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Reciprocal role peer tutoring:



The background is a vibrant collage of geometric and mechanical shapes. It features several gears in shades of green, blue, and brown. A black ladder is positioned diagonally across the center. There are various arrows, including solid and dotted ones, pointing in different directions. The overall color palette is dominated by greens, oranges, and greys.

Can it enhance students' motivation and perceptions of proficiency when learning a foreign language?



Martin East, Constanza Tolosa and Helen Villers

Abstract

As a consequence of a substantially revised national curriculum in New Zealand, all schools are now required to provide opportunities for students in school Years 7 to 10 (age 11+ to 14+) to learn an additional language. There are, however, very few intermediate school (Years 7 and 8) teachers who are additional language 'subject specialists'. This situation raises issues around effective organisation of languages programs. One initiative is to consider reciprocal role peer tutoring whereby additional languages students are paired with students overseas who speak the target language as a first language, and who, via technology, interact in ways that facilitate tutoring in the additional language. This article reports data from an investigation into an online reciprocal peer tutoring project. The project involved beginners' level Year 7 students of Spanish as an additional language in New Zealand who worked with reciprocal Spanish first language speaking partners of the same age in Colombia, who were studying English as an additional language. This article focuses on the New Zealand students' experiences, and discusses the impact of the project on these students' attitudes towards learning an additional language, and their perceptions of their proficiency in the language. Findings are used to consider the strengths and limitations of reciprocal role peer tutoring for language learning, in New Zealand and elsewhere.

Key Words

languages, peer tutoring, technology, motivation

Introduction

A revised national curriculum for New Zealand's schools (Ministry of Education, 2007) has marked a significant move forward for the teaching and learning of additional languages in comparison to the curriculum that had been in place since 1993 (Ministry of Education, 1993). Under the former curriculum, additional languages teaching and learning had been embedded within a larger curriculum area – *Language and Languages* – which also included English or Māori as first languages. This often had the effect of marginalising additional language study, because English as a first language could effectively become the default language through which the requirements of the learning area could be met.

Following international critique of the weak place of languages learning in the former curriculum (Australian Council for Educational Research, 2002; National Foundation for Educational Research, 2002), a new learning area, specifically dedicated to additional language learning, has been launched: *Learning Languages*. From 2010 (when the revised curriculum became mandatory), all schools have been required to be working towards making an additional language an entitlement for school students in Years 7 to 10.

This expansion of provision has brought substantial challenges. One dilemma has been finding suitably qualified (i.e., linguistically and methodologically proficient) teachers. Many languages teachers in intermediate schools (i.e. schools for students in school years 7 and 8, aged 11+ to 12+), who may well have a genuine interest in languages teaching, are themselves at early stages in acquiring the language they are aiming to teach, have not necessarily received any formal training in teaching an additional language, and are by no means 'subject specialists' (Scott & Butler, 2007). Hu (2005), furthermore, argues that crucial to successful student language acquisition is having teachers with a high level of proficiency in the target language.

Another dilemma for expansion of languages programs in New Zealand has been problems with recruitment into, and retention in, languages courses (East, Shackleford, & Spence, 2007). There is arguably a need to make languages classrooms 'places that students enjoy coming to because the content is interesting and relevant to their age and level of ability' (Lightbown & Spada, 2006, p. 64).

Added to these constraints, Hu (2005) argues that students require 'rich opportunities for authentic communication in the language, [and] ample instructional time' (p. 18). If the expansion of languages programs at the intermediate school level is to be successful, approaches are needed that can provide sufficient exposure to the language in enjoyable and motivating ways that are,

at the same time (given the challenges with regard to linguistic and methodological proficiency), not dependent solely on a teacher-led pedagogy.

Theoretically, reciprocal role peer tutoring provides an opportunity to plan languages programs in ways that might address the limitations. Thurston, Duran, Cunningham, Blanch, & Topping (2009) argue that peer tutoring 'usually takes the form of cognitive co-construction...when a more competent peer within the class acts to mediate between the new knowledge and the mental activity of the learner' (pp. 462-463). This means of imparting knowledge is consistent with a learner-centred and experiential pedagogical approach (Weimer, 2002), promoted in New Zealand's revised curriculum, where teacher and learner are engaged in co-construction of knowledge. Co-construction has been influenced by the Māori concept of *ako*, which is 'grounded in the principle of reciprocity' and 'describes a teaching and learning relationship where the educator is also learning from the student' (Ministry of Education, 2008, 3). Seen from a sociocultural theoretical perspective, co-construction builds on the Vygotskian notions that knowledge is acquired primarily through social interaction and that creating a supportive environment in which interaction can occur facilitates learners' advancement towards higher levels of knowledge and performance (Tharp & Gallimore, 1988).

Peer tutoring and additional language learning

When it comes to learning an additional language, Philp and Tognini (2009) argue that opportunities for 'co-construction of knowledge through collaborative dialogue' (p. 247) may involve both teacher-learner (T-L) and learner-learner (L-L) interactions.

Theoretically, T-L interactions work to advance learner proficiency in a variety of ways, including explicit teaching, modelling the language, and offering motivational or corrective feedback. However, when teachers lack the proficiency to provide these types of input in a consistently accurate way, or have insufficient knowledge of sound pedagogical approaches that promote successful language acquisition, the learning benefits of T-L interactions may be hindered. Similarly, L-L interactions may well provide encouragement and support, but may also be ineffective due to insufficient proficiency, leading to 'junk input' (O'Neill, 1991) whereby learners might receive 'a flow of uninformative and incorrect language' (Cook, 2002, p. 5). If, however, 'high level of proficiency in the target language' is an important component for success (as Hu (2005) suggests), this needs to be built into co-constructive interactions in some way.

Thurston et al. (2009) argue that reciprocal role peer tutoring which involves two interlocutors who each hold a different first language which parallels the additional language being learnt by the learner (e.g.,

one Spanish first language speaker matched with one English first language speaker, for purposes of reciprocal 'tutoring' in Spanish and English as additional languages) provides, in each case, a 'more competent peer' and an 'equal status' – the learners are able to act as both 'tutors' and 'tutees', with one being the perceived 'expert' or 'more capable peer' in one language, and the other similarly perceived in the other language. This kind of reciprocal role peer tutoring can be facilitated via technologically-mediated exchanges (O'Dowd, 2007) with partners living in a target language country.

In light of Lightbown and Spada's (2006) argument about aiming to make language classrooms enjoyable, interesting, relevant and supportive, a crucial question is whether reciprocal role peer tutoring is perceived by additional language learners as achieving these aims. This article addresses this question, with particular focus on the Spanish as additional language students in New Zealand.

Research into the effectiveness of reciprocal role peer tutoring in additional languages environments

Building on the assumptions and claims of previous research (Thonus, 2004; Thurston, 2004; Ware-Paige & O'Dowd, 2008; Wong & Fauverge, 1999; Zahner, Fauverge, & Wong, 2000), Thurston et al. (2009) undertook a study to investigate the effects of reciprocal peer tutoring in Spanish and English. Participants were drawn from five classes of primary and intermediate school aged students (9-12 years of age) in two schools, one in Catalonia, Spain, and the other in Scotland, United Kingdom.

In the intervention, students interacted in a managed online environment, with reciprocal messages focusing on basic interactions concerned with 'me', 'my town', 'my week', 'my favourite things' and 'summer holidays'. Schools devoted four hours a week, over eight weeks, to the project. Five sets of messages in English/Spanish were sent, with feedback offered, and corrections made before resending the message.

To determine the impact of the intervention on students' attitudes, an identical 20-item attitudinal survey was issued to participants twice, once at the start, and then at the end, of the eight weeks. The survey had been adapted from one designed to measure students' attitudes towards science (Pell & Jarvis, 2001), with items slightly modified from the 'what I think of science' scale. (Thurston et al. (2009) note that the science scale was reported by Pell and Jarvis to have good reliability - Cronbach's alpha = 0.74 with a group of 116 11-year-old students). Each item was scored on a five point Likert scale with only the poles marked as 'agree' and 'disagree'. Surveys were completed by both the Scottish group (experimental, n = 15; control, n = 27) and the Catalonia group (experimental, n = 17; control, n =

23), with the latter translated into Spanish. Participants were also interviewed.

Subsequent two-way within-subjects ANOVAs were used to analyse changes in attitudes towards additional language learning, using condition (experimental or control) as a predictor of change. It was found that both experimental groups showed significantly higher gains in attitudes towards languages which, the researchers argued, 'could perhaps be attributable to the project as this pattern was observed in both Scottish and Catalan pupils' (Thurston et al, p. 468).

The present study

The present study was conceptualised as a replication, with some adaptations, of Thurston et al. (2009). Bearing in mind the operational context for additional language learning in New Zealand which we have described earlier, it was considered that a replication study might offer further evidence of the potential benefit of reciprocal role peer tutoring.

Research design

Following Thurston et al. (2009), a quasi-experimental pre-test / post-test approach was adopted, and both quantitative and qualitative data were collected. We invited two classes of Year 7 students in an intermediate school in Auckland, New Zealand, to take part. The experimental group consisted of 28 students (12 male and 16 female), and the control group consisted of 29 (14 male and 15 female). The school was selected after the Principal had approached the research team, and invited it to undertake research into the effectiveness of the school's Spanish program. A school in Colombia, with comparable demographic background to match the New Zealand school, was invited to be part of the project in which reciprocal peer tutoring in Spanish or English as additional languages would take place (the Colombian school uses Spanish as the language of instruction, with English taught as an additional language). In Colombia, two groups of fifteen Year 5 (11+ year old) students participated in the project, under the guidance of a local research team who followed the procedures to be adopted in New Zealand. In the Colombian case, there was no control group, and both classes took part in the intervention.

Intervention

The online reciprocal peer tutoring involved pairing participants in New Zealand with students in Colombia. To determine matching of the pairs, students in both countries were ranked based on their levels of additional language knowledge. The New Zealand students completed a 15-item multiple-choice test which drew on language that the students had previously studied, and a short open-ended writing task in Spanish. In Colombia students were ranked according to prior academic results and performance in a short open-ended writing



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task in English. Students were then paired according to levels of additional language knowledge with a view to pairing students at roughly comparable levels.

The intervention consisted of written message exchanges between pairs of students, carried out using Moodle, an online learning management system (see <http://www.moodle.org.nz/> for further detail). All students were given their own log-in details, to ensure that the exchanged messages were secure, and only accessible to the pairs and the researchers. Each week during an eight week period the New Zealand students were given 50 minutes in a computer laboratory. They exchanged messages with their Colombian peers on five topics that corresponded to those that students in both countries had already studied: 'personal descriptions of self and family', 'school', 'city', 'favourite music', 'personal preferences'. The students wrote a message in their additional language (Spanish for the New Zealand students, and English for the Colombian students) according to the assigned topic, which was then sent to the peer, who was invited to read the message and provide corrective feedback. The message was then to be corrected based on the feedback and sent back to the peer. Students were required to send five sets of messages in their additional language, following this process.

Data collection: Questionnaires and interviews

Our attitudinal questionnaire replicated that used by Thurston et al. (2009), with minor modifications: some changes in wording were made (for example, the original statement 'Spain is a nice country' was replaced by 'countries where Spanish is spoken are nice'); two statements were considered redundant and were removed (for example, the statement 'I am good at talking in Spanish' appeared twice in the original survey). Furthermore, although Thurston et al. had not differentiated between constructs in their questionnaire, we decided to group statements according to two identified constructs: participants' *attitudes* towards learning the additional language and about its culture (Construct 1, Statements 1 to 10), and participants' perceptions of their proficiency or *aptitude* in Spanish (Construct 2, Statements 11 to 18). Participants were asked to indicate the extent to which they agreed or disagreed with 18 statements scored on a five-point Likert scale.

Additionally, nine students from the experimental group were invited to

participate in an individual one-on-one semi-structured interview with one of the researchers, which was digitally recorded. The interviews lasted approximately ten minutes. Each participant was asked to comment on four different aspects of the intervention: (1) the online tutoring experience; (2) perceived gains in Spanish; (3) perceived gains in English; (4) perceived changes to their attitudes towards learning Spanish. The interviews were subsequently transcribed, and each was coded according to the four themes. Additional coding was developed for other information provided by the students which was considered relevant.

Findings

The questionnaire

All participants in both experimental and control groups were asked to complete the attitudinal questionnaire, both before and after the online intervention. Those students who, due to absence, did not complete either the first or the second questionnaire, or both, were removed from the data set, resulting in smaller group sizes (experimental, $n = 25$; control, $n = 22$). It was also evident that a small number of participants had failed to provide a response for some statements in the questionnaire. Of a total of 1692 possible responses (2×18 statements across 2×47 questionnaires) there were 20 missing responses (approximately 1% of the available data). The missing values appeared to be completely random (that is, not attributable to a decision to overlook a particular statement). However, having missing values raised the issue of whether further data should be removed. As East (2009) suggests, 'a "complete case analysis" (one that removes all data from a given questionnaire in cases where there are some missing values) provides a more accurate picture of trends within the data. The weakness of this approach is, however, that it leads to other data (that is, correctly completed responses) being discarded' (p. 506). In light of the apparent randomness of missing values, it was decided, following East (2009), to record values for the missing responses using the hot-deck imputation method (Ford, 1983). The missing responses were replaced by observed values from randomly chosen participants whose responses were similar to those with the missing values elsewhere in the questionnaire.

It was noted that Thurston et al. (2009) had observed that '[h]alf of the items in each sub-scale were worded such that the polarity of the response was reversed' (p. 466). In our opinion, only four statements

	Pre-intervention		Post-intervention		Difference in means
	M	SD	M	SD	
Construct 1 (attitude)	3.71	0.54	3.4	0.53	-0.31
Construct 2 (aptitude)	3.23	0.76	3.09	0.75	-0.14

Table 1. Pre- and post-intervention changes in perceptions (experimental group)

	Pre-intervention		Post-intervention		Difference in means
	M	SD	M	SD	
Construct 1 (attitude)	3.36	0.63	3.12	0.73	-0.24
Construct 2 (aptitude)	2.97	0.82	2.8	0.82	-0.17

Table 2. Pre- and post-intervention changes in perceptions (control group)

reversed the polarity of response, and this was taken into account at the analysis stage.

To determine whether there had been any changes in attitude and perceptions of proficiency across the two constructs between the start and the end of the intervention, the mean values indicating strength of agreement were calculated for both the experimental group (Table 1) and the control group (Table 2).

The descriptive statistics revealed negligible differences between the pre- and post-intervention means for both the experimental and the control group. A one-way between groups ANOVA indicated no significant difference between groups ($p = 0.704$), that is, the experimental group had not 'moved' in perceptions in any way differently to the control.

It appeared therefore, from the questionnaire evidence, that participating or not participating in the intervention did not have any differential effect on learners' attitudes towards Spanish or their perceptions of their proficiency, either positive or negative, between the start and the end of the semester. Post-intervention interviews with a subset of participants ($n = 9$) who had been in the intervention group provided a complementary opportunity to probe participants' attitudes and perceptions of proficiency, and the extent to which these might have been influenced by taking part in the intervention.

The interviews

Perceived benefits of the intervention

When asked whether they enjoyed learning Spanish through this project, all but one of the interviewees answered positively, signalling the perceived motivational nature of the intervention. Student 3 suggested that 'it was fun and it was, like, cool' because 'it isn't like learning in class.' It is possible that the high level of reported enjoyment was related to the use of technology *per se*, rather than its use as a facilitator of target language interaction. Several comments did, however, link enjoyment with the language dimension. Students 2 and 6 focused on the motivational benefit of the peer reciprocal dimension. Describing the project as 'really fun,' Student 6 suggested that 'probably the most cool thing was that we were actually being corrected by another student who is like us.' Student 2 similarly noted that 'I enjoyed working in this project probably more than in class because it's with someone of our age, just partner work probably.'

The peer tutoring was also perceived as having value in terms of enhanced learner autonomy and taking the emphasis away from the teacher who might represent an 'imperfect' or 'inauthentic' model of the language. With regard to autonomy, Student 9 suggested that 'we weren't just

being taught ... we're given a new word, and we're trying to figure out how to put it into other sentences, not being told what sentence [to put it in].' For Student 9, therefore, 'we have to figure it out for ourselves,' which was seen as a positive challenge. With regard to authenticity, Student 7 liked 'that a Spanish person was actually teaching you. Yeah, not somebody who's, like, learnt Spanish.'

On several occasions, the peer correction that participants received was perceived as having positive impact on proficiency. Several participants noted that 'I like being corrected' (Student 1) or 'I felt pretty good' about being corrected (Student 2), or 'I thought that it was good for me' to be corrected (Student 6). This was because, in the words of Student 6, 'the corrections that he made make my Spanish better.' Alternatively, 'I knew what I did wrong, so whenever I read that sentence again I would know what to put in it' (Student 8).

Two participant comments brought out particularly clearly the potential of the intervention to precipitate positive shifts in attitude. Student 3 noted that 'I used to think Spanish was a little bit boring, but now it's kinda fun, it's, yeah, it's cool.' For Student 4, 'I suppose I just didn't really think of ever going to other countries and needing a new language,' but participation in the project has 'made me think.'

Perceived limitations of the intervention

Several interviews brought out perceived limitations to the intervention. For Student 4, for example, there were perceived limited gains in language proficiency because feedback was minimal or inconsistent. He commented:

When you write something to her she's meant to edit it and then send it back to you, but ... there was never anything changed about what I said, so I just thought I [had] got all the things right, or she just forgot to edit things.

Student 4 concluded that 'I suppose it would've been better if she had corrected me.'

Student 1 also noted that the intervention 'didn't help me as much as I thought it would've.' This student suggested that the interactions were limited. This was because they focused purely on brief written interchanges, such that 'we're not really talking to them, we just have messages from them ... and sometimes the messages are, like, really small, and we don't get to learn much.' Student 1 went on to suggest

PARTICULAR BENEFITS APPEARED TO BE THE OPPORTUNITY TO WORK WITH A PEER WHO, ALTHOUGH ON EQUAL TERMS, WAS PERCEIVED AS AN 'EXPERT', AND WHO WOULD GUIDE THE RECIPROCAL PEER, RATHER THAN 'INSTRUCT' IN A TEACHERLY WAY.

that Skyping might provide a better forum for interactions to occur. Skyping was also mentioned by Student 2 as a means through which he might maintain the relationship after the conclusion of the project. However, even Skype might have its limitations due to time zone differences. This would mean that Skype would not necessarily work 'in school hours, because when we're at school, they're sleeping,' and would require greater autonomy and self-motivation on the part of the interlocutors.

Discussion and conclusions

In this study, we had set out to replicate, with some adaptations, the study conducted by Thurston et al. (2009). The previous study had provided evidence to suggest that reciprocal role peer tutoring can have a positive impact on young learners of an additional language.

Our focus in this study was on the Spanish additional language learners in the reciprocal (Spanish as an additional language and English as an additional language) pairs. Our findings from the pre- and post-intervention survey suggested that the intervention had had no effect on participants' attitudes or perceptions of proficiency. This finding was in contrast to that of Thurston et al. (2009). Bearing in mind that the size of our sample was comparable to theirs, this raises questions about why our finding differed.

Our modifications to the wording of some statements in the original questionnaire were sufficiently modest that it would seem unlikely they would have had any significant impact on responses. Our choice to treat only four statements as reversing the polarity of response may have had an effect, but we believe that our choice was justified. Three factors are worth mentioning here.

First, Thurston et al. (2009) note that, in their study, '[s]chools worked on the project for four hours per week over an eight week period' (p. 465). In our study, considerably less time was devoted to the peer interactions (50 minutes per week to access Moodle in a computer laboratory) – although the class teacher of the intervention group used some additional class time to prepare the students for writing their messages, and some students worked at home at other times. It is possible that students may have perceived the project as more valuable in Thurston et al.'s study simply by virtue of the considerable extra time devoted to it. Second, Thurston et al. note evidence of the '[u]se of praise from the tutors to the tutees ... as a means of supporting and motivating their tutees' (p. 470). Comments included 'well done', 'great', 'good writing'. There is nothing from our interview evidence to suggest that praise was a noted feature of feedback received. Additionally, examination of the Moodle entries sent and received by the New Zealand participants revealed that, although the New Zealanders were prepared to praise the Colombians' English, there was no evidence of reciprocal praise of the New Zealanders' Spanish, suggesting

a dimension in which reciprocation was not working equally. Third, data from the interviews suggest that occasionally the New Zealand participants were frustrated by not receiving as much feedback as they would have liked.

It is possible, although this is purely speculative, that any or each of the above factors (lack of time, lack of praise, lack of feedback), individually or collectively, had the effect of balancing the perceived value and effectiveness of the intervention with perceived constraints and limitations, thereby (at least according to the quantitative data) making no impact on attitudes or perceptions of proficiency.

Indeed, our qualitative findings with regard to attitude and motivation present a mixed picture. It was apparent that the majority had enjoyed the reciprocal role peer tutoring, using words such as 'fun' and 'cool'. Particular benefits appeared to be the opportunity to work with a peer who, although on equal terms, was perceived as an 'expert', and who would guide the reciprocal peer, rather than 'instruct' in a teacherly way. Positive reception of peer corrective feedback was also noted. In turn, these perspectives provide support for the learner-centred and co-constructive approach encouraged in New Zealand's revised school curriculum (Ministry of Education, 2007). Student 7's comment that 'a Spanish person was actually teaching you' suggests a perception that the teacher, if not a first language Spanish speaker or proficient second language Spanish speaker, does not necessarily always have the required proficiency to provide beneficial corrective feedback (Cook, 2002; O'Neill, 1991).

Drawbacks appeared to be instances where feedback was not provided, and only being able to interact in writing, thereby limiting the interactions to, in Student 1's words, 'really small' written messages where 'we don't get to learn much.'

Based on our findings in comparison to Thurston et al. (2009), it would appear that reciprocal role peer tutoring has some potential in terms of enhancing the language learning experiences of younger school-aged students. On the one hand, findings from the interviews tend to support those of Thurston et al. That is, there was some evidence from those interviewed that motivation can be enhanced by virtue of reciprocal role peer tutoring which provides a motivating real context for meaningful communication (p. 470). On the other hand, the limitations flagged up by some interviewees in our study, alongside the quantitative evidence, suggest that reciprocal role peer tutoring requires more careful scrutiny. We would make several recommendations for enhancing the experience:

1. Aim to provide adequate time for the intervention
2. Encourage more than the bare minimum in terms of written interactions

3. If possible, monitor the interactions with a view to encouraging more substantive samples of language, and meaningful and relevant feedback
4. Encourage the use of praise as a component of feedback
5. Encourage equivalent reciprocation, with both partners contributing equally to the interactions.

Recommendations 1 to 3 are in line with Hu's (2005) argument concerning rich opportunities for authentic communication and ample instructional time (p. 18). Recommendation 4 is based on Thurston et al.'s (2009) observation that the use of praise, although not related directly to the use of language, 'appeared to be used to create *positive* interactions between the tutors and tutees' (p. 470, our emphasis). Recommendation 5 arises from our understanding of one limitation expressed by the New Zealand participants.

Limitations and directions for future research

This study was limited in several respects. Because our study was conducted in one school, and essentially at the invitation of the school principal, the sample sizes for the intervention and control groups were very small (although comparable to those in Thurston et al.'s (2009) study). Group size (particularly in the control group) was further compromised by several student absences, leading to a reduction in the quantitative data available through the questionnaires, and thereby limiting our ability to make meaningful statistical inferences. Also, drawing on data from one school does not provide any opportunity to see whether the findings we have identified are observable in different contexts.

We are also mindful that the data presented here do not explore the extent of students' actual gains in linguistic and intercultural proficiency by virtue of their participation in the intervention. Certainly, for projects such as the one we describe to be considered useful, there do need to be demonstrated linguistic and/or intercultural gains for the learners. In this connection, we undertook a text analysis of the written and re-written messages (again focusing on the Spanish as additional language learners) with a view to determining students' uptake of corrective feedback. Our findings (to be reported in a subsequent article) indicated that, in reality, students took the corrective feedback they received at face value, and incorporated it unquestioningly into their corrected versions, even though, on several occasions, the 'corrections' offered by their peers were in error. This has implications for enhancing learners' additional language proficiency, and is a significant area for further research.

Bearing in mind the practical challenges for the expansion of languages programs in New Zealand which we identified at the start of this article, we believe that further research into the potential benefits of

reciprocal role peer tutoring is important. In addition to a focus on objective measures of proficiency gains, further investigations should include substantially larger sample sizes and a broader range of languages. Factors to include in further investigation would be the time made available for students to participate, the use of non-linguistic positive feedback, and equal reciprocation.

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