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THE FLIPPED CLASSROOM MODEL AND FOREIGN LANGUAGE SPEAKING ANXIETY: EFFECTS ON ORAL FLUENCY AND WILLINGNESS TO COMMUNICATE AMONG FIRST-YEAR EFL LEARNERS IN UZBEKISTAN

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Abstract: Speaking anxiety is widely regarded as a major affective barrier to oral performance in a foreign language, yet large, teacher-centred classes leave little time for low-stress speaking practice. This quasi-experimental study examined whether an eight-week flipped classroom model reduced foreign language speaking anxiety and improved oral fluency and willingness to communicate (WTC) among first-year learners of English as a foreign language (EFL) at a state university in Uzbekistan. Sixty students aged 18–20 in two intact classes formed a flipped group (n = 30) and a traditional control group (n = 30). Anxiety (an adapted Foreign Language Classroom Anxiety Scale), oral fluency (an analytic rubric) and WTC (a short questionnaire) were measured before and after the intervention. Analyses of covariance controlling for pre-test scores showed that the flipped group reported lower anxiety, spoke more fluently and expressed greater WTC than the control group, with medium-to-large adjusted effects. Post-test anxiety correlated negatively with both fluency and WTC. The figures reported are illustrative model data that demonstrate the reporting format. Pedagogical implications for EFL teaching in Uzbekistan and directions for replication are discussed.

Keywords: flipped classroom; foreign language speaking anxiety; oral fluency; willingness to communicate; EFL; Uzbekistan

INTRODUCTION

Speaking is often the skill that first-year university students find most demanding in English, and it is also the skill in which anxiety is most visible. Foreign language education in Uzbekistan has received growing policy attention, but many students still enter university after learning English mainly through grammar-oriented instruction in large classes, with few opportunities for extended talk. When such learners are asked to speak spontaneously in front of their peers, many hesitate, fall back on memorised sentences or remain silent. This kind of language anxiety is not merely uncomfortable; it can reduce the quantity and quality of the practice that learners need in order to develop fluency.

A pedagogical response that has attracted considerable attention is the flipped classroom, in which first exposure to new content takes place before the lesson, usually through video or reading, and class time is devoted to active, interactive work (Bergmann & Sams, 2012; Lage et al., 2000). Because speaking practice depends on time, interaction and a supportive atmosphere, the model appears well suited to oral skills. Whether it also lowers anxiety and increases learners' readiness to speak, however, remains an empirical question. The present study addresses it in the context of first-year EFL instruction at a state university in Uzbekistan.

Horwitz, Horwitz and Cope (1986) defined foreign language anxiety as a distinct complex of self-perceptions, beliefs, feelings and behaviours related to classroom language learning, comprising communication apprehension, test anxiety and fear of negative evaluation. MacIntyre and Gardner (1994) showed that anxiety can interfere with the input, processing and output stages

of second language performance, and Horwitz (2001) later reviewed its relationship with achievement. Krashen's (1982) affective filter hypothesis offers a related explanation: when anxiety is high, the filter rises and learners are less able to make use of available input. Young (1991) argued that classroom practices, including how speaking tasks are organised and how errors are treated, can either intensify or reduce anxiety.

Two further perspectives are relevant. Swain's (1985) output hypothesis holds that producing language, and being pushed to do so, helps learners notice gaps and consolidate form–meaning connections, which implies that classrooms should maximise opportunities for meaningful speaking. MacIntyre, Clément, Dörnyei and Noels (1998) conceptualised willingness to communicate (WTC) as readiness to enter into discourse at a particular time with a specific person, and placed L2 confidence, including low anxiety, among its most immediate influences. From a sociocultural standpoint (Vygotsky, 1978), collaborative interaction with peers and the teacher supports development within learners' zone of proximal development. In the framework of Skehan (1998), fluency is one of the main dimensions of oral performance alongside accuracy and complexity, and it is the dimension most sensitive to hesitation and pressure.

Bishop and Verleger (2013) described the flipped classroom as combining interactive group learning activities in class with direct, computer-based individual instruction outside it. For language learning, the logic is that learners can meet new vocabulary, models and explanations at their own pace, with repeated viewing if needed, and arrive in class better prepared to speak.

Early work on inverted instruction, such as Lage, Platt and Treglia (2000) in university economics, reported that moving lecture-type input out of class made room for more varied and learner-centred activity. Bishop and Verleger (2013) surveyed the first wave of flipped-classroom research and concluded that it consisted largely of studies of student perceptions, often in higher education, with comparatively few controlled comparisons of learning outcomes. Practitioner accounts such as Bergmann and Sams (2012) have popularised the approach. In language education, Hung (2015) examined flipped designs for English language learners with attention to active learning and learner attitudes, and later work has applied the model to a range of language skills.

Two gaps are evident. First, flipped-classroom research in EFL has concentrated on general achievement, grammar and writing, whereas the affective dimension of speaking has received less attention, and anxiety, fluency and WTC are rarely examined together in a single design. Second, evidence from Central Asian higher education appears to be limited. Because anxiety and WTC are shaped by local classroom cultures, class sizes and assessment traditions, findings from other settings cannot simply be assumed to hold in Uzbekistan.

The study addressed four research questions, each with a directional hypothesis grounded in the literature above.

RQ1. Does an eight-week flipped programme reduce foreign language speaking anxiety more than traditional instruction, controlling for initial anxiety? *H1:* The flipped group will report lower post-test anxiety than the control group.

RQ2. Does it improve oral fluency more than traditional instruction? *H2:* The flipped group will obtain higher post-test fluency scores.

RQ3. Does it increase willingness to communicate more than traditional instruction? *H3:* The flipped group will report higher post-test WTC.

RQ4. How are anxiety, fluency and WTC related? *H4:* Anxiety will correlate negatively with fluency and WTC, and fluency will correlate positively with WTC.

METHODS

A quasi-experimental pre-test/post-test control-group design was used (Creswell, 2014). Participants were 60 first-year undergraduates aged 18–20 enrolled in two intact English classes at a state university in Uzbekistan, with about 30 students in each (flipped group, n = 30; control group, n = 30). Classes were assigned to conditions by the department's timetable, so random assignment of individuals was not possible. All students were at approximately the same pre-intermediate level according to the institution's placement results, shared Uzbek as a first or dominant language, and had access to a smartphone or computer. Both groups followed the same syllabus, textbook units, weekly contact hours (two 80-minute sessions) and instructor. A sensitivity calculation indicated that 30 students per group give 80% power (α = .05, two-tailed) to detect a standardised difference of about d = 0.74 in a simple group comparison, a figure that the pre-test covariate in the ANCOVA should improve.

Speaking anxiety. The 33-item Foreign Language Classroom Anxiety Scale (FLCAS; Horwitz et al., 1986) was adapted for the study. Items were reworded to refer to English speaking classes, translated into Uzbek, back-translated and piloted with a small group of non-participating students. Responses were given on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree), with negatively keyed items reversed, so total scores ranged from 33 to 165, higher scores indicating greater anxiety.

Oral fluency. Students completed an individual speaking test consisting of a three-minute picture-based narrative and a two-minute follow-up interview, using parallel forms at pre-test and post-test. Recordings were scored by two trained raters, blind to group and testing occasion, with an analytic fluency rubric of five criteria (speech rate, pausing, hesitation and repair, coherence of delivery, and lexical flow), each scored from 0 to 4, for a total of 0–20. The rubric follows the general view of fluency as one dimension of performance (Skehan, 1998). Scores were averaged across raters.

Willingness to communicate. A 12-item classroom WTC questionnaire, informed by the model of MacIntyre et al. (1998), asked students how willing they would be to speak English in situations such as asking the teacher a question, volunteering an answer, or talking with a partner or a small group (1 = definitely not willing, 5 = definitely willing). The mean item score was used. In the model data reported here, internal consistency was high for the FLCAS (Cronbach's α = .91) and acceptable for the WTC questionnaire (α = .84), and inter-rater agreement for fluency was good (ICC = .87).

The intervention lasted eight weeks. After the pre-tests in week 0, both groups studied the same eight topics, one per week (for example, introductions, daily routines, travel and university life). In the flipped group, students received before each week's first session a 10–12-minute video or short reading presenting target vocabulary, functional language and a model dialogue, together with a three-item self-check completed on the university's online platform or a class messaging group. Class time was then used for speaking activities: pair information-gap tasks, role plays, small-group discussions, and a brief presentation or interview task, with the instructor circulating, prompting and giving feedback on request. In the control group, the same content was presented by the instructor in class, followed by controlled practice, textbook speaking exercises and teacher-led question and answer, with exercises set as homework. The post-tests, identical in format to the pre-tests, were administered in the week after the final session.

Data were analysed with standard statistical software at α = .05. Pre-test equivalence was checked with independent-samples *t*-tests. The main comparisons (H1–H3) used one-way analyses of covariance (ANCOVA) on post-test scores with the corresponding pre-test score as covariate, after checking normality of residuals (Shapiro–Wilk), homogeneity of variance (Levene) and homogeneity of regression slopes (Tabachnick & Fidell, 2013). Effect sizes are reported as partial eta squared (ηp^2) and as Cohen's *d* based on the adjusted mean difference and the pooled post-test standard deviation, interpreted against conventional benchmarks (Cohen, 1988; Lakens, 2013). Paired-samples *t*-tests described change within each group, and Pearson correlations addressed H4. A Bonferroni-adjusted level of .017 was applied across the three primary ANCOVAs.

The study was approved by the department and followed institutional research-ethics requirements. Participation was voluntary, written informed consent was obtained after explaining the aims and procedures, and students could withdraw at any time without academic consequences. Questionnaires and recordings were identified by code numbers only, and data were stored securely and used solely for research. Because the control group might be disadvantaged, its members were given the flipped materials after the post-tests.

RESULTS

No participants were lost, so analyses used all 60 cases. The groups did not differ significantly before the intervention on anxiety, $t(58) = 0.06$, $p = .955$, fluency, $t(58) = 1.52$, $p = .133$, or WTC, $t(58) = -0.35$, $p = .725$, although the pre-test fluency difference ($d = 0.39$) favoured the flipped group slightly, which supported the use of pre-test scores as covariates. Residuals were approximately normal (Shapiro–Wilk $p \geq .25$), variances were homogeneous (Levene $p \geq .35$) and regression slopes were parallel (interaction $p \geq .43$) for all three outcomes. Table 1 gives descriptive statistics.

Table 1

Descriptive Statistics for Anxiety, Oral Fluency and WTC by Group and Testing Occasion

Measure	Group	Pre-test *M* (*SD*)	Post-test *M* (*SD*)	Change
FLCAS anxiety (33–165)	Flipped	97.03 (13.26)	81.37 (14.07)	−15.66
	Control	96.83 (14.29)	92.83 (17.20)	−4.00
Oral fluency (0–20)	Flipped	10.68 (2.22)	14.35 (3.28)	+3.67
	Control	9.82 (2.19)	11.08 (3.00)	+1.26
WTC (1–5)	Flipped	3.01 (0.53)	3.56 (0.67)	+0.55
	Control	3.06 (0.63)	3.29 (0.62)	+0.23

Note. Flipped $n = 30$; control $n = 30$. FLCAS = Foreign Language Classroom Anxiety Scale; WTC = willingness to communicate. Illustrative model data.

Table 2 presents the ANCOVA results. For anxiety (H1), after adjusting for pre-test scores the flipped group (adjusted $M = 81.28$) scored 11.65 points lower than the control group (adjusted $M = 92.92$), $F(1, 57) = 21.08$, $p < .001$, $\eta p^2 = .27$, a medium-to-large effect ($d = 0.74$). For oral fluency (H2), the flipped group's adjusted mean was 2.55 points higher (13.99 vs. 11.44), $F(1, 57) = 14.10$, $p < .001$, $\eta p^2 = .20$, $d = 0.81$. For WTC (H3), the adjusted advantage was 0.31 scale points (3.58 vs. 3.27), $F(1, 57) = 7.40$, $p = .009$, $\eta p^2 = .12$, $d = 0.48$, a smaller effect that nonetheless remained below the Bonferroni-adjusted threshold. The unadjusted post-test comparison of WTC was not significant, $t(58) = 1.60$, $p = .115$, which shows that adjusting for pre-test differences clarified the group difference. H1, H2 and H3 were therefore supported.

Table 2

ANCOVA Results for Post-Test Outcomes, Controlling for Pre-Test Scores

Measure	Adj. *M* flipped	Adj. *M* control	Difference [95% CI]	*F*(1, 57)	*p*	ηp²	*d*
FLCAS anxiety	81.28	92.92	−11.65 [−16.73, −6.57]	21.08	< .001	.27	0.74
Oral fluency	13.99	11.44	2.55 [1.19, 3.91]	14.10	< .001	.20	0.81
WTC	3.58	3.27	0.31 [0.08, 0.54]	7.40	.009	.12	0.48

Note. Adj. *M* = covariate-adjusted mean; CI = confidence interval for the adjusted difference (flipped minus control); *d* is based on the adjusted difference and the pooled post-test *SD*. Illustrative model data.

Table 3 shows change within each group. Students in the flipped group improved significantly on all three measures with large effects, while the control group also improved, but modestly, which is consistent with the practice and familiarity gained during a semester of instruction.

Table 3

Paired-Samples t-Tests for Pre-Test to Post-Test Change within Groups

Measure	Group	*t*(29)	*p*	*dz*
FLCAS anxiety	Flipped	−9.54	< .001	−1.74
	Control	−2.06	.048	−0.38
Oral fluency	Flipped	7.37	< .001	1.35
	Control	2.85	.008	0.52
WTC	Flipped	6.48	< .001	1.18
	Control	2.94	.006	0.54

Note. *dz* = standardised mean change (mean of differences divided by their *SD*). Illustrative model data.

Table 4 shows the post-test correlations (N = 60). Anxiety was strongly and negatively related to fluency and to WTC, and fluency was moderately and positively related to WTC, as predicted in H4. The negative anxiety–fluency correlation was similar within the flipped group (r = −.77, p < .001) and the control group (r = −.65, p < .001); the difference between the two coefficients was not significant (z = 0.88, p = .38). At the pre-test the anxiety–fluency relationship was weaker (r = −.30, p = .021), and the pre-test to post-test reduction in anxiety was related to the gain in fluency (r = −.42, p < .001).

Table 4

Pearson Correlations among Post-Test Measures (N = 60)

Measure	1	2	3
1. FLCAS anxiety	—		
2. Oral fluency	−.74*	—	
3. WTC	−.64*	.47*	—

Note. p* < .001. Illustrative model data.

DISCUSSION

This study asked whether a flipped programme could reduce speaking anxiety while improving oral fluency and willingness to communicate among first-year EFL learners. In the model data, it did so on all three outcomes, with the largest effect on anxiety and fluency and a smaller one on WTC. Because the figures are illustrative, the discussion below shows how such a pattern would be interpreted and must be revised in the light of the actual results.

A reduction in anxiety in the flipped group is consistent with the argument that preparation lowers the threat of speaking. Learners who have met the vocabulary and a model dialogue at home, and who may have replayed them, arrive with something to say, which should reduce the

fear of negative evaluation central to Horwitz et al.'s (1986) account. Working first in pairs and small groups, as in the flipped lessons, also offers rehearsal before public performance, in line with Young's (1991) recommendations for low-anxiety classrooms. In terms of Krashen's (1982) metaphor, such arrangements may lower the affective filter, although the present design cannot isolate the mechanism.

The fluency advantage agrees with Swain's (1985) emphasis on output: when lecture-type input moves outside the class, more minutes of the session can be spent producing language, and repeated, low-stakes production plausibly supports smoother delivery. The negative correlation between anxiety and fluency is in line with the broader literature showing that anxious learners tend to perform less well (MacIntyre & Gardner, 1994; Horwitz, 2001). It is, however, correlational: anxiety may impede fluency, fluent speakers may feel less anxious, or both processes may operate reciprocally. The smaller WTC effect is understandable given that WTC is situational and sensitive to topic, interlocutor and context (MacIntyre et al., 1998); it may change more slowly than anxiety or measured performance. That the control group also improved reminds us that practice and test familiarity contribute to gains, and that the value of the flipped model lies in the margin over conventional teaching.

The pattern also has a cultural dimension. In classrooms where the teacher traditionally controls talk and errors are corrected publicly, students may fear losing face before peers, and this concern can suppress speaking even when learners have the necessary language. A flipped arrangement changes the participation structure: the teacher becomes a facilitator who moves among pairs and groups, and much of the talk takes place away from the whole-class audience. Such a shift may explain why learners in the flipped group reported feeling more at ease, but this interpretation needs to be tested directly, for example through classroom observation and learner interviews.

Several practical points follow. Pre-class tasks should be short, focused and accessible on mobile devices, since bandwidth and device access vary among students; brief self-checks help ensure that students actually prepare. In-class time should be protected for interaction, with a progression from pair work to small groups to whole-class speaking so that learners rehearse before they perform. Teachers need to give supportive, non-punitive feedback and keep assessment of speaking low-stakes during the early stages. Finally, institutions wishing to adopt the model should provide training and shared video resources so that the additional preparation load does not fall on individual teachers.

The quasi-experimental design with intact classes limits causal inference, and the pre-test covariate cannot remove all initial differences. The study involved one institution, one instructor and a short eight-week period, so novelty and instructor enthusiasm may have contributed, and no delayed post-test measured retention. Anxiety and WTC relied on self-report, and fluency was assessed with a single speaking task, which may not capture performance in other contexts. Participation in the study may also have influenced behaviour in both groups.

Future studies should use cluster-randomised designs across several instructors and institutions, include delayed post-tests, and combine questionnaires with objective temporal measures of fluency such as articulation rate and pause frequency. Interviews or reflective journals would help explain how learners experience flipped preparation and in-class interaction. Moderating variables, including proficiency, digital access, gender and prior speaking experience, deserve investigation, as does the transfer of any gains to other skills.

CONCLUSION

This article presented the design, procedures and reporting format of a quasi-experimental study of the flipped classroom in first-year EFL speaking instruction in Uzbekistan. In the illustrative model data, flipped instruction was associated with lower anxiety, higher oral fluency and greater willingness to communicate than traditional instruction, and anxiety was negatively related to both performance and willingness to speak. If confirmed with real data, these findings would support the use of flipped designs to create more interactive and less threatening speaking classrooms, while recognising the limits of a short, single-site study. Replication with larger and more varied samples is the necessary next step. Teachers who adopt the model should monitor learners' preparation, keep early speaking tasks low-stakes and treat flipped design as a way to increase supported speaking time rather than as a substitute for teacher guidance.

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