

Online EFL grammar learning applying the Just-in-Time Teaching strategy

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Grammar learning

Mixed results regarding perception of grammar learning / teaching:

- One of the most **difficult areas** to acquire (DeKeyser, 2005)
- Seen as **tedious** by FL learners (Al-Mekhlafi & Nagaratman, 2011; Andrews, 2003; Jean & Simard, 2011)
- Can even be the cause of withdrawal from FL classes (Vakili & Mohammed, 2020)
- General **reluctance** to be taught by practitioners (Gartland & Smolkin, 2015)

BUT...

- **Positive attitudes** towards grammar learning (Loewen et al., 2009; Schulz, 1996, 2001)
- **Essential** to succeed (Thu, 2009) and **helpful** in FL learning (Schulz, 1996, 2001)
- Perceived more positively at advanced rather than beginner levels (Etherington, 2006)

Grammar teaching

- Traditional grammar teaching has mainly followed an **explicit approach**. (Pawlak, 2021)
- **Presentation – Practice – Production (PPP)**: understanding the grammar point, practicing it using drills and exercises, for later communicative use has been the norm for years. (Larsen-Freeman, 2009)
 - Possibly leading to failure of applying grammar knowledge when communicating
 - Little connection between class practice and authentic communicative situations
- Other forms of instruction (e.g., focus on form, non-interventionist) less popular in EFL contexts and more difficult to incidentally learn grammar from them.
- However, better grammar learning if **contextualised** (Morelli, 2003) and more **innovative** ways of teaching grammar should be considered. (Pawlak, 2021)

Just-in-Time Teaching (JiTT)

- **Flipped learning approach** consisting in four phases:
 1. At-home guided learning (study guide, study materials, quizzes); need to get familiar with concepts
 2. At-home diagnostic questionnaire to reflect upon learning, pointing out difficulties and mastered features
 3. Teacher revision of answers and preparation of future tailored lesson based on students' responses
 4. In-class lesson to address students' difficulties, offer feedback and solve doubts

(Novak, 2011; Novak et al., 1999)
- **Flexible**, promotes **engagement**, learner-centred, boosts participation and motivation.
- Teacher seen as a **facilitator** of learning, rather than an expert figure, carrying out ongoing **needs analysis** and providing **tailored feedback**.
- Proved **useful** in a wide array of disciplines and contexts, especially in **tertiary education**. (Simkins & Maier, 2010)

Flipping the FL classroom

Flipped learning has been implemented in the **FL classroom** with positive results:

- Effective approach to enhance EFL skills (Hao, 2016; Hung, 2015)
- Better for learning grammatical constructions, with access to a wider range of resources (Evseeva & Solozhenko, 2015)

However, virtually no research using JiTT, with some exceptions:

- Allows for a higher number of opportunities for **language production**, both oral and written (Abreu & Knouse, 2014)
- Decreases **anxiety** when speaking in the FL (Abreu & Knouse, 2014; Edwards et al., 2006)
- Good for development of **writing ability** and better attitudes towards English learning (Chantoem & Saowalak, 2016)
- **Higher achievement** in unit tests than more traditional approaches; seen by learners as a beneficial yet **demanding approach** (Sarvamangala & Al-Sharafi, 2018)

Research questions

Lack of research analysing how JiTT contributes to success rate in FL learning, and how it is viewed at different proficiency levels.

In the EFL university classroom,

- 1) How does JiTT contribute to overall success in FL grammar learning?
- 2) To what extent does learners' proficiency level in the target language influence the way JiTT is perceived?

Participants

- Final pool of 66 Early Childhood Education students
- First-year EFL course (150 hours), 4 hours per week
- Mean age: 20 years old
- Many more females (92.5%) than males (7.5%)
- English proficiency: 61% beginners and 39% intermediate



Level test

- *Oxford Placement Test* (OPT) (Allan, 2004) → to determine participants' proficiency according to CEFR
- 100 grammar questions

He is very well known

all in	all over	in all
--------	----------	--------

 the world.

Many people

is believing	are believing	believe
--------------	---------------	---------

 he was the greatest boxer of all time.

To be the best

from	in	of
------	----	----

 the world is not easy.

Like any top sportsman Ali

had to	must	should
--------	------	--------

 train very hard.

Such is his fame that people

would	will	did
-------	------	-----

 always remember him as a champion.

- 100 listening questions (audio file played once only)

Do you think you could

take	talk
------	------

 us through the next bit of the film?

How many

tests	texts
-------	-------

 are we going to need to get all the data we want?

There's a fishery somewhere round here where they

hatch	catch
-------	-------

 trout by the thousand.

Are you going to

Penny's	Benny's
---------	---------

 tonight?

Do you think we could have

two minibuses	too many buses
---------------	----------------

 for the summer courses?

JiTT materials

Tailored based on **four grammar points** presented in the textbook: past tenses, comparatives and superlatives, modal verbs of speculation and deduction, and gerunds and infinitives.

Study materials:

- 1) Study guide with instructions and expected outcomes
- 2) Theoretical PowerPoint presentation
- 3) Video links to theoretical explanations

Learning tasks	<p>These are the learning tasks you need to do:</p> <ol style="list-style-type: none">1. To consolidate your knowledge on comparatives and superlatives, watch some of the videos on YouTube dealing with them (you can find them at the end of the PowerPoint presentation).2. Make sure you understand the difference between comparative and superlative sentences. Not only how to form them, but when to use them.3. If you think you still need further explanations, read the summary you will find on the PowerPoint presentation and/or the Word document summary.4. Take the quiz on comparatives and superlatives you'll find on Moodle.5. After having taken the quiz, please answer the diagnostic feedback questionnaire you'll also find on Moodle.
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JiTT materials

Quizzes: (after students getting familiar with study materials)

- Different types of questions: multiple choice, cloze, fill-in-the-gaps, etc.
- Focus-on-forms approach (Long, 1991)
- Only one attempt and immediate feedback on performance
- Not part of course assessment

Choose whether each sentence requires the comparative or superlative form.

1. There are ten houses on our street. Our house is one.
2. My brother sings better than I do, but I play the guitar ☒ he does.

the best
better than
3. This is song I have ever heard!
4. Tom is I am.
5. Out of all the students in our class, I am .
6. Everyone says that my sister is I am.
7. She is girl in our school.
8. This is boring. Let's do something .
9. This isn't book I have ever read.
10. Your apartment is mine.

JiTT materials

Which topic(s) do you have trouble with?

- ☐ Knowing when to use comparatives.
- ☐ Knowing when to use superlatives.
- ☐ Knowing how to form regular comparatives.
- ☐ Knowing how to form regular superlatives.
- ☐ Knowing how to form irregular comparatives and superlatives.
- ☐ Knowing how to modify comparatives and superlatives (e.g., with adverbs, 'less', 'as ___ as'...).

Which topic(s) do you think you have already mastered / feel confident with?

- ☐ Knowing when to use comparatives.
- ☐ Knowing when to use superlatives.
- ☐ Knowing how to form regular comparatives.
- ☐ Knowing how to form regular superlatives.
- ☐ Knowing how to form irregular comparatives and superlatives.
- ☐ Knowing how to modify comparatives and superlatives (e.g., with adverbs, 'less', 'as ___ as'...).

Diagnostic questionnaire:

(once the quiz had been answered)

- To reflect upon the learning process
- Most important topics learned
- Serious doubts
- Topics that should be further explained in follow-up session
- Topics mastered
- Usefulness of study materials

After the second grammar unit, participants were asked whether JiTT had been **useful** so far, and if they wanted to continue using the approach. At the end of the course, there was an open question for them to **describe the JiTT experience**.

Final exam

- At the end of the course and part of the assessment.
- Among other exercises, **27 multiple-choice questions** with three options each.
- Balanced number of past tenses, comparatives and superlatives, modal verbs, and gerunds and infinitives questions.

This course offers a great opportunity _____ your IT skills.

- ☐ improving
- ☐ improve
- ☐ to improve

Procedure

- Initially blended course, but due to COVID-19 all classes were **online**.
- OPT taken at the beginning of the course.
- In each of the **four JiTT sessions**:
 1. Instructions explained and materials shown during synchronous class
 2. One week for participants to study on their own, answer the quiz and questionnaire
 3. Two or three days after the deadline, follow-up online synchronous session
- Final exam at the end of the course.

Scoring

- Participants' level determined based on OPT score.
- Average of the four JiTT quizzes was computed.
- Participants' self-perceived usefulness of JiTT, willingness to continue participating in the intervention (percentage of yes / no), and description of the experience (percentage of positive, negative and mixed reviews) were calculated.
- Average of correct answers to multiple-choice questions in the exam was computed.

Results – Participants' proficiency

- 40 beginner students (A1 or A2)
- 26 intermediate students (B1 or B2)
- Significant differences between the two proficiency groups ($t(64)=-10.575$, $p<.001$, 95% CI [22.03, 32.29], $d=10.196$)

Descriptive statistics for the OPT, divided by level

Group	Oxford Placement Test				
	<i>M</i>	<i>SD</i>	Min.	Max.	95% CI
Beginners (<i>n</i> =40)	102.88	9.67	83	118	[99.78, 105.97]
Intermediate (<i>n</i> =26)	130.04	10.97	102	162	[125.61, 134.47]
Total (<i>n</i> =66)	113.94	16.64	83	162	[109.82, 118.06]

Note. Maximum score was 200.

Results – RQ1

Positive relationship between participants' scores on JiTT quizzes and final exam for both beginners ($r=.337$, $n=39$, $p=.036$) and intermediate learners ($r=.572$, $n=26$, $p=.002$) as well as for the entire pool of participants ($r=.559$, $n=65$, $p<.001$)

Descriptive statistics for the JiTT quizzes and final exam, divided by level

Group	<i>M</i>	<i>SD</i>	Min.	Max.	95% CI
JiTT quizzes					
Beginners	6.35	.87	4.72	8.38	[6.07, 6.64]
Intermediate	7.23	.93	5.45	8.80	[6.85, 7.61]
Total	6.70	.99	4.72	8.80	[6.46, 6.95]
Final exam					
Beginners	6.39	1.19	3.33	8.52	[6.01, 6.78]
Intermediate	7.94	.97	5.93	10	[7.54, 8.33]
Total	7.01	1.34	3.33	10	[6.68, 7.34]

Note. Maximum score was 10.

Results – RQ1

JiTT quizzes explained **9%** of the variance in the final exam in beginner learners ($F(1, 37)=4.745$, $p=.036$), **30%** in intermediate learners ($F(1, 24)=11.690$, $p=.002$), and **30.2%** when all participants were considered ($F(1, 63)=28.654$, $p<.001$).

Results of linear regression

Predictor variable	Dependent variable	Group	R	R Square	Adjusted R Square	Std. Error of the Estimate
JiTT quizzes	Final exam	Beginners	.337	.114	.090	4.14
		Intermediate	.572	.328	.300	.81
		Total	.559	.313	.302	1.12

Results – RQ2

No significant differences between participants' proficiency level and their self-perceived usefulness of JiTT ($\chi^2(1) = .669$, $p = .413$), their willingness to continue using this approach ($\chi^2(1) = .972$, $p = .324$), and describing the experience as being positive, negative or mixed ($\chi^2(2) = 2.851$, $p = .240$).

Descriptive statistics for RQ2, divided by level

Group	Yes		No		Mixed	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Has JiTT been useful so far?						
Beginners	31	96.9	1	3.1		
Intermediate	21	100	0	-	NA	
Total	52	98.1	1	1.9		
Do you want to continue using JiTT?						
Beginners	31	96.9	1	3.1		
Intermediate	19	90.5	2	9.5	NA	
Total	50	94.3	3	5.7		
Has JiTT been a positive experience?						
Beginners	18	60	8	26.7	4	13.3
Intermediate	15	83.3	2	11.1	1	5.6
Total	33	68.8	10	20.8	5	10.4

Results – RQ2

Descriptive statistics and p-values for RQ2, divided by level (cont.)

Descriptor	Beginners		Intermediate		Total		p-value
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Good, useful, well-planned, or easy	15	40.5	14	51.8	29	45.3	.057
JiTT allows personalised learning	0	-	3	11.1	3	4.7	.021
Useful but difficult	2	5.4	1	3.7	3	4.7	.878
Difficult; more teacher explanations needed	10	27	2	7.4	12	18.7	.085
Videos and PowerPoint presentations more useful	5	13.5	2	7.4	7	10.9	.598
Quizzes the most useful resource	3	8.1	3	11.1	6	9.4	.499
Theory needs to be explained prior to quizzes	2	5.4	2	7.4	4	6.2	.590

Note. Number of descriptors given: beginners (*n*=37), intermediate learners (*n*=27), total (*N*=64).

Discussion

- JiTT quizzes contribute to the final exam score: the better students perform in the quizzes (low-stake situation), the better they perform in the exam (high-stake situation).

└→ **JiTT positive for FL learning?**

- JiTT seems to be more beneficial for **intermediate** (30% of variance) than beginner learners (9% of variance):
 - Innovative approach to teaching grammar and **novel experience** → beginner learners need more time to get accustomed to it
 - Autonomous learning **more challenging** than guided learning (Oates, 2019); so JiTT may work better at higher levels
 - Beginner learners might need more **teacher support**: less available through JiTT as learners need to work on the study materials on their own, without previous knowledge of the topic.

Discussion

- Positive response to the experience regardless of the level: beginner and intermediate learners **enthusiastic about JiTT** and willing to continue using it in the course.
 - ↳ However, self-reported data: are they being truly honest?
- However, **more positive experience for intermediate** (83.3%) than beginners (60%): in accordance to the results in RQ1.
 - ↳ Match between learners' perceptions and actual performance in the course.
- **Videos and PowerPoints** perceived as the most useful tools to learn the grammatical content, followed by online quizzes.
- Intermediate learners saw JiTT as a tool which allows for a **personalised way of learning**.
 - ↳ More self-aware of their learning process?

Conclusions

JiTT can be a good approach for **online FL learning**:

- More **opportunities for learning** and wider range of resources (videos, quizzes, questionnaires, theoretical explanations, etc.)
- **Independent learning**: when and where students want, less teacher-dependent
- **Less synchronicity** (except for the follow-up session)
- **Metalinguistic reflection** and **critical thinking**: participants asked to reflect upon their learning process by identifying strong and weak points
- **Time-saving approach** (mastered topics can be skipped)
- Caters to **different learning profiles**, and adaptive to learners' proficiency level

Thank you!



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