, we

developed an alternative approach to small group composition which we have employed with minor modifications for the past seven academic years on all of our modules.

6.2. METHOD Principled randomization

The objectives of the randomization process are (1) to assign all students to small groups using an electronically-generated list of random numbers and (2) to ensure that Exchange students who are habitual users of English as a first language or users of other languages are evenly distributed over all the small groups.

The steps in the principled randomization process are as follows:

1. Enter names of students in the group into Column A of a Microsoft Excel spreadsheet and the file.
2. In Column B add information to identify Exchange students by their language of habitual use.
3. Order the students by surname from A to Z.
4. Go to www.randomizer.org (Urbaniak and Plous, undated) and study the simple tutorial giving detailed instructions and examples of how to generate randomized lists.
5. Generate a random order list of numbers for the group using the online generator. The total of numbers in the list must correspond to the total number of students in the corresponding group i.e. for a group of 41 students, generate a random list from 1 to 41.
6. Download the numbers generated in Excel format and open the file.
7. Cut and paste the randomized list into Column C of the spreadsheet.
8. Re-order Columns A, B and C based on the random list in Column C.
9. Calculate the total number of small groups to be created given that the optimal number of members per small group had been set at 4 or 5. Hence, a group of 41 students will consist of 9 small groups (A1, A2, A3...). Small groups A1 to A5 will include 5 members each and A6 to A9 will include 4 members each.
10. Assign the Exchange students to small groups following the randomized order in which they appear in Column B. Group A has 9 habitual users of English as a first language, so one of these will be in each team. The remaining four Exchange students will be assigned one each to teams A1 to A4, as they appear in Column B.

11. Assign the remaining students to small groups following the randomized order in which they appear in Column B.

6.3. Data collection Feedback instruments

In the established small groups, students prepare a presentation on “The challenge of working in a team.” The objective of their presentation is to report on teamwork strategies and to help them prepare they have the following list of questions

- What was your initial reaction to having to work in random teams?
- How much did you rely on your previous experience of teamwork?
- How did you make decisions?
- How did you share out the work?
- Did everyone contribute equally?
- What was the best part of the team translation experience?
- What was the worst?
- What will you do differently next time?

Teams use standard presentation software (e.g. Microsoft Powerpoint or Prezi) and orally present their work in seminar groups. Each team usually attends three or four presentations made by other teams. Later, they make online submissions of their Powerpoint or Prezi files, and all of these are subsequently made available to all group members.

6.4. Participants

Primary data presented in this study come from three groups of learners following the final year core module *Traducción especializada A-B (Inglés)* in the first semester of academic year 2014-15. These learners were all taught by the first author of this paper.

6.5. Demographic characteristics

Tables 2 and 3 summarize demographic characteristics of the students in the study sample.

| Group | Total | Female | Male | Exchange students |
|-------|-------|--------|------|-------------------|
| A | 41 | 29 | 12 | 13 |
| B | 39 | 36 | 3 | 11 |
| C | 33 | 24 | 9 | 8 |

Table 2. Breakdown of students by group according to sex and home university.

Distribution of exchange students by language of habitual use:

| Group | A | B | C |
|-------|----|----|---|
| CA | 1 | | |
| DE | | 1 | |
| EN | 9 | 4 | 6 |
| ES | | 1 | 1 |
| FR | | 1 | 1 |
| IT | 2 | 2 | |
| NL | | 2 | |
| PL | 1 | | |
| Total | 13 | 11 | 8 |

Table 3. Breakdown of Exchange students by group and by language of habitual use

6.6. DATA ANALYSIS *Qualitative analysis*

Our initial analysis of the material collected was based on template analysis (King et al,

2002) . While time-consuming, we consider this approach eminently satisfactory as it easily adapts to the data we have gathered. Template analysis consists of a sequence of four stages: firstly, we prepared a template based on a set of predictable elements - in this case, the competencies that appear in the table (above); secondly, we analyse the data by reading and rereading the corpus of texts in order to, thirdly, complete the template with specific examples of data that reflect each of the predicted variables. Finally, we complete the process by revising the template to incorporate and classify any elements we had not predicted.

We predicted that second level data (in the second column) would refer to some of the course syllabus competencies (Table 1), and that the third level concepts would be drawn from the corpus of documents studied. At the fourth level, we expected to find actions or attitudes that the students considered illustrations of these concepts.

Our analysis of the final template led us to develop a set of criterion descriptors for self- and peer-assessment of cooperative teamwork described elsewhere (Robinson 2014).

7. CONCLUSIONS

In the present study we have (1) reviewed the basic concepts underlying cooperative learning and collaborative learning in the context of a project-based learning approach to translator training. We have made a clear distinction between the more structured cooperative process and the ideally more intuitive collaborative process, and stressed the importance of the former as an essential part of learning. Students who adopt a compartmentalised collaborative approach very often do so to avoid conscious participation and learning. Our analysis of learners' perceptions of cooperation indicates they are fully aware of the benefits that can be derived from a CL approach and that they often consider learning from others-interaction-to be one of the major benefits of working in small groups to which they have been assigned using our principled randomization process. Despite this, for motives we have not as yet begun to discern, some groups have clearly opted from the outset for a compartmentalised approach that rejects the concept of individual accountability and burdens the last link in the chain-often the

native user of English Exchange student-with full responsibility for the final product.

Our discussion of major conclusions of research into small group work at primary, secondary and tertiary levels has indicated that the issue of group composition is gradually considered less and less important as the target samples are composed of older learners. In younger learners, small groups tend to be dyads or triads; in older learners, group size grows. In younger learners, teacher concern to obtain a satisfactory mix of the demographic variables present in learners is greatest; in older learners demographic variables are ignored or, if recognized to exist, remain outside of study design considerations.

Small group work encompasses a wide range of competencies that extend far beyond the confines of individual undergraduate degree programs. Consequently, the need to include appropriate preparation in interpersonal and small group social skills work becomes a strategic component of tertiary education where it can be managed hand-in-hand with the development of appropriate profession-specific knowledge and skills through PjBL. However, as clearly indicated in the groundwork covered in research at primary level, success derives from clearly structuring the learning tasks. O'Donnell et al defined "scripted" CL in terms of the greater or lesser extent to which "the roles played by members of the group, and the sequence of activities engaged in by the group are specified" (1987:431). Thus, in the PATT model, we believe we have achieved an optimal level of "scripting" but we are aware that this is no guarantee of success. The positive aspects of quality interaction engineered by the tutor (Gillies 2003, Barron 2003) are a further issue that should favour success although, again, they do not guarantee this. The outcomes of CL can be measured in terms of cognitive skills, social skills, affective development and metacognitive skills, all of which are potentially present in the PATT model. However, active tutor involvement is essential.

Our principled randomization of learners to small groups is intended to provide a major stimulus to cooperative group work. Furthermore, our attempts to enhance learner awareness of the purpose of this method via the eliciting of feedback through the focused group processing activities should go some way to achieve this. Nonetheless, learner concerns about assessment and the balance between group and individual assessment suggests further research of this issue remains to be undertaken.

Similarly, the qualitative data we have gathered from students who have participated in courses on which we have trialled this approach is as yet limited. In the immediate future we consider it necessary to extract greater detail from the materials collected to date and to extend our data collection to more learner groups in order to provide a wider perspective on the issues.

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