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From the Editor

The *Excellence in Education Journal* is an open access, refereed, online journal that promotes and disseminates international scholarly writing about excellent practices in all aspects of education. Eight years ago, this journal was founded with the goal of sharing these practices to benefit the education of children and adults worldwide**.** We encourage teachers, professors, and other professionals worldwide to write about practices that promote the improvement of education. Submissions are double-blind, peer reviewed and are accepted year round with publication occurring twice annually.

In support of our mission, we provide assistance with writing and formatting in English to international writers who seek our assistance with preparing their manuscripts. There are no fees to submit or publish manuscripts so that cost will never be a barrier. Typeset and graphics are intentionally simple in order that the journal can be more easily accessed on a variety of devices worldwide to fulfill the mission of the journal.

I am pleased to share that the United States Department of Education Institute of Education Sciences will be listing all articles published in this journal on its ERIC database.

I hope that the practices discussed in this journal will be helpful to you, our readers.

Ann C. Gaudino, Ed.D., Founder and Editor-in-Chief
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TABLE OF CONTENTS

Page 5

Combining Multimedia Slidecasts and Video-Analysis to Influence the Implementation of Evidence-Based Practices

Jason P. Davis and Kevin Oh

Page 33

A Path-Analytic Study into Foreign Language Enjoyment, Willingness to Communicate in English, Self-Efficacy, and Academic Achievement

Yusuf Demir and Hatice Okyar

Page 70

The Teacher as Storyteller

Stanley D. Ivie

Combining Multimedia Slidecasts and Video-Analysis to Influence the Implementation of Evidence-Based Practices

Jason P. Davis and Kevin Oh

Abstract

The last 20 years of federal legislation have seen a growth in the requirement that evidence-based practices be used to ensure improved student outcomes. The Individuals with Disabilities Education Act (2004) and No Child Left Behind (2001) each require educators to research, develop, and implement new practices aimed at meeting this expectation. The Every Student Succeeds Act, which replaced NCLB in 2015, further emphasizes the requirement to use evidence-based practices and the urgency of this issue. While there is ample research identifying evidence-based practices, these strategies are not making their way into classrooms. This qualitative study examines the research-to-practice gap and strategies to overcome this transference failure. Using multimedia slidecasts and video-analysis, twelve teachers provided detailed reflections and descriptions of their experience. The results of this study support the use of video as a superior tool to memory for self-reflection, the use of multimedia slidecasts as a tool to transfer evidence-based practices, and the Levels of Learning Theory to describe novice teacher development.

Keywords: Evidence-based Practice, research-to-practice gap, special education, multimedia, video-analysis, self-reflection, teacher preparation

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For more than a century researchers and practitioners have grappled with identifying effective teaching methods and how to implement them in classrooms (Korthagen, 2010b). This concern has again come to the forefront of education research and practice with the passage of federal legislation such as IDEA 2004 and ESSA 2015 and their mandate to use scientifically based research in the classroom. While the past decade has seen an increase in our understanding and identification of evidence-based practices, little evidence suggests that these new strategies are making their way into today's teacher practice. Having nuanced differences, this gap between what researchers know to be best practice and what is being implemented in the field has been referred to as the research-to-practice gap, research-based instruction, and evidence-based practices (Test, Kemp-Inman, Diegelmann, Hitt, & Bethune, 2015).

Researchers and educators have long sought to understand how to reduce the gap between research findings and teacher practice. Researchers in the field of special education have developed many evidence-based practices to meet the challenges of a variety of disabilities and concerns (Cook & Schirmer, 2003; McLesky & Billingsley, 2008). In the area of learning disabilities alone, research has concluded the efficacy of scaffolding for task difficulty as well as the use of grouping, direct instruction, progress monitoring, and others (Vaughn & Linan-Thompson, 2003). These advances in research and the development of evidence-based practices have not, however, transferred to the classroom. Research suggests that special education teachers are not implementing these strategies (Cook & Schirmer, 2003; McLesky & Billingsley, 2008; Vaughn & Linan-Thompson, 2003). This divide between what is known to be best practice and the work performed by teachers in the field continues to be an area of great concern.

A number of causes for the gap have been put forth. According to Korthagen (2010a), obstacles present themselves in many ways. Teachers, even those interested in implementing

evidence-based practices, are often socialized into their school setting causing them to assimilate to the teaching beliefs and approaches used in that environment. The complexity inherent in teaching, the prior knowledge, stage of development of the teacher, and disconnect between the research and practitioner communities, have all been stated as obstacles (Korthagen, 2010a; Robinson, 1998). Perhaps the most powerful explanation for this reluctance of individuals to use research in their practice, however, is the perceived lack of usefulness or relevance of the research (Carnine, 1997; Korthagen, 2010a). Teachers' limited time and need for specific and concrete solutions (Eraut, 1995) stands at odds to the abstract approach taken by teacher educators (Tom, 1997) and the traditional methods of research dissemination (Cook, Cook, & Lundrum, 2013).

To meet the need for high quality professionals and the mandate for scientifically proven approaches, teacher education programs are tasked with finding strategies and tools that not only provide the knowledge of evidence-based practices, but also effectively engage teachers in transferring these strategies into practice. Traditional approaches, such as journal articles and professional conferences, have demonstrated an inability to disseminate research-based interventions to practitioners (Cook, Cook & Landrum, 2013). These efforts, described as passive dissemination of work (Dearing & Kreuter, 2010), fail due to the reliance on the practitioners to find and use the strategies identified by researchers. Advances in modern technology may offer improved opportunities to embed research into practice and overcome obstacles traditional methods have failed to hurdle. Having created new avenues for the dissemination of current research and tools to improve the analysis of one's own practice, new technology has the potential to not only increase the accessibility and usefulness of recent findings, but also enable practitioners to better situate this information into real-world concrete

examples.

The internet provides multiple platforms to share research findings. Whether designed to provide access to organized databases of current findings or tutorials that synthesize research, online resources have become a common tool in teacher preparation and professional development. As such, recent research has begun to focus on how to best utilize this technology, whether it is effective, and the quality of the research presented (Test et al., 2015; Reagan & Michaud, 2011). While this research is new and limited by the number of studies, the results of Test et al. (2015) provide reason for concern. In examining online sites claiming to disseminate research-based or evidence-based practices, Test et al. found that 43% of the sites claiming to share high quality strategies lacked any explicit or implicit evidence of quality, suggesting that these sites are not to be trusted by practitioners.

Video-Analysis in Teacher Education

Improving accessibility and avenues for dissemination is an important first step in addressing this issue. Transferring the knowledge of research into practice, however, requires an understanding of the cognitive processes involved in pre-service and in-service teachers learning from experience (Calandra, Sun, & Puvirajah, 2014). Advances in video technology have demonstrated the potential to successfully bridge the gap between knowledge gained at the university and its application in practice (Blomberg, Renkl, Sherin, Borko, & Seidel, 2013; Calandra et al., 2014). With the ability to capture concrete examples of one's own teaching, video might be used to deepen an individual's understandings and reflections, disseminate and provide examples of evidence-based practices, and create a cognitive link needed to inspire change.

Video has become a common tool for aiding in teacher reflection and has shown to impact teachers' ability to learn from their experience (Calandra et al., 2014; Kolb 1984; Putnam & Borko, 2000; Sparks-Langer & Colton, 1991). According to Wubbles, Korthagen, and Broekman (1991), this impact is due to the manner in which reflection impacts mental structures and suggests that "effective reflection is a process where participants reflect on their lived experience, and then interpret and generalize this experience using existing mental structures to either form new mental structures or add to the existing ones" (Calandra et al., 2014, p.104). In this way, using video to identify specific, concrete experiences, an individual can reevaluate an event and create a new schema. This is similar to what Mayer (1997) referred to as the generative theory of multimedia. "Meaningful learning occurs when learners select relevant information from what is presented, organize the pieces of information into a coherent mental representation, and integrate the newly constructed representation with others" (p. 4).

Delivering Evidence-Based Practices using Multimedia Slidecasts

Online tools, designed as tutorials using a multimedia approach, are showing results and great promise. By synthesizing the research into user-friendly tutorials, these tools may support the use of evidence-based practices by making them more easily accessible. One such project, being developed at the University of Virginia, combines the need for accessible delivery of evidence-based practices with recognized methods of instructional impact. Content Acquisition Podcasts are a collection of over 320 online modules based on "Mayer's (2008, 2009) cognitive theory of multimedia learning and validated instructional design principles" (Kennedy, Thomas, Meyer, Alves, & Lloyd, 2014, p. 73). Developed by Michael Kennedy, Content Acquisition Podcasts are available in a number of content areas supporting multiple evidence-based practices in special education and hold potential to fill the need for accessible high-quality tools that

deliver usable practices. With many new teachers using online resources as their primary source for finding instructional strategies (Jones, 2009; Test et al., 2015), tools such as podcasts may hold the key to providing accessible and trustworthy methods of delivery.

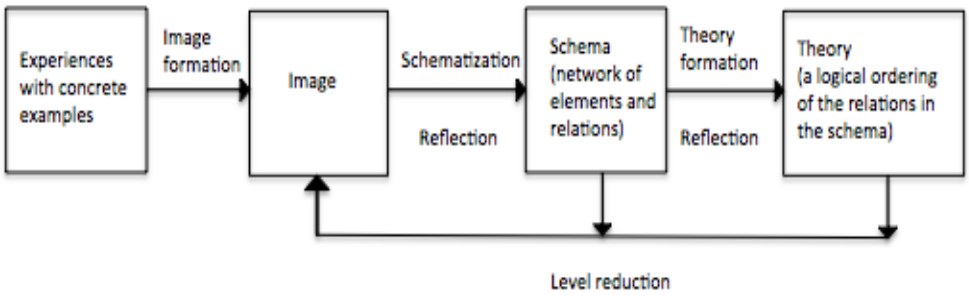
Tools based on multimedia theory, such as Kennedy's Content Acquisition Podcasts, have shown to be effective at teaching content to pre-service teachers. Video-analysis, reviewing a recording of one's own teaching, has demonstrated the ability to enhance reflection on practice and impact the mental structures needed for change. The purpose of this study, therefore, is to evaluate the potential for combining these processes in an effort to deliver content knowledge that will transfer to classroom practice, successfully bridging the gap between research and practice.

Theoretical Foundation

The conceptual framework supporting this project stems from the schema-based three-level model of teacher learning developed by Korthagen and Lagerwerf (1995). This theory, presented in Figure 1, argues that for teachers to learn or change their practice they must reflect on specific examples, understand their prior knowledge or instinctive reactions, apply new knowledge, and after additional reflection develop a new theory or create an alternative schematic response.

Figure 1

The three-level model of teacher learning and the accompanying learning processes



By utilizing digital video technology, we can provide accurate and specific examples of their own teaching and ask them to reflect on this experience and the prior knowledge that was brought to the experience. Multimedia slidecasts can then serve to provide high quality new content. Then, after reflecting on both the video and slidecast, a new schema can develop.

Method

Participants

Twelve graduate students seeking special education teacher credentials at a west coast university were selected for this study. Together, the authors incorporated and facilitated this six-week treatment into a curriculum and instruction course. The convenience sample of students enrolled in this course came from a variety of backgrounds. The participants varied in age (20-over 40) and classroom teaching assignments (8 elementary, 2 middle schools, and 2 high schools). To address this diversity and potential limitation, a Background Survey was developed and used in analyzing results.

Procedure

In an initial session, participants were introduced to the project and provided instruction on the tools and documents needed to successfully complete the activities. Participants provided background information in the form of an online survey as well as completed a concept map to provide their current level of understanding.

The Background questionnaire provided information in the areas of personal experience and current placement. Participants were asked three questions related to their prior experience; personal education experience, age, and past experience working with students. This was collected to understand any impact life experience may have on management technique and what prior knowledge participants bring to the project. As teaching assignments vary greatly,

participants were asked to provide their current job description including grade level and special education classifications.

The participants were then instructed on the process of creating a concept map. Concept maps are visual depictions of an individual's content knowledge and organization of an issue or topic (Nietfeld, 2002). This technique has shown to be an effective assessment tool that can be used to demonstrate an individual's understanding of a concept (Francis, 2006). By asking individuals to create a pictorial representation, we can see the primary, secondary, and tertiary ideas a participant holds about a topic (Davies, 2011).

Concept maps are typically constructed using circles (called nodes) and lines (links) to create a visual representation of knowledge. The participants are presented with a document consisting of only a center circle, a word or phrase that represents the overarching concept or idea, and nothing else on the page. There is no other information provided on the document. All instructions for completing the map using nodes and links are provided orally.

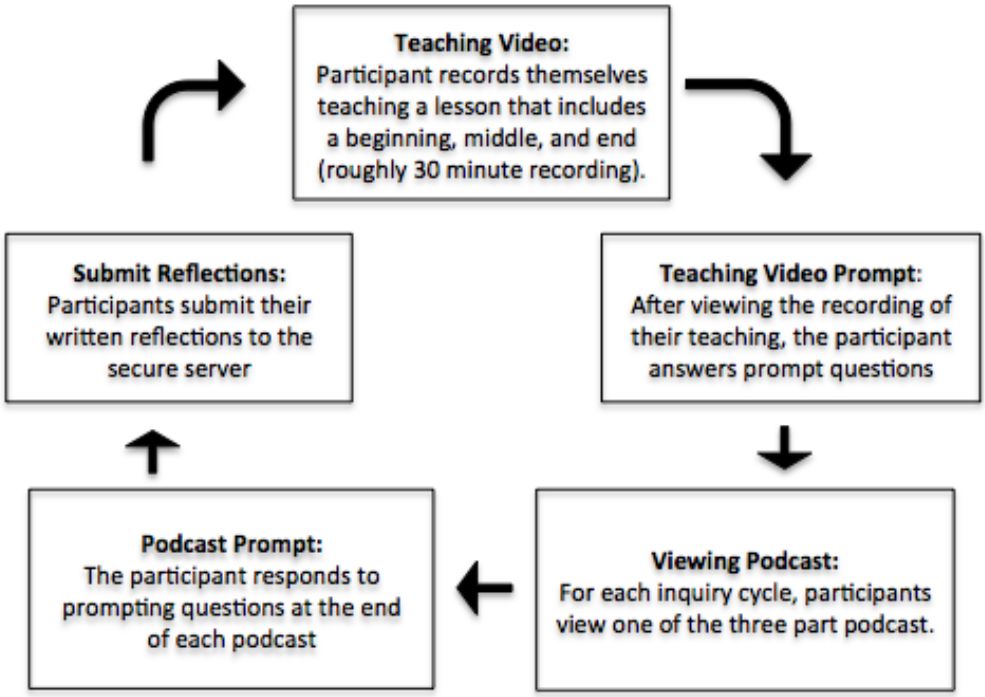
For this study, the center node was provided to the participants with the term "Classroom Management". The instructional content of classroom management was selected as the topic for this study as it was determined to be a vital content area needed for early career teachers. The participants used their prior knowledge to create a pattern or structure of their understanding. Using nodes and links to represent the relationships between ideas, the participant creates levels of understanding.

Concept maps were administered as both a pretest and posttest for the purposes of quantitative analysis. The leveled nature within the concept map procedures allow for the results to be evaluated. A participant's pre and post maps can be compared in order to identify the depth and breadth of an individual's understanding.

The intervention for this study was divided into three parts, referred to as inquiry cycles. Each of these cycles required participants to follow specific steps to engage in the reflection of their own classroom practices. Using a video recording of themselves teaching a lesson, the participants reflected on the strengths and weaknesses of the lesson. In this way, they used concrete examples and did not rely on memory to create an accurate image of their experience. They then compared this experience with the content in one of the Content Acquisition Podcasts. By viewing the podcast and reflecting on its content as it relates to their practice, the individual begins to alter their initial image. This process was completed three times using a three-part podcast series on classroom management shown in Figure 2.

Figure 2

Inquiry Cycle



Novice teachers were prompted to write two written reflections per inquiry cycle. The first prompt asked the participants to reflect on the strengths and challenges of their teaching and address any changes they might make in the future. This prompt was completed online and participants had as much time as necessary. A recommendation of at least one paragraph to answer each of the questions was suggested during the workshop presentation. The additional prompts asked the participant to compare what they learned or saw in the podcast with their own Teaching Video.

Upon completion of the three inquiry cycles, interns were asked to participate in individual interviews to provide feedback on the podcast-aided video-analysis process and its impact on their teaching practice. Each interview was conducted either face-to-face or via telephone and took between 10-15 minutes. Using a semi-structured interview technique with guiding questions to focus on predetermined themes while leaving the conversation open enough to changes (Kvale, 1996), discussions focused on four basic questions each with possible follow-ups.

Following a pattern from broad to narrow focused questions, interns were asked to describe their teaching practice as it relates to classroom management. Follow-up questions aided in focusing on changes over the course of the semester. To understand the participants personal experience with the technology and process, questions two and three asked for feedback on the use of the Teaching Videos and Podcasts to influence their practice as well as the benefits and obstacles using these processes. Finally, teachers were asked if they would continue using the strategies of video-analysis or podcast delivered content in the future. Steering the semi-structured interviews in this way provided data to better understand the impact the intervention

had on teacher change in order to address the research questions. In addition, this data may inform future changes and improvements to the podcast-aided video-analysis process.

Data analysis

The data was evaluated to answer the research questions and better understand the use of technology to address teacher needs. Qualitative data collected from the concept maps, individual reflections, and interviews helped to answer the question: *To what extent does the intervention impact novice special education teachers' schema of evidence-based classroom management practices?* The second question: *To what extent do participants report change in their implementation of evidence-based classroom management practices?* was evidenced by changes found between the thematic coding of the initial individual reflections and the reflections on the third cycle of inquiry. In addition, interview data also indicated a shift in teacher implementation. To understand the individual's change in concept, knowledge of classroom management, and to answer the question: *To what extent does the intervention impact novice special education teachers' schema of evidence-based classroom management practices,* the concept maps were quantitatively evaluated.

Results

To address this research question, the Teaching Video Reflection Prompt asked participants to "Describe the classroom management strategies used in this lesson." This description, prior to the podcast intervention, provides the base level of classroom management being implemented by each participant. Using this same question from the final Teaching Video Reflection Prompt, any change in evidence-based strategies can be detected.

The Evidence-based Podcast Content Guide was developed from the specific content from the enhanced podcast series. Each of the three podcasts were viewed and reviewed to

establish clear coding descriptors. In addition to the researcher, two colleagues knowledgeable in the field of special education viewed the podcasts and the Evidence-based Podcast Content Guide to provide support and clarity for the coding structure. Eleven main strategies with supporting details were identified and used to code the participants responses.

The responses to the reflection prompt were written in paragraph form. Each reflection was analyzed using the coding structure to highlight terms and concepts. Table 1 provides the results of this analysis. During the first reflection, the range of participant reference to each practice spanned from 0-3. In the third reflection prompt, this range shifted slightly to 0-4.

Table 1

Reported Evidence-based Practices Implemented

	First Reflection (Range)	Third Reflection (Range)	Difference
Means	1.08 (0-3)	2.00 (0-4)	0.91
Standard Deviation	0.99	1.28	1.38

The statistical analysis of the written reflections demonstrates a mean difference between the initial reflection and the final Teaching Video Reflection. The first reflection mean being 1.08 (SD 0.99) and the final reflection mean equaling 2.00 (SD 1.28) results in a difference of 0.91 (SD 1.38). This suggests an increase in novice teacher reported implementation of the evidence-based practices presented in the enhanced podcast intervention.

Interview

To better understand the experiences of novice special education teachers and their attempts

to implement evidence-based practices, all participants were asked a series of questions in semi-structured interviews. These interviews were recorded and the recordings transcribed for analysis.

Content analysis was conducted to identify themes in the teacher responses. The transcripts went through numerous readings until common ideas emerged. In addition to the identified common themes, outliers that provided contradictory evidence or suggestions for future changes were also included in the data set.

Table 2

Number of Participants Reporting Using Each Practice

Evidence-based Practice	Implemented
Behavior specific praise	6
Explicitly teach expectations	3
Reinforcement systems	3
Decreasing unwanted behavior	2
Explicit instruction	2
Routines	2
Active supervision	1
Environment	0
Opportunities to respond	0
Performance feedback	0
Prompting desirable behaviors	0

In each case, participants could identify at least one example of an evidence-based practice

learned from the podcast that they then implemented in their classroom. The most commonly referred to strategy, described as both helpful and implemented, was the use of behavior specific praise. Table 2 shows each of the strategies provided by the podcast and the number of participants stating that they attempted to implement the strategy. In this table, the eleven strategies are organized by the most to least reported as implemented by the participants.

Many participants commented that the strategy of providing behavior specific praise was "the most useful." Six out of the twelve participants found that going beyond the simple statements of "nice job" or "good work" associated with general praise and making one's comment specific to the behavior being exhibited was a most memorable strategy. One participant described the podcast on specific praise with, "That was one of the Aha moments." After implementing this strategy, another participant stated "(My) comments become more relevant. There's less of them but they mean more, hopefully."

Participants also reported success in implementing proximity, a decreasing unwanted behavior practice, and moving around the classroom, an active supervision practice. Establishing an environment where the teacher is able to visibly monitor students as well as move about easily was described in the first part of the podcast series. Upon implementing this technique, one participant stated, "travelling around the room and just making sure the students know that I'm here, I'm watching them. I'm with them making sure they're on task. I thought it was pretty helpful." Using a similar practice from the final podcast, another participant said, "just being close. It really became a big thing that I was like I should be doing this it makes sense."

Two participants attempted to implement a new token economy. Using tickets as a reward that can then be used to purchase items from a school store or as raffle tickets for larger items is the foundation for a token economy. A number of teachers in this study started the school year

off with such a reward system. One of the participants who made a comment during the interview stated that she was working on a plan to change her token economy based on the content learned from the intervention. The second teacher implementing the new token economy stated, "That is one thing that I am implementing and it's pretty good because they (her students) are bought into having the points."

A number of evidence-based practices were not reported as implemented during the final interview. The practice of setting the environment, opportunities to respond, performance feedback, and prompting desirable behavior were not mentioned by participants. This may be due to the timing of the interviews. These four practices were discussed in the first half of the podcast series and may not have been fresh on the minds of participants.

Whether the practice improves the level of praise and reward or increases a teacher's supervision of students, participants attempted to implement the ideas gained from the podcast and at times reported seeing benefits. After watching himself on his final video, one teacher stated, "It feels good to often see the strategies that we're using and we're implementing and were working as well."

While every participant stated finding content that was useful, one participant thought the podcast was not well designed for his context. A participant working at the high school level commented, "Most was aimed for a younger audience." This same teacher went on to suggest that the content did not take into consideration the diversity of students:

> A lot of my kids are immigrants, or kids of immigrants, or don't have both parents at home and they're just less conditioned to respond to those like, 'Way to go, Chuck, you get a star.' Those are pretty summer-campy. I think they would work for kids who have grown up in those environments, but throwing stars at 16-year olds who've never gotten a

> star is not going to do -- It could work but I think it just feels corny to them, and they know it's corny… I do embrace corny stuff but in general the material was for a younger audience. Not only that, a whiter audience.

The comments made by this participant reflect the need to address the intersection between students with special needs and those from diverse cultures. This intersection was not a focus of this research, however, is highly regarded as an important element when designing classroom management procedures.

The podcasts presented practices that are proven effective for all grade levels. The examples they used and the general nature of the content, however, could be seen as not relevant to some grade levels, cultures, or contexts. In each podcast, the vignettes and images used were of classrooms and students at the elementary level. This participant comments suggest that future projects may need to be more focused on specific grade levels and perhaps school contexts. Additional research is also needed and alternative podcasts created that view context from multiple lenses to address the needs of the diverse communities being served.

Research Question 2: Schema Development

To address the second research question, "To what extent does the intervention impact novice special education teachers' schema of evidence-based classroom management practices?" The pre and post concept maps were analyzed. Each map was given a score based on the number of branches stemming from each node. This score provides an understanding of the breadth of knowledge the individual has on the selected topic. Next, the concept maps were scored by calculating the average length of each branch. This score provides the depth of a person's knowledge. By comparing the resulting scores of each map, a clearer picture of any change in schema can be revealed.

Using participant number 6, Figure 3 provides an example of the scoring procedure. For each circle (or node) the number of branches stemming from that node were counted. Note that from the center node labeled Classroom Management there are five branches leading to additional nodes. The Classroom Management node is therefore scored with the number 5, a box was placed around the number 5 above the node for visual clarity. Continuing with the remaining nodes that are not terminal, nodes without continuing branches, how wide an individual's understanding can be calculated. Adding the numbers in boxes, 5+2+4+3=14, gives participant number 6 a pretest breadth score of 14 that can be used to compare to their post test results.

To identify the depth of understanding the individual has on the content, the average length of each branch is calculated. By starting at each terminal node and counting the number of branches required to reach that node, the length is determined. Represented with a T followed by a number, Figure 3 also provides an example of the scoring for depth. Note that the node with the term "Practice" is scored with a T2 because there are two branches between it and the center node. The term "Most Important" is labeled with a T1 as it is only one branch from the center. By adding the T numbers together and dividing by the number of scores, the average branch length can be established to determine the depth of understanding. For participant 6, there were nine labeled T2 and two labeled T1. This can then be scored as: (9x2) + (2x1) = 20/11 =1.82 or an average branch length of 1.82.

Figure 3

Concept map breadth scoring procedure

Looking first at the comparison between the number of branches (breadth of knowledge) in each map, the raw data was converted to provide the mean and standard deviation for both the pre and post assessment and presented in table 3. The pretest concept map number of branches ranged from14 to 29 with a mean of 23.5 and a standard deviation of 7.21. The posttest had a range of 13 to 32, a mean of 19.58, and a standard deviation of 5.48. Mean difference between assessments was also calculated with a mean of -3.75 (SD 4.27) and presented in table 3.

Table 3

Number of Branches

	Pretest	Post Test	Difference
Mean	23.5	19.58	-3.75
Standard Deviation	7.21	5.48	4.27

The maps were next scored to determine the average branch length (depth of knowledge), shown in table 4. This score provides an understanding of the depths of understanding an individual has of a particular concept.

Table 4

Average Branch length

	Pretest	Post Test	Difference
Mean	2.24	2.16	-0.08
Standard Deviation	0.35	0.23	0.18

With a range from 1.75 to 2.82, the results of the average branch length for the pretest were a mean of 2.24 (SD 0.35) and the posttest, with a range from 1.70 to 2.55, had a mean of 2.16 (SD 0.23). The mean difference was -0.08 (SD 0.18).

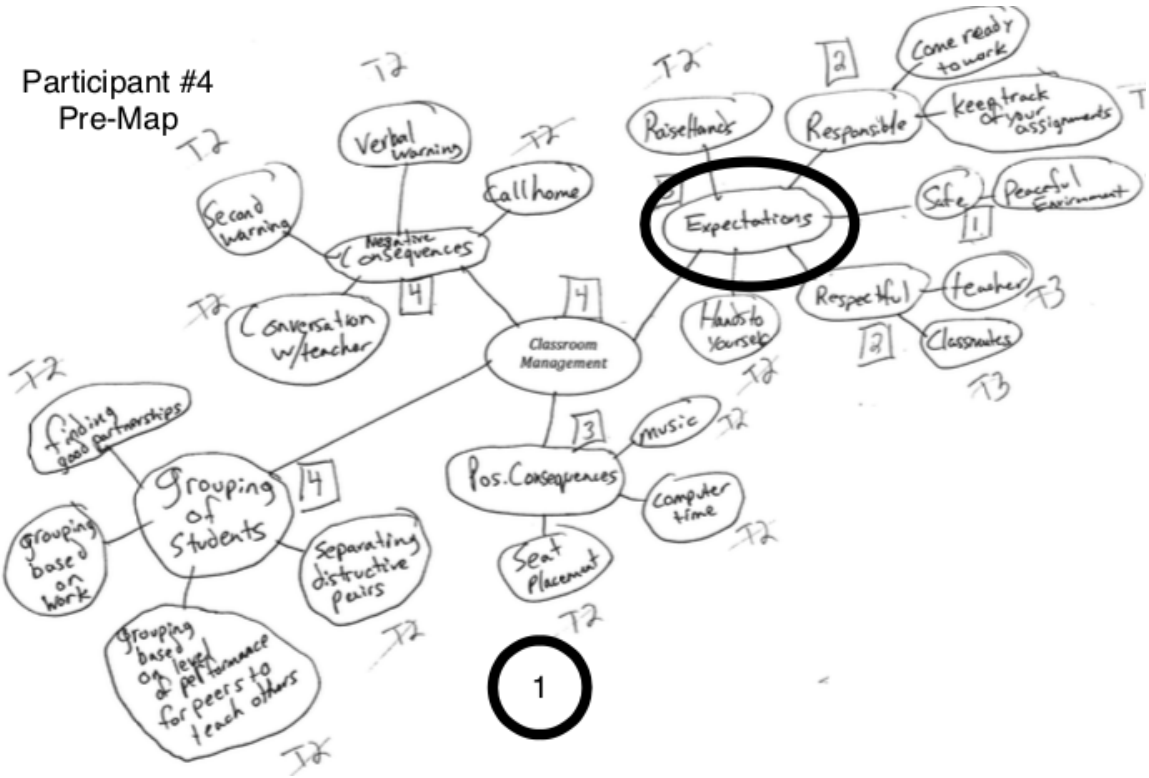
Identifying the depth and breadth of understanding does not, however, provide information on the content of that understanding. To identify any growth or shift in the content knowledge, the maps were next analyzed to examine the words and ideas expressed. Using the Evidence-based Podcast Content Guide, the concept maps were re-evaluated by the researcher and two colleagues, both with content knowledge and experience in the field of using evidence-

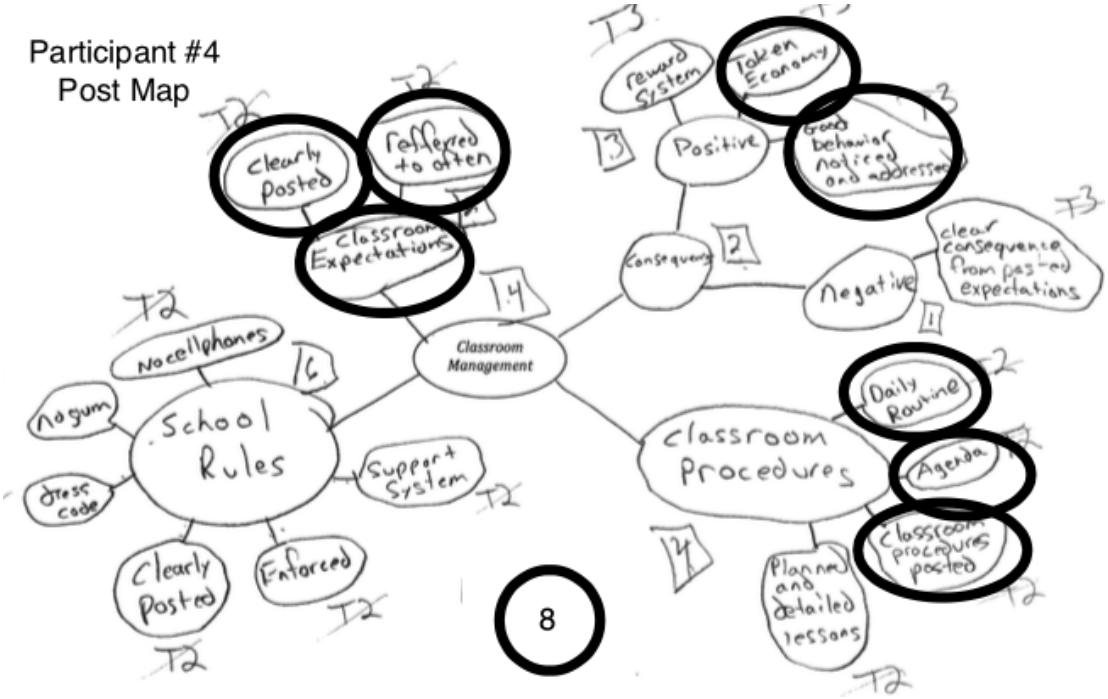
based practices in special education.

After viewing the podcasts and the Evidence-based Podcast Content Guide, each scorer circled the number of times a map referenced one of the eleven strategies. Figure 4 provides a pre and post map illustration of this scoring process.

Figure 4

Sample scored pre and post map





After completing the evaluation of each map and conferring over differences, the results identified by the three scorers were used to establish a table of frequency. Table 5 provides the frequency with which individuals reference each of the eleven strategies presented in the three podcasts. The table is organized by the order in which the strategies were presented to participants.

The initial concept maps referenced the evidence-based practices taught in the intervention, 34 times. The follow-up concept map produced after the intervention had a frequency of 61 references to the intervention concepts. These results suggest that while there was little change in the depth and breadth of the maps, the content change dramatically with a doubling of the references from the intervention content.

Table 5

Frequency of References to Evidence-based Practice

Intervention Content	Concept map 1 Pretest	Concept map 2 Posttest
Environment	1	1
Routines	14	13
Explicitly teach expectations	9	15
Prompting desirable behaviors	0	0
Active supervision	0	0
Opportunities to respond	0	1
Explicit instruction	0	2
Behavior specific praise	0	5
Reinforcement systems	9	17
Decreasing unwanted behavior	0	2
Performance feedback	1	5
Total	34	61

Finally, the concept maps were sorted using the three-level background code and assessed for mean differences to understand any differences that may be associated with prior experience. The results of the background level sort suggest that no matter what the prior background experience, the intervention has a similar impact as all participants increased their occurrence of evidence-based practices referenced by a mean of 2.43.

The concept maps provided data suggesting that the podcast-aided video-analysis intervention altered the schema of each of the participants.

Framework Supports

This study is grounded in the idea that by providing an individual with concrete examples from their classroom they will be able to relate their own experiences with the concepts introduced via the enhanced podcasts. By making these connections, the teacher will connect with the content knowledge gained from the university rather than simply using their prior experience as a student or teacher.

A recurring comment during the interview process was the podcast inspiring the participant to think back to content learned in the summer course or previous university classwork. Two individuals specifically mentioned a connection to the work completed during their summer course, "I remembered sort of one of some topics that we had learned about in our classes during the summer, just some of those classroom management strategies worked for me" and "We talked about this summer as well but it was a good reminder to myself."
One individual made reference to their undergraduate training saying, "It brought me back to what I was taught in my undergrad."

In addition to the ability to connect to prior university instruction, teachers reported benefit from the relationship between the Teaching Video and the podcast.

> "I didn't only reflect on the podcast but also on my video at the same time so there was a link between the two of them. It was relevant to my situation."
>
> "I looked at what I had done and then I looked at what the lady had done on the podcast. Then I said, 'I probably could have done that strategy here, or probably could have done it here in the different areas of teaching.' At the time, you never thought of it until you

watch the podcast, and you're like, 'Okay, yes. That's what good teachers do, but I forgot to do that.'"

"I think you absolutely needed to watch a video about yourself before you're work in a podcast because I don't think it would've brought to light some of the things that you were doing while you were teaching. I think that it ended up having you focused on how you were delivering the instructions because you had-- then you're focusing on how she was delivering her instructions and her priorities with the math or whatever it was or the behavior."

These comments support the design of this study and the combination of these two technology driven strategies to support teacher development.

Discussion

Overall, the 12 special education intern teachers were able to implement evidence-based practices learned from the podcast and demonstrated a shift in their schema of classroom management. Although one participant commented that the podcast seemed to be designed for teachers of younger students, the placement factors of grade levels taught and type of classroom setting did not appear to influence these results.

Analyzing the reflection prompts and the final interviews provided evidence to demonstrate the implementation of evidence-based practices by each participant. The mean increase of reference to evidence-based practices from 1.08 on the initial reflections to 2.00 on the final reflection supports this finding. Further, interview responses provided greater detail as to the implementation and success of strategies attempted.

The pre and post concept maps were a vital tool in evaluating the changes in participant schema of classroom management. The size of the concept maps decreased from a mean of 23.50

for the pre-assessment to a mean of 19.58 for the follow-up map. The average length of the branches changed little from a mean of 2.24 to a mean of 2.16. These minor changes suggest that the depth and breadth of the schemas expressed in maps 1 and 2 are similar. While the data suggests maps of similar depth, important in this study is the change in content from 44 mentions of evidence-based strategies to 88 references. The results suggest that the size of the participant's schema was not altered, but the content of the schema was changed to reflect the content provided by the intervention.

Limitations

The intervention had a number of limitations. The composition and size of the convenient sampling limits the ability of this study to generalize to other populations. Asking teachers to view themselves on video created another limitation in both comfort with technology as well as seeing oneself on film. While results were coded by participant number and efforts were made to maintain confidentiality, the format of this study required the participants to identify themselves. This too creates a limitation in this study. Finally, the enhanced podcasts used in this study focused on evidenced-based practices without regard for diverse teachers or student populations.

Despite these limitations, the results of this study provide additional data and support for the continued use of, and research on, video-based reflection and multimedia podcasts as a tool for addressing the gap between research and practice.

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A Path-Analytic Study into Foreign Language Enjoyment, Willingness to Communicate in English, Self-Efficacy, and Academic Achievement

Yusuf Demir and Hatice Okyar

Abstract

This paper reports on a study that intended to (a) reveal the extent of English Foreign Language (EFL) learners' foreign language enjoyment (FLE), their self-efficacy, and willingness to communicate (WTC) in English, and (b) try out a hypothesized model to find out whether FLE, self-efficacy and academic achievement predict learners WTC in English. A total of 257 tertiary-level Turkish EFL students participated in the study. The data were collected through three quantitative scales to elicit the constructs in question as well as the participants' English achievement test scores. Analysis of the data included the use of descriptive statistics to present the students' WTC, FLE, and self-efficacy levels while a path analysis was performed to verify the hypothesized model. The results showed that the participants had a moderate level of WTC and self-efficacy, and a favorable amount of FLE. More prominently, path analysis results revealed that FLE and English achievement predicted self-efficacy, and self-efficacy predicted WTC to a significant extent. In addition, FLE and English achievement indirectly affected WTC through the mediation of self-efficacy. FLE was also found to be a significant predictor of English achievement.

***Keywords*:** English as a Second Language; Willingness to communicate, Foreign language enjoyment, Self-efficacy, Path analysis, Academic achievement

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Encouraging students to be effective and communicatively competent users of a foreign language is considered to be at the very heart of contemporary principles of language teaching (Maclntyre, Baker, Clement & Conrod, 2001). Therefore, an instructional setting in which language learners are apparently willing to communicate in L2 is a real necessity beyond any doubt (MacIntyre, Clement, Dörnyei, & Noels, 1998). To put it another way, willingness to communicate (WTC), defined briefly as, "a readiness to enter into discourse at a particular time with a specific person or persons, using a L2" (p. 547) needs to be one of the main motives for students as the outcome of language instruction. WTC was initially presented by McCroskey and Baer (1985) to the literature regarding first language (L1) use, and later its relation to L2 started to become a considerable area of interest for researchers (e.g. Alemi, Daftarifard & Pashmforoosh, 2011; MacIntyre et al., 1998; Peng, 2012; Peng & Woodrow, 2010; Watanabe, 2013). For instance, adapting the WTC construct of McCroskey and Baer (1985), MacIntyre et al. (1998) suggested a model of variables (i.e. linguistic, communicative, and social psychological) that influence L2 WTC. These variables are composed of personality, intergroup climate, communicative competence, social situation, intergroup attitudes, L2 self-confidence, intergroup motivation, interpersonal motivation, state communicative self-confidence, and desire to communicate with a specific person (MacIntyre et al., 1998). In this model, WTC refers to, "the most immediate determinant of L2 use" (Clement, Baker, & MacIntyre, 2003, p.190) because it appears as the last phase prior to L2 use, which points out that it is time to act (MacIntyre, 2007). As the authors of the present study, we call this turning point 'the time for breaking chains to speak in L2'. By identifying the aforementioned variables, MacIntyre et al. (1998) showed that L2 WTC and L2 use of the learners can be influenced by a variety of inside and outside factors.

One of the factors that has often been investigated in relation to WTC is learners' language anxiety (e.g. Alemi et al., 2011; Baran-Łucarz, 2014). However, the number of studies on its relationship with positive emotions (e.g. joy, interest) is apparently very limited (Dewaele & Dewaele, 2017; Dewaele & MacIntyre, 2014; Fredrickson, 2004). Viewing positive emotions as a neglected area of research in this respect, Fredrickson (1998, 2004) developed her broaden-and-build theory, which emphasizes that, "positive emotions serve to broaden an individual's momentary thought–action repertoire, which in turn has the effect of building that individual's physical, intellectual, and social resources" (Fredrickson, 1998, p. 1). Put differently, positive emotions contribute to the development of a person's "personal resources, whether they be physical resources (e.g., the ability to outmaneuver a predator), intellectual resources (e.g., a detailed cognitive map for way finding), or social resources (e.g., someone to turn to for help or compassion)" (p. 14). In the most general sense, positive emotions like 'joy, interest, contentment, love' are the feelings distinguished from negative emotions such as 'anxiety, sadness, anger' (Fredrickson, 2004). As a result of the need for a change of research focus from L2 anxiety to positive emotions (Jin & Zhang, 2018), positive psychology in SLA has become the major reference point for language researchers (e.g. MacIntyre & Gregersen, 2012; MacIntyre & Mercer, 2014) as the ones in this recent study. Most recently, enjoyment as being one of the positive emotions, and referring to, "the sense of satisfaction and reward generated from the activity and/or the outcome of the activity" (Ainley & Hidi, 2014, p. 206) has attracted applied linguists' attention within the framework of foreign language enjoyment (FLE). Little work exists on enjoyment in relation to foreign language learning, and the studies in the literature are mostly designed with a main focus on the relationship between anxiety and enjoyment as located at the opposite ends of the continuum (e.g. Boudreau, MacIntyre, & Dewaele, 2018;

Dewaele & Dewaele, 2017; Dewaele & MacIntyre, 2014; Dewaele, Witney, Saito, & Dewaele, 2018; Uzun, 2017). To date, to the best of our knowledge, only one study was conducted on FLE in the Turkish context. In his study, Uzun (2017) investigated university level students' FLE and foreign language anxiety (FLA) levels. He found that the level of FLE was significantly higher when compared to the level of FLA, and there was a negative correlation between the two constructs. Scarcity of studies on FLE calls for an in-depth research. With this gap in mind, the present study is determined to contribute to the field with its additional focus on FLE, by revealing learners' FLE level and its interactions with a number of significant constructs under a path analysis model.

In addition to FLE, another concept that deserves to be investigated in relation to WTC is L2 learners' perceived self-efficacy, which is defined by Bandura (1995) as, "beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (p. 2). More specifically, as Brown (2007b) states, it refers to, "a person's belief in his or her ability to accomplish a task" (p.73). When this belief is available enough in the individual, she can strive more toward her goals (Bandura, 1977). Approaching this belief from the perspective of L2 learners, when they believe in themselves and their language-related capabilities, they can take action to use the target language (Brown, 2007b). Based on this inference, some researchers (e.g. Brown, 2007a; Matsuoka, 2006) put forward that self-efficacy and WTC are related concepts, and this connection has lately been an area of research interest for researchers in the field. For instance, Tasdemir (2018), focusing on high-school EFL learners in Turkey, explored the relationship between these two constructs and found a significant positive correlation between them. On this basis, it was assumed that the higher the level of self-efficacy is, so is the level of their WTC. Similarly, Matsuoka (2006) found that self-efficacy strongly and

positively predicted WTC in L2. In this respect, Matsuoka's study underlines that learners' self-efficacy, that is to say, their positive beliefs about their level of ability in learning and using English eventually leads to WTC.

Along with the nonlinguistic variables (FLE and self-efficacy) mentioned above, the relationship between L2 learners' achievement and WTC also emerges as a factor under scrutiny. Some studies (e.g. Mahmoodi & Moazam, 2014; Rastegar & Karami, 2015) indicated that WTC and L2 success are positively correlated. As for Kim (2004), WTC predicts learners' success in L2, in other words, strong WTC has the potential to indicate advanced language proficiency. In a similar vein, Valadi, Rezaee and Baharvand (2015) found in their study that EFL learners with more WTC had higher proficiency in speaking. Contrary to these positive findings, there is one specific study disaffirming this link. Joe, Hiver and Al-Hoorie (2017) found WTC not to be a predictor of L2 achievement. They underlined that high level of WTC did not positively affect L2 success.

The potential ties of the abovementioned constructs (i.e. FLE, self-efficacy, academic achievement) to WTC requires a comprehensive investigation. Having identified this significant gap in the literature, the current study first intends to examine the learners' level of WTC, FLE, self-efficacy, and academic achievement in addition to possible sources of FLE. Another key contribution of this study to the field is its additional concern to reveal the factor structure of the Foreign Language Enjoyment Scale. More prominently, this study has constructed and tested a hypothesized model which integrates WTC in English, FLE, self-efficacy and academic achievement. Using a path analysis model, this study is a seminal one in terms of documenting whether the above constructs predict WTC. With these perspectives, this study aims to shed light upon the following research questions:

1. How much WTC, self-efficacy and FLE is reported by Turkish EFL learners?
2. Do FLE, self-efficacy and academic achievement predict WTC?

Methodology

Participants

The data for this study were collected from 257 tertiary-level EFL learners (143 males, 114 females) enrolled in the English preparatory program of a state university in Turkey. They were sampled randomly, amounting to half of the whole population. The students in the program receive one, year-long English course before they start mainstream education in their faculties where English is the medium of instruction in certain subjects. The time the data collection tools were administered, the student participants had already spent more than a semester in the program, which was considered adequate for them to effectively attend to the content of the instruments.

Instruments

English Classroom Enjoyment Scale (ECES)

The first data collection instrument used in this study was the *Foreign Language Enjoyment Scale* (FLES) developed by Dewaele and MacIntyre (2014). The 5-point Likert-type scale consisted of 21 items, ranging from strongly disagree (1) to strongly agree (5), within the following limit values: 'strongly disagree' (1.00 – 1.79), 'disagree' (1.80 – 2.59), 'undecided' (2.60 – 3.39), 'agree' (3.40 – 4.19) and 'strongly agree' (4.20 – 5.00). In order for the Turkish participants to get a sound grasp of the items, the FLES was translated into Turkish. In translation process, the following procedure was followed: The FLES was first translated into Turkish by both of the researchers separately. Then, these translations were agreed upon through negotiation by handling minor controversies. In what follows, the translated scale was back

translated to English by two ELT colleagues. The Turkish and English versions were then compared in company with a Turkish and an English language instructor. They approved the one-to-one correspondence between the items of the Turkish version and that of the original one. In addition, *English class* was put to use in the translated FLES to accord with the present research context as in Jin and Zhang (2018) who did the same for a Chinese adaptation. Therefore, the FLES was renamed as the *Eng*lish Classroom Enjoyment Scale (ECES). Following the translation procedure, in order to reveal the factor structure underlying the scale items in the Turkish context, exploratory factor analysis was employed on the 21-item enjoyment scale through SPSS 23.0. First, in terms of construct validity, sample appropriateness was analyzed. Keiser-Meyer-Olkin (KMO) coefficient for the sample was found as .82, which means the sample size was adequate for this study. The results of the Bartlett's test showed that the values regarding the distribution (x^2=2559,64, *df*=210, *p*=0.000) were appropriate for exploratory factor analysis. A quartimax rotation was applied, and a minimum of factor loading of .32 was considered as acceptable for the analysis (Tabachnick & Fidell, 2001) while at the same time cross-loadings were avoided. The items 2, 5 and 11 were removed from the scale due to low factor loads, and item 13 was removed due to cross-loading.

When the commonalities were examined, the shared values were seen above .31, and Eigen values revealed five dimensions above 1. However, it was noticed that the component values after the first two dimensions were clustered proximally. Therefore, when taken together with the Scree Plot (Appendix 1), the three-factor structure was acknowledged. Factor loads ranged from .46 to .84 (Appendix 2). It was seen that the items 1,3,4,6,7,8,9,12 belonged to the first dimension (Enjoyment of English learning), 15,16 and 17 to the second (Enjoyment of teacher support), and 10,14,18,19,20,21 to the third dimension (Enjoyment of student support).

These dimensions were labelled based on the relevance of the items to teachers, students, and English learning itself (Jin & Zhang, 2018). When the variance was considered, the total variance explained by the 3-factored structure was found to be 59.07%. Alpha reliability coefficients for the overall scale, Enjoyment of teacher support, Enjoyment of English learning, and Enjoyment of student support dimensions were found as .902, .90, .822, and .885, respectively. The correlations between the dimensions of the scale were also analyzed. As seen in Table 1, there are positive and significant correlations between the dimensions.

Table 1

Correlations between the Dimensions of the ECES

Dimensions	English learning	Teacher support	Student support
English learning	1.00	.303*	.281*
Teacher support		1.00	.490*
Student support			1.00

* $p < 0.0$

As a result of the exploratory factor analysis, a 17-item three-factor ECES emerged. After the ECES was administered, the students were also asked to respond to the following open-ended prompt: Describe one specific event or episode in your FL class that you really enjoyed, and describe your feeling in as much detail as possible (Dewaele & MacIntyre, 2014, p. 246). This way, exemplary reflections were collected to be of support and complementary to the quantitative results.

Willingness to Communicate Scale (WTC)

The second instrument was the *Willingness to Communicate scale* developed by McCroskey (1992). The scale that specified 12 items for different communication contexts

(group discussions, meetings, interpersonal conversations and public speaking) and for different receivers (strangers, acquaintances and friends) measured the participants' degree of WTC in English. For each of the 12 situations given, the scale elicits participants' level of willingness ranging from 0 (never) to 100 (always). The Turkish translated version of the WTC scale used in this study was borrowed from Cetinkaya (2005) in which she pursued some procedures for accuracy of the translation. The Cronbach Alpha coefficient was found to be 0.94 for her adaptation, and .961 for the present study.

Self-efficacy Scale

The self-efficacy scale used in this study was originally developed in the Turkish language by Hancı-Yanar and Bümen (2012) in order to measure high school EFL learners' self-efficacy beliefs in English. They conducted exploratory factor analysis to explore dimensions and item loads, and confirmatory factor analysis to test the model and verify the dimensions. They came up with a valid and reliable (Alpha coefficient = .97) self-efficacy scale. The scale consisted of 34 Likert-type items under the dimensions of reading (8 items), writing (10 items), listening (10 items), and speaking (6 items), ranging from very untrue of me (1) to very true of me (5). The reliability coefficients for the dimensions of the scale were .92, .88, .93, and .92. respectively. In this study, reliability coefficients for the overall scale was .946, and for reading, writing, listening, and speaking dimensions were .849, .832, .881, and .863, respectively.

English Achievement Tests

The students took two mid-term examinations throughout the semester as the indicator of their English achievement for this study. The mid-terms were an amalgamation of essay writing, cloze tests, multiple choice questions, true/false options and speaking sessions which measured macro skills (i.e. speaking, listening, writing, reading) as well as micro skills (vocabulary and grammar). The scores from these two mid-terms were aggregated to compose one particular

score. In other words, the two mid-term results were averaged to serve as another variable for the study

Data analysis

The participants' English scores and item scores obtained from all the three scales were input into SPSS 23.0 software without reversely coding the items (except for one item in self-efficacy scale). In the reporting of the results of the first research question, i.e. how much WTC, self-efficacy, and ECE was reported by the students, descriptive statistics such as mean, percentage and standard deviation were utilized.

Path Analysis

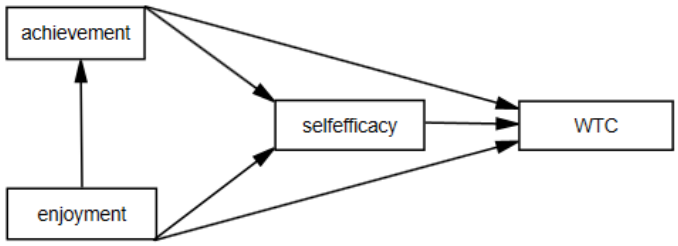
To verify the theoretical model of the study offered in the second research question, path analysis was run using AMOS 23. Having been first introduced by Sewall Wright in the 1930s, path analysis is a subset of the multivariate Structural Equation Modeling (SEM) aimed to discover the magnitude and significance of paths (relationships) among sets of variables in a prespecified and hypothesized model. Path analysis allows to make predictions concerning hypothetical causalities (Deliktas, Usta, Bozkurt & Helvacı, 2008). Similar to multiple-regression analysis, in path analysis, interactions and relationships among a number of variables are examined in a holistic manner (Meydan & Sesen, 2011) in order to analyze impacts on dependent variables within the model (Stage, Carter & Nora, 2004). However, "in the multiple regression analysis, dependent variable is regressed in a single analysis on all independent variables [while] in path analysis, more than one regression analysis may be called for" (Jeon, 2015, p. 1638). Path analysis is structured around a specific set of causal connections among traits to determine fitness whereas a multiple regression presumes a simpler causal linkage in which all traits impact directly on fitness (Scheiner, Mitchell & Callahan; 2000). In addition,

path analysis can measure total, direct and indirect effects while trying out causal models (Asher, 1983).

In this study, path analysis was employed in order to explore the predictive value of certain constructs. To be more specific, it was hypothesized within the theoretical model of the study (Figure 1) that academic achievement and English classroom enjoyment exert direct influences on self-efficacy and willingness to communicate, and indirect influences on willingness to communicate through the mediation of self-efficacy. It was also assumed that self-efficacy has a direct effect on willingness to communicate, and English classroom enjoyment has a direct effect on achievement.

Figure 1

The model tested



Results

The Level of WTC, Self-efficacy and FLE Reported by Turkish EFL Learners

The first research question involved understanding the level of WTC, self-efficacy, and ECE perceived by the participants. Their engagement in these constructs is reported below.

Level of Willingness to Communicate

Table 2

The Participants' Item-based WTC

Willingness to Communicate	$\bar{X}$	***SD***
1 Have a small-group conversation in English with acquaintances	65.54	28.11
2 Give a presentation in English to a group of strangers	35.70	29.03
3 Give a presentation in English to a group of friends	51.44	28.30
4 Talk in English in a large meeting among strangers	38.07	30.13
5 Have a small-group conversation in English with strangers	42.92	29.88
6 Talk in English in a large meeting among friends	51.93	30.76
7 Talk in English to friends	69.89	26.86
8 Talk in English in a large meeting with acquaintances	53.45	28.99
9 Talk in English to acquaintances	65.21	28.55
10 Give a presentation in English to a group of acquaintances	50.18	29.01
11 Talk in English to a stranger	51.35	31.94
12 Talk in English to a small group of friends	61.73	28.04
WTC Total	52.95	23.77

McCroskey and Richmond (2013) specified the following value ranges for WTC: Total WTC > 82 High Overall WTC < 52 Low Overall WTC. Considering these ranges, as shown in Table 2, the students reported a medium level of general WTC ($\bar{X}$=52.95). While the students were most willing to talk in English to friends ($\bar{X}$=69.89), to have a small-group conversation in English

with acquaintances ($\bar{X}$=65.54), to talk in English to acquaintances ($\bar{X}$=65.21), and to talk in English to a small group of friends ($\bar{X}$=61.73), the least rated willingness items were reported as giving a presentation in English to a group of strangers ($\bar{X}$=35.70), talking in English in a large meeting among strangers ($\bar{X}$=38.07), and having a small-group conversation in English with strangers ($\bar{X}$=42.92).

WTC scale also drew up specifications in order to determine individuals' WTC in different types of context for communication, and with different types of receivers. Types of communication contexts included public speaking, meetings, group discussions, and interpersonal conversations. Level of WTC for these communication contexts were measured in light of the following reference ranges (McCroskey & Richmond, 2013):

Group discussion >89 High WTC, <57 Low WTC (Items 1, 5, 12)

Meetings >80 High WTC, <39 Low WTC (Items 4, 6, 8)

Interpersonal conversations >94 High WTC, <64 Low WTC (Items 7, 9, 11)

Public Speaking >78 High WTC, <33 Low WTC (Items 2, 3,10)

Table 3

The Participants' WTC across Four Communication Contexts

Communication Contexts	$\bar{X}$	***SD***
Public Speaking	45.77	25.69
Meetings	47.82	26.58
Group Discussions	56.06	24.82
Interpersonal Conversation	62.15	24.96
WTC Total	52.95	23.77

As shown in Table 3, public speaking ($\bar{X}$=45.77) and meetings ($\bar{X}$=47.82) were the contexts for which the students reported the least willingness to engage in communication. These mean scores amount to a medium level of WTC for these contexts. However, the students reported considerably higher levels of WTC when the contexts were in the form of interpersonal conversations ($\bar{X}$=62.15) and group discussions ($\bar{X}$=56.06), though these indicated low levels of WTC according to the set norms. These results overall show that when engaged in communication in daily informal contexts such as interpersonal and group conversations, the students tend to be more willing to communicate in comparison to relatively formal-seeming contexts such as public speaking and meetings.

When the students' WTC is analyzed in terms of different types of receivers which include strangers, acquaintances, and friends, the following norms can be considered (McCroskey & Richmond, 2013):

Stranger >63 High WTC, <18 Low WTC (Items 2, 4, 5, 11)

Acquaintance >92 High WTC, <57 Low WTC (Items 1, 8, 9, 10)

Friend >99 High WTC, <71 Low WTC (Items 3, 6, 7, 12)

Table 4

The Participants' WTC across Three Types of Receivers

Type of Receivers	$\bar{X}$	***SD***
Stranger	42.01	26.39
Acquaintance	58.09	24.86
Friend	58.75	25.30
WTC Total	52.95	23.77

As Table 4 revealed, the students seem to be the least willing to communicate when their interlocutors are strangers ($\bar{X}$=42.01, at medium level). However, when the receivers are their acquaintances ($\bar{X}$=58.09, at medium level) and friends ($\bar{X}$=58.75, at low level), they reported considerably higher levels of WTC.

Level of Self-efficacy in English

Table 5

The Participants' Level of Self-efficacy in English across Major Skills

Self-efficacy	$\bar{X}$	*SD*
Listening	2.86	.70
Speaking	3.00	.78
Writing	3.01	.74
Reading	3.36	.68
Total	3.06	.62

Table 5 shows the mean scores for students' self-efficacy in English in terms of four macro skills as well as the overall perceived self-efficacy. In the evaluation of the mean scores, the ranges specified by Kanadli and Bagceci (2015) were taken into account (1.00-2.99=low self-efficacy; 3.00-3.99 medium self-efficacy; 4.00-5.00 high self-efficacy in English). The findings showed that the students perceived themselves as the least efficacious in listening ($\bar{X}$=2.86, at low level). However, they reported a medium level of self-efficacy in speaking, writing and reading ($\bar{X}$=3.00, $\bar{X}$=3.01, $\bar{X}$=3.36, respectively). The general mean score ($\bar{X}$=3.06) also showed that the students have a moderate degree of self-efficacy perceptions in English overall.

Level of English Classroom Enjoyment

Table 6

The Participants' Level of English Classroom Enjoyment across Dimensions

ECE	$\bar{X}$	***SD***
Enjoyment of English learning	3.69	.70
Enjoyment of student support	3.84	.88
Enjoyment of teacher support	4.55	.71
ECE Total	3.90	.58

*Ranging from 1 to 5, as the mean increases, so does the level of ECE.

Considering the dimensions of ECE, as evident in Table 6, the students received the highest mean score from *enjoyment of teacher support* dimension as the source of ECE ($\bar{X}$=4.55) which included items such as *my teacher is encouraging*, *my teacher is friendly*, *my teacher is supportive*. This was followed by *enjoyment of student support* ($\bar{X}$=3.84), and *enjoyment of English learning* dimension ($\bar{X}$=3.69). The students' overall enjoyment was reported with a mean score of 3.9 out of 5.00.

In addition, the open-ended prompt at the end of the ECES asked the students to write about enjoyable classroom events as well as their feelings. Table 7 provides the students' exemplary reflections on their sources of ECE in accordance with its dimensions.

Table 7

Quoted Examples for Dimensions of ECE

	Enjoyment of English learning	*Enjoyment of teacher support*	*Enjoyment of student support*
Quoted examples	I enjoy learning English. Sometimes I can make mistakes. Although this year is the grade repetition for me, I don't feel upset since I am learning better this year.	I was trying to speak in English in the early weeks of the school. It was staggeringly pleasing when my teachers gave me positive energy.	I feel so happy when we work together and interact in English. We are all learning this way.
	The first time I started to understand spoken English, I felt happy. It was a weird but nice thing.	My teachers are trying to teach by entertaining us. They made me believe I could learn English.	We had so much fun when we created an English TV show as a class.
	Classroom activities are enjoyable, and we are willing to participate.	My teacher's jokes are jazzing up our lessons. We felt so amused as he mocked us gently.	I have been here for the past four months. We are helping each other when we make errors.

	I enjoy speaking activites most.	My teacher's witty and warm-hearted nature encourages me to attend to the lesson.	We are trying to find a solution together in the face of problems.
	I find it enjoyable to engage in English dialogues.	I appreciate my teachers' attitudes toward all of us. They are also genial. This builds a desire in us to learn English.	I really enjoyed the short films prepared by my friends. Especially the back stories were hilarious.
	I really enjoyed the English games we played in the class. They turned out to be a didactic adventure.	Sometimes I correct my teachers and sometimes they correct my errors. I enjoy that because I learn more as they correct me.	When I mispronounce a word, we laugh it off together.
	Before I started prep class, I hadn't spoken English for more than a minute. Here I realized that a new common language developed for communicating. This made	It is encouraging to have friendly teachers. This way, our classes are becoming more meaningful. This makes me so happy.	Jokes are constantly flying around the class. We are all close friends, and this makes lessons more enjoyable. We are

	me happy and at the same time I felt I could learn new things. Each passing day I am getting better. For all these reasons, I enjoy the English classes although it is not a compulsory course for me.		learning and having fun at the same time.
	We can witness very funny moments while speaking. Pronunciation errors, subject errors, pauses etc. We can laugh them off when we retain them in the future.	I really enjoyed it once when I was appreciated by my teacher upon my success in an activity.	I remember having laughed out together with the whole class when I used 'she' to refer to my father.

*The quotations were translated from the original Turkish version.

*To ensure anonymity, the teachers' and students' names were not mentioned.

Path Analysis Results

To verify the theoretical model of the study, path analysis was conducted. In the hypothesized model, enjoyment was the exogenous variable, while achievement, self-efficacy and WTC were the endogenous variables. Several indices were examined to determine the goodness of fit of the model. These include chi square ($\chi 2$), normalized chi square ($\chi 2/df$), root mean square error of approximation (RMSEA), goodness of fit index (GFI), adjustment

goodness of fit index (AGFI), and comparative fit index (CFI). Table 8 indicates the fit indices of the revised model alongside the cut-off points (Tabachnick & Fidell, 2001), signaling that the data fit well to the model. During the modification process of the hypothesized model, insignificant paths were deleted after the initial analysis (Meydan & Sesen, 2011), since no significant path had existed between achievement and WTC (p = .475), and ECE and WTC (p = .186).

Table 8

Goodness-of-fit Indices

Fit indices	Good fit	Acceptable fit	Value
χ^2/ sd	≤ 3	≤ 4-5	(2.186 / 2) = 1.093
GFI	≥ .90	.89 - .85	.996
AGFI	≥ .90	.89 - .85	.979
RMSEA	≤ .05	.06 - .08	.019
NFI	≥ .95	.94 - .90	.989
CFI	≥ .97	≥ .95	.999

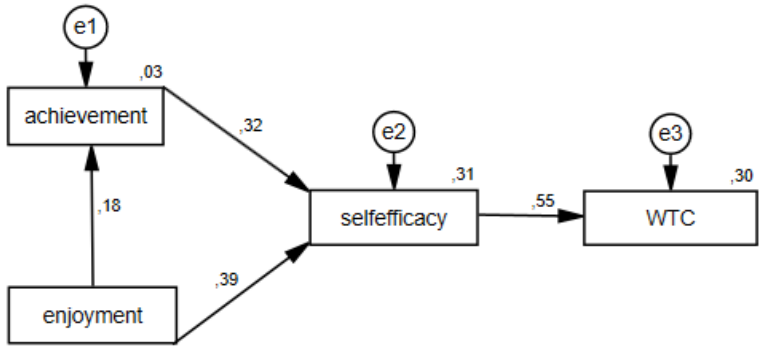


Figure 2

Path diagram of the study model

Figure 2 illustrates the output path diagram which revealed the significant paths between the variables tested. Standardized path coefficients are also provided in Table 9.

Table 9

Parameter Estimates for the Model

	Standardized effects			*Critical ratio*	*p*
	Direct	Indirect	Total		
ECE -----> achievement	.18	-	.18	2.930	.003
achievement -----> self-efficacy	.32	-	.32	6.139	***
ECE -----> self-efficacy	.39	.06	.45	7.461	***
self-efficacy -----> WTC	.55	-	.55	10.585	***
ECE -----> WTC	-	.25	.25		
achievement -----> WTC	-	.18	.18		

*** $p < .001$

While interpreting the path analysis results, the ranges specified by Suhr (2008) were followed. "Standardized path coefficients with absolute values less than 0.10 may indicate a small effect. Values around 0.30, a medium effect, and values greater than 0.50, a large effect" (p. 4). As shown in Table 9, ECE significantly and positively predicted achievement with a small effect (β = .18, p = .000). Also, positive direct paths of medium strength were obtained from ECE and achievement to self-efficacy (β = .39, and β = .32, respectively; p = .000 for both). These two predictor variables totally explained 31% of the variance in self-efficacy. Furthermore, self-efficacy was shown to be a significant, positive and strong predictor of WTC (β = .55, p = .000) and it accounted for 30% of the variance in WTC. Given the standardized indirect and total effect coefficients, the indirect effects of ECE and achievement on WTC through the mediation of self-efficacy were found as β = .25, and β =.18, respectively. The indirect effect of ECE on self-efficacy through achievement was found to be β = .06. Accordingly, the total effect of ECE on self-efficacy was calculated as β = .45.

Discussion

The purpose of this study was twofold: to find out 1) the EFL learners' level of WTC, ECE, and self-efficacy level in the research context, and 2) whether their level of ECE, self-efficacy, and academic achievement would predict their WTC. In addition to these, the sub-purpose of the study was to identify the factor structure of the FLES. With these concerns, the present study aimed to make a substantial contribution to the field by searching the impact of the aforementioned variables, i.e. ECE, self-efficacy, and academic achievement, on WTC through path analysis. To begin with, this study found a moderate level of WTC in English among the students, and it was also reported that the degree of the learners' WTC changes according to particular contexts. More specifically, the students reported more WTC when their interlocutors

were their friends in comparison to strangers. They reported to be unwilling to talk, give presentations, or have small-group conversations when their interlocutors are strangers. These findings support those of MacIntyre (2007) who points out that WTC level can differ depending on the situation. These results are also in line with Kang's findings (2005) which suggest that WTC is situation-dependent, and variables such as interlocutors, topic, and conversational context can affect one's WTC level. Moreover, consistent with the findings of the current study, Cao and Philp (2006) underlined that students are more eager to initiate communication with their friends rather than the classmates that they do not know well. Similarly, Riasati and Rahimi (2018) indicated that learners are more willing to talk in English when the interlocutors are the people they are familiar to. Additionally, the present study identified that the students are more eager to talk in English to a small group of friends. This is again in accordance with the finding of Cao and Philp (2006) who suggest that learners prefer the number of interlocutors in the conversation groups to be few. Considering all of these, it can be inferred that WTC in L2 tends to be open to oscillations according to different variables.

Another important finding of the study was that the learners' general self-efficacy perceptions in English was at a moderate level. While their listening self-efficacy perceptions were found to be low, those related to other skills (i.e. speaking, writing and reading) were at a moderate level. However, Tasdemir's (2018) study which was conducted in a similar context reported low level of self-efficacy perceptions in all the main language skills. Considering this, students' perceived self-efficacy level in English might vary across different settings. As for the ECE scores, a favourable amount of ECE ($\overline{X}$=3.9 out of 5) was identified among the participants. Enjoyment of teacher support received the highest mean score, and this was followed by enjoyment of student support, and enjoyment of English learning. This is in accordance with the

findings of Jiang and Dewaele (2019) who found teacher-related factors (i.e. positive attitude toward the teacher, teacher jokes) to be the best predictors of FLE when compared to the other factors (e.g. attitude toward English). Moreover, Uzun (2017) found in his study that learners' enjoyment level is positively influenced when the teacher makes them feel valuable as an individual by asking their opinions, talking to and praising them. He also reported that peer collaboration positively contributed to FLE and summarized that, "FLE has self-oriented, group-oriented, performance-oriented and teacher-oriented sources" (p. 15). Additionally, Uzun highlighted that, "learning new things, collaborating with their peers including making jokes, demonstrating successful performance, being praised by the teacher and listening to the teacher's jokes" (p. 15) were the most enjoyable moments of classroom instruction for the students. With regard to this, Dewaele and MacIntyre (2014) state that an enjoyable classroom environment created by teachers or classmates is likely to contribute positively to the learning process. Also, they underline that, "teachers who were positive, humorous, happy, well-organised, respectful of students, and praised them for good performance were appreciated by their students" (p. 264). The present study's qualitative findings also support the findings of these previous studies. For instance, in relation to enjoyment of teacher support, one of our participants reported that the teacher's positive attitudes toward them helped build a desire to learn English. Another student mentioned having been encouraged by the teacher's witty and warm-hearted nature to attend to the lesson. Some of them also reported enjoying the teacher appreciation upon their success. These accounts indicate clear evidences of the students' enjoyment of the teacher support. Additionally, student self-reports revealed that learning, understanding, speaking English and playing educational games in English greatly add to their enjoyment of the English classes. These are in line with Dewaele, Witney, Saito and Dewaele's (2018) contention that learners

with positive attitudes toward both the foreign language and the language teacher had higher levels of FLE. Furthermore, student reports revealed that they enjoyed working with their peers and helping each other, which is in keeping with the research findings mentioned earlier (e.g. Dewaele & MacIntyre, 2014; Uzun, 2017). These results also remind us of the main tenets of positive psychology, emphasizing that positive emotions contribute significantly to individuals' development (Fredrickson, 1998, 2004). In relation to this, it can be deduced that enjoyment of learning English, of teacher as well as peer support can contribute to students' learning in turn. This study also revealed the possible effects of ECE, self-efficacy, and academic achievement on the learners' WTC through path analysis. The most notable finding of the path analysis was that ECE and achievement predicted learners' self-efficacy, and self-efficacy strongly and positively predicted WTC. While ECE and achievement had an indirect influence on WTC through the mediation of self-efficacy, self-efficacy had a direct influence on WTC. This finding seems to be in line with the previous studies (e.g. Fallah, 2014; Peng & Woodrow, 2010) which found that communication self-confidence in L2 is a significant predictor of WTC. One more directly related finding to the current study is Onoda's (2012), which also reported self-efficacy as a strong predictor of WTC. Likewise, in Zhong's (2013) study, self-efficacy was one of the factors that affected the learners' WTC. As mentioned earlier, Matsuoka's (2006) study also underlined that self-efficacy was a strong and positive predictor of WTC in L2. In another research, Pattapong (2010) concluded that Thai FL learners' WTC was affected by their self-efficacy level. Therefore, the finding related to the self-efficacy as a predictor of WTC is lent support by each of these studies.

Another significant finding was that ECE was found to be a significant predictor of achievement. This is in accordance with some previous studies. For instance, in their study, Jin

and Zhang (2018) found that enjoyment of English language learning directly and positively influenced learners' achievement. Likewise, in their study which investigated the role of FLE and foreign language classroom anxiety (FLCA) on language learners' performance, Dewaele and Alfawzan (2018) found that the positive effect of FLE on learners' language performance was more rewarding when compared to the negative effects caused by FLCA. To summarize, as shown in previous research and the present study, as a kind of positive emotion, enjoyment has the strong potential to promote learners' achievement.

Conclusion and Suggestions

This study investigated the EFL students' level of ECE, self-efficacy and WTC, as well as whether ECE, self-efficacy and achievement predicted WTC. The analyses revealed moderate levels of WTC and self efficacy, in addition to a favourable amount of ECE. Moreover, the path analysis indicated that self-efficacy had a direct influence on the students' WTC, while ECE and achievement had indirect influences on WTC through the mediation of self-efficacy. Given that self-efficacy emerges as a strong predictor of WTC, and WTC promotes L2 learning (MacIntyre, 2007) and eagerness to practise with the target language (Peng & Woodrow, 2010), then it seems to be a prerequisite to increase learners' self-efficacy to trigger their WTC. As Bandura (1995) states, "successes build a robust belief in one's personal efficacy" (p. 3), and therefore, it is important for teachers to build in their students a sense of achievement. Some of the ways to do this, to mention but a few, could be to give positive feedback to their performance (Dörnyei & Ushioda, 2011), and to persuade them that they have the necessary skills to be successful (Bandura, 1995).

In this study, moreover, ECE was found to be the predictor of student achievement, which is in accordance with the suggestion that enjoyment can promote learning (Dewaele &

MacIntyre, 2014). As mentioned earlier, the participants in this study enjoyed the teacher support most. With this in mind, it is crucial to create an enjoyable classroom atmosphere where there is a full harmony among the teacher and students, and senses of rapport and trust are effectively established. Therefore, whether it be in success or failure, teachers need to trigger and address positive emotions rather than evoke the negative ones. As Dewaele et al. (2018) note, "effective teachers fuel learners' enthusiasm and enjoyment and do not spend too much time worrying about their FLCA (foreign language classroom anxiety)" (p. 694). And finally, considering the merits of enjoyment of student support, collaborative tasks can be prioritized in classroom instruction in order for them to take part in and enjoy peer and group work, thereby promoting each other's learning.

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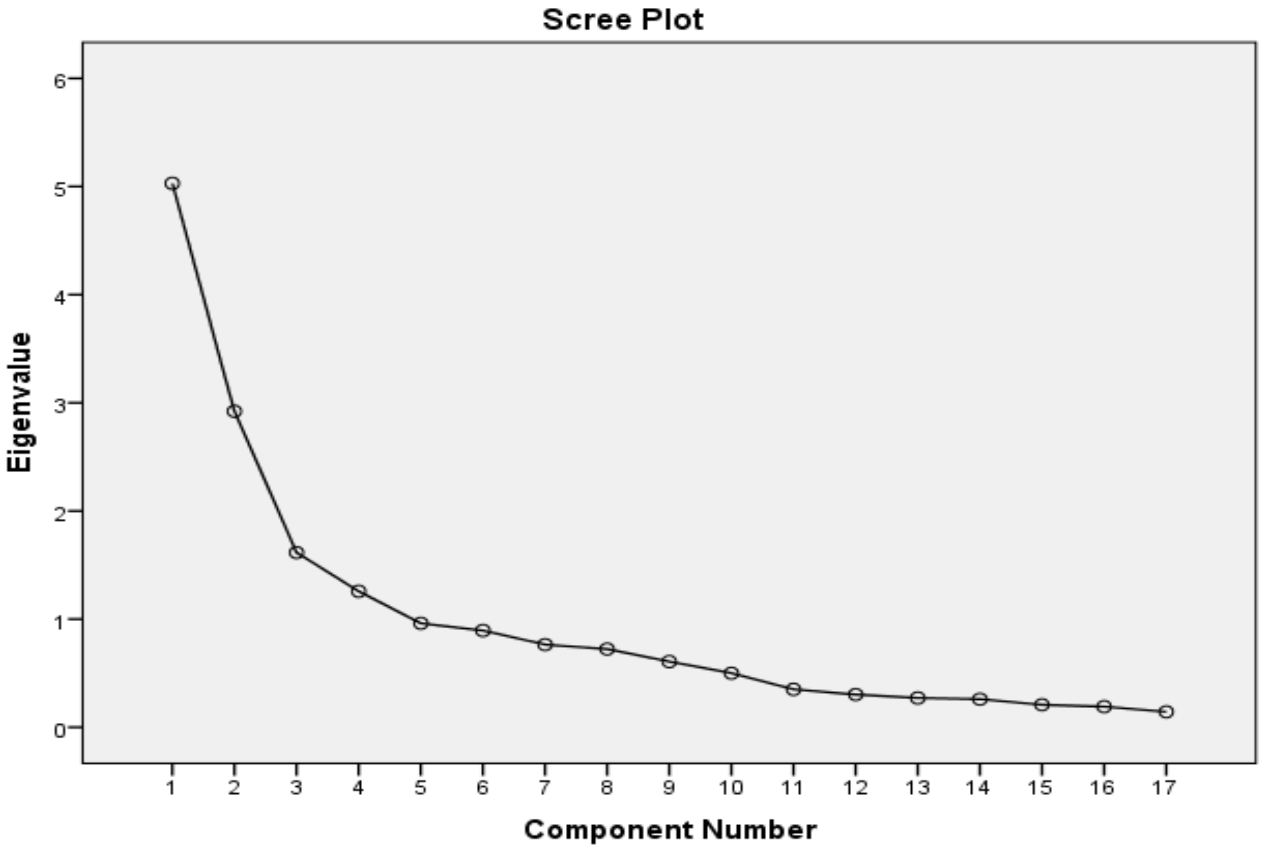
Appendices

Appendix 1. Scree Plot



Appendix 2. Factor items and loadings

Items	**Factor loads**
Factor 1 (Enjoyment of English learning)	
1 Yaratıcı olabiliyorum. *I can be creative.*	.49
3 İngilizce öğrenmekten sıkılmıyorum. *I don't get bored.*	.79
4 İngilizce öğrenmekten keyif alıyorum. *I enjoy it.*	.84
6 Kendimi İngilizce'de daha iyi ifade etmeyi öğrendim. *I learnt to express myself better in the FL.*	.53
7 İngilizce sınıfının değerli bir üyesiyim. *I'm a worthy member of the FL class.*	.53
8 İlginç şeyler öğrendim. *I've learnt interesting things.*	.46
9 Sınıfta, başarılarımla gurur duyuyorum. *In class, I feel proud of my accomplishments.*	.58
12 İngilizce öğrenmek eğlencelidir. *It's fun.*	.75
Factor 2 Enjoyment of teacher support	
15 Öğretmenim teşvik edicidir. *The teacher is encouraging.*	.81
16 Öğretmenim cana yakındır. *The teacher is friendly.*	.79
17 Öğretmenim destekleyicidir. *The teacher is supportive.*	.83
Factor 3 Enjoyment of student support	
10 İngilizce sınıfımı olumlu bir ortam olarak nitelendirebilirim. *It's a positive environment.*	.61
14 Sınıftaki arkadaşlarım iyidir. *The peers are nice.*	.75
18 Sınıfta iyi bir atmosfer var. *There is a good atmosphere.*	.82

19 Sınıfta birbirine bağlı (samimi) bir grup oluşturuyoruz. *We form a tight group.*	.80
20 Sınıfta, ortak eğlencelerimiz var. (örneğin; düzenli yaptığımız espriler) *We have common "legends", such as running jokes.*	.83
21 Çokça gülüyoruz. *We laugh a lot.*	.82

The Teacher as Storyteller

Stanley D. Ivie

Abstract

Do you wish to connect with your students? Then cultivate the art of storytelling. A good story can enliven a dull lesson, and it can expand the horizons of an interesting one. Storytelling can be used as an advance organizer for introducing a new unit of thought, or it can work equally well as a capstone for what has already been learned. Great teachers have shown themselves to be lively storytellers. How can storytelling enhance both teaching and learning?

***Keywords*:** storytelling, advance organizers, scaffolding, narratives, metaphor

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It is hard to get your students to level with you about your teaching. Most stand in fear of receiving a poor grade. Once in a while a brave soul or two may wander into your office for a friendly chat. When this happens, maybe, just maybe, they will tell you the truth about your teaching. During my 45 years of classroom experience, I had such an experience a number of times. What were the truths my former students were willing to share? Almost to a person they told me they had long since forgotten all of the big ideas I had labored so painstakingly to present. What they still remembered were all of the stories I had casually woven into the lessons. How can storytelling be used to enhance teaching and learning?

Teaching is a highly personalized activity. We always teach who we are. How could it be otherwise? Teaching and learning revolve around the stories we tell about ourselves and others. The teacher, like the drama coach, creates a colorful performance out of human experience. In teaching, as in the theater, there is no substitute for a live performance. A classroom without a teacher is a like a stage without an actor. The human touch is what brings the script to life. Stories do not unfold in a vacuum. The heart joins the head in any meaningful performance. Teachers, if they are skillful storytellers, combine thought and feeling into an aesthetic whole.

Storytelling and Culture

Storytelling is a universal aspect of human culture. It is one of the principal ways in which basic ideas and values are transmitted from one generation to the next. Through the art of storytelling, a sense of group identity is created and recreated in the hearts and minds of the human community. The rituals and ceremonies of all human societies reflect the stories people tell about themselves. These stories, in turn, find their way into formal and informal modes of education. Ancient Jewish education, for example, engaged young men in memorizing and reciting the Torah, which contained all the stories told in the first five books of the Old

Testament. Athenian education, on the other hand, busied its male students in memorizing and reciting the poems of Homer, which included the stories of the fall of Troy and the adventures of Ulysses. Christian education, not to be outdone, incorporated into itself both the stories from the Old as well as the New Testament. The story of Jesus, as recorded in the four gospels, became the central focus of Christian education.

Storytelling did not die with the ancients. It is alive and well—expressing itself wholeheartedly in today's world. The modern world, however, has turned away from religious themes, and it has moved progressively toward a secularization of knowledge. Similarly, storytelling has followed suit. Knowledge has become increasingly organized around academic disciplines such as history, science, and literature. Each discipline, in turn, has served as a depository for the stories about its principal contributors and their respective ideas. Every school child in the United States has heard the story about the American experience—how peoples from many different lands came together and participated in building a democratic nation that is envied around the world. The faces of the folk heroes of the nation are carved in stone on Mount Rushmore. Science has developed its own distinctive story line—how humanity has tried to uncover and make intelligible nature's secrets. Einstein's equation, $E = mc^2$, disclosed the power residing in a single atom; Watson and Crick unlocked the double-helix pattern of DNA; and teams of researchers are currently engaged in mapping the mysteries of the human brain. Finally, literature is the *sine qua non* of storytelling. Great literature is the art of finding the universal within the particular—how archetypes manifest themselves in individual lives. The drama of human experience is reflected in the literary works of William Shakespeare, Ernest Hemingway, and Harper Lee.

What does it mean to know? Bruner spent a good part of his life puzzling over that question. Knowledge, Bruner (1986) informs us, is transmitted in two different ways—the logical-scientific and the narrative. The logical-scientific mode "leads to good theory, tight analysis, logical proof, sound argument, and empirical discovery guided by reasoned hypothesis" (p. 13). The narrative mode, on the other hand, leads to good storytelling, gripping drama, and interesting historical accounts. Narratives bring us face to face with the vicissitudes of life—birth and death, love and hate, hope and despair. Bruner (1990) believes humans have a natural predisposition for organizing their experiences around narratives. "We have an 'innate' and primitive predisposition to narrative organization that allows us quickly and easily to comprehend and use it" (p. 80). Narrative thinking is not as simple as it may at first appear; it may reflect technical and sophisticated styles of expression. Narrative thinking or storytelling is instrumental for "making meaning that dominates much of life and culture—from soliloquies at bedtime to the weighing of testimony in our legal system" (p. 97).

Ausubel's Learning Theory

David P. Ausubel came to educational psychology via the route of medicine. After finishing his degree in psychiatry, he returned to graduate school and earned a Ph.D. in developmental psychology. He switched from psychiatry to psychology in order to pursue an academic career in teaching and research. "Psychiatry," Ausubel (1995) writes, "was completely dominated by psychoanalysis. There was no real opportunity for an academic career in psychiatry, since I viewed psychoanalysis as a farfetched, desperate mythology, with no scientific or empirical basis" (p. 1).

Ausubel (1963a) was one of the principal theorists supporting the educational reform movement of the 1960s and 1970s. He wrote a number of significant books and articles on

teaching and learning. Ausubel encouraged teacher to assist their students in constructing cognitive scaffolding for processing and storing information. Ideas should be assembled into hierarchical patterns similar to the steel framework of a modern skyscraper. "The most inclusive concepts occupy a position at the apex of the structure and subsume progressively less inclusive and more highly differentiated sub-concepts and factual data" (p. 220). Though Ausubel's theories were generated half-a-century ago, many of his thoughts are still alive and well. The practices of mapping or webbing of ideas along with erecting cognitive scaffolding for teaching higher level thinking skills are still used in classrooms across the nation.

Ausubel views knowledge as representing an integrated system of inclusive and exclusive categories and concepts. Ideas are linked together in an orderly and rational fashion. Mind, metaphorically, is like a Chinese puzzle box. All of the smaller boxes, facts and data, are tucked away inside of progressive larger boxes. "Cognitive structure," Ausubel (1960) contends, "is hierarchically organized in terms of highly inclusive concepts under which are subsumed less inclusive sub-concepts and informational data" (p. 267).

Ausubel's learning theory is organized around the idea of subsumption, which he later exchanged for the word assimilation. Like fish swimming in the ocean; the big fish swallow the little fish. Similarly, big ideas subsume smaller ideas. Teaching and learning, reciprocally, are largely matters of erecting cognitive structures (scaffolding) for processing and storing new information. By placing information into its proper category, we are better able to retain it for future use. Forgetting, on the other hand, occurs when smaller ideas are completely assimilated into larger concepts. A cognitive structure that is clear and well organized facilitates the learning and retention of new information. A cognitive structure that is confused and disorderly, on the hand, inhibits learning retention of information. Learning and retention can both be enhanced

through strengthening relevant aspects of cognitive structure. Putting the mind in order is one of the principal objectives of all education. Having a clear and well organized cognitive structure, Ausubel (1968) reminds us, "is also in its own right the most significant independent variable influencing the learner's capacity for acquiring more new knowledge in the same field" (p. 130).

Given his theory of learning, it is not surprising that Ausubel comes down on the side of teacher directed instruction. Direct teaching lends itself to building logically ordered cognitive structures. Ausubel (1963b) believes most teachers favor this method of instruction. Expository teaching is the most efficient way of organizing classroom instruction. He contends that even laboratory sciences can be taught using the expository method. Though expository teaching has been criticized as being authoritarian, such criticism is unwarranted. "There is nothing inherently authoritarian in presenting or explaining ideas to others as long as they are not obliged, either explicitly or implicitly, to accept them on faith" (p. 160). Teachers have an obligation to share their understanding with their students. Casting aside the teacher's understanding because it might impose some structure on the students' thinking is an idea too foolish to require refutation. "Didactic exposition has always constituted the core of any pedagogic system, and, I suspect," adds Ausubel (1963b), "always will, because it is the only feasible and efficient method of transmitting large bodies of knowledge" (p. 160).

Verbal receptive learning, Ausubel (1963b) informs us, is not necessarily antithetical to higher level thinking, though the method has frequently been characterized as "parrot-like recitation and rote memorization of isolated facts" (p. 15). The problem stems from the widespread confusion "between reception and discovery learning, and between rote and meaningful learning" (p. 15). Reception learning is not invariably rote; likewise, discovery learning is not always meaningful. Either one—reception learning or discovery learning—can be

rote or meaningful. Everything depends upon how the knowledge is treated. If the learner merely memorizes the material (even if the conclusions have been arrived at by the discovery method), then, says Ausubel (1961), "the learning outcomes must necessarily be rote and meaningless" (p. 17). Reception learning or discovery learning may promote either rote or meaningful learning. One does not necessarily infer the other. Thus discovery learning, just like reception learning, may be either rote or meaningful. The whole question of rote learning versus meaningful learning depends upon whether or not the new information is integrated into the learner's cognitive system.

What determines whether or not learning is meaningful? Knowledge becomes meaningful when we grasp the interrelationship between two or more ideas, old and new. "A first prerequisite for meaningful learning," Ausubel and Robinson (1969) contend, "is that the material presented to the learner be capable of being related in some 'sensible' fashion" (p. 46). The new information must be fitted into a larger pattern or whole. "Second, the learner must possess relevant ideas to which the new idea can be related or anchored" (p. 46). The learner must already possess appropriate subsuming concepts in his or her cognitive structure. "Finally, the learner must actually attempt to relate, in some sensible way, the new ideas to those which he presently possesses" (p. 46). If any of these conditions are missing, the end result will be rote learning.

Advance Organizers

The idea for which Ausubel (1995) is best known is his theory of advance organizers. Few educational innovations, Ausubel tells us, have been more roundly applauded and more frequently misused. Advance organizers are often confused or mixed with other popular doctrines in education. Inquiry teaching and learning styles, for instance, have little or nothing to

do with advance organizers. Advance organizers, in turn, are not all of one stripe. They come to us in many different forms—logical statements, models and graphs, or colorful stories presented at the beginning of a new unit of thought. Advance organizers encapsulate the essence of what a lesson is all about (pp. 1-9). The ideas of space-time in physics, the double-helix in genetics, and style in literature are all examples of advance organizers.

Advance organizers are not to be confused with introductory remarks or brief overviews, which are "typically written at the same level of abstraction, generality, and inclusiveness as the learning material" (Ausubel, 1963b, p. 214). Organizers are abstract ideas presented in advance of the lesson. They represent a higher level of abstraction, generality, and inclusiveness than the new material. Ausubel (1960) believes organizers can be used to assist learners in assimilating new information. Organizers help to bridge the gap between what is already known and what is to be learned. "The learning and retention of unfamiliar but meaningful verbal material can be facilitated by the advance introduction of relevant subsuming concepts" (p. 267). Organizers are particularly useful when learners do not already possess the relevant concepts needed in order to integrate new information into their cognitive systems.

Which students profit the most from the use of organizers? Ausubel and Fitzgerald (1962) believe good students—those who already possess clear and well organized cognitive structures—profit very little from the use of organizers. This is because their minds are already programmed with anchoring ideas. Slow learners, on the other hand, are the ones who benefit the most from the use of organizers. They require additional assistance in learning how to structure their thinking (p. 247). Ausubel's (1963b) research disclosed another interesting aspect of using organizers. Advance organizers are more useful when working with factual material than when dealing with abstractions. Organizers "facilitate the learning of factual material more than they

do the learning of abstract material, since abstractions in a sense contain their own built-in organizers" (p. 82).

Can advance organizers be used to enhance learning? The research on this question is filled with mixed and conflicting results. Anderson, Spiro, and Anderson (1978), for example, concede that Ausubel's general theory of subsumers contains much that is valuable for educational practice. They take exception, however, with his research findings. Referring to Ausubel's work on using organizers to teach reading comprehension, they say, "It is difficult to see why outlining subsequent material in abstract, inclusive terms would help readers" (p. 438). If readers already possess relevant subsuming concepts, they will use them in assimilating new material. When readers do not possess such concepts, there is little reason to believe advance organizers can be used to take their place. Anderson et al. conclude by saying, "the theoretical justification for advance organizers is quite flimsy" (p. 439).

In more recent years scholars have conducted a variety of studies on the use of advance organizers. Most of these studies suggest the use of advance organizers promote slightly higher test scores as compared to instruction not using advance organizers. Mayer (1979) came to the conclusion that, "advance organizers can influence the outcomes of learning if used in appropriate situations and measured properly" (pp. 371-383). Scholars have also conducted a number of meta-analysis studies. Luiten, Ames, and Ackerson (1980) conducted one such study. They arrived at the conclusion that, "The average advance organization study shows a small, but facilitative effect on learning and retention" (p. 217). Stone (1983) concluded from her meta-analysis that, "Overall, advance organizers were shown to be associated with increased learning and retention of material learned" (pp. 194-199). Corkill (1992) summarized the findings from 29 experimental studies over a 14 year period of time. She concluded that the use of advance

organizers facilitated recall. However, advance organizers only, "promote connections between prior knowledge and to-be-learned material" when properly written (pp. 33-63). Finally, Chen and Hirumi (2009) have evaluated advance organizers in relationship to online learning. They concluded that low ability students who use advance organizers perform better on short-term and long-term tests than students who did not use advance organizers.

Ausubel (1995) was keenly aware of the criticism leveled against his theory of advance organizers. He believed the attention paid to them far outweighed their relative importance in relationship to his larger body of work. His views on this matter were shared in personal correspondence with the author. "Advance organizers are not the most important aspect of my work in educational psychology." They are merely a specific technique for presenting information. "However, they caught the imagination as a gimmick for performing empirical studies. More dissertations—most of them worthless because the organizers used were not genuine—have been written on organizers than on any other topic in psychology" (p. 5).

Stories as Advance Organizers

Advance organizers can either be rational statements or narrative stories. Of the two, stories have a longer shelf-life. The following three stories selected as illustrations in this article serve as benchmarks highlighting some of my own teaching experiences. Other teachers will need to thumb through their own experiences and select those stories that best act as advance organizers for units they are planning to teach. If, for example, a science teacher were planning on introducing a discussion on how different physicists view the nature of the universe, the following story might very well serve as an advance organizer.

Do you remember the movie, *Field of Dreams*? Kevin Costner, who loved baseball, heard a mysterious voice saying, "If you build it, he will come." As an act of faith, he plowed under

part of his cornfield and turned it into a baseball diamond. When the field was finished, all of the former baseball greats showed up to play. Here is where the story becomes an advance organizer. Who would stand behind home plate and umpire the game? Suddenly three new figures came walking out of the cornfield—Newton, Einstein, and Heisenberg. They all claim they had been waiting an eternity to call balls and strikes. Each was asked a simple question—how do you know when a pitch is a ball and when it is a strike? Newton, who believed in a deterministic universe governed by natural laws, stated flatly, "I call them the way they are." Einstein, who was the father of relativity, asserted, "I call them the way I see them." Finally Heisenberg, who was one of pioneer theorists behind quantum mechanics, affirmed, "They aren't anything until I call them." Big question: Is there a reality independent of human experience?

When my son, John, was in the third grade, I took him to the museum of natural history. I thought it might serve as an advance organizer for introducing him to the theory of evolution. John and I looked at all of the exhibits on prehistoric animals and fishes. Toward the end of our journey, we came to the exhibit featuring the research of Dr. Leaky, who discovered the fossil remains of early humans in East Africa. Next to the Leaky exhibit was one showing modern great apes. John stood for a long time carefully studying the two exhibits. Finally, I asked, "Well, John, what do you make of it?" John, replying in a thoughtful manner, said, "Well, Dad, it looks like cavemen turned into apes." John's story has served as a useful advance organizer for later discussions I have had with my students on the topic of evolution.

A few years ago, I found myself suddenly single. One day when I was walking through the local mall, I happened to bump into a woman I had met at the university. She was accompanied by her two children—a boy of four and a girl of five. They told me that their husband and father had recently died from a heart attack. Wishing to show a little empathy, I

suggested we all go for ice cream. After finishing our cones, I proposed we visit the Dallas Zoo. While we were all walking along, I found myself swinging the boy with my left hand and his sister with my right. Presently, the boy looked up and me and asked, "Do you have a queen?" At first I was taken back—talking about queens is a pretty sophisticated metaphor for a four-year-old. Finally, I replied, "No, but I have been looking everywhere for one. Do you know where I can find a queen?" He pointed to his mother and said, "She's a queen." At this point the girl chimed into the conversation, saying, "Yah, our dad died. You could be our dad." The mother, obviously embarrassed by the idea that her children were actively recruiting a new father, said, "We don't go around asking men who we have just met to be our father." The girl, giving her mother a puzzled look, said, "But, Mom, he bought us ice cream." Could there be a more telling advance organizer for introducing a discussion on metaphor?

Conclusion

Ausubel's theories present us with a highly logical, deductive approach to teaching and learning. He assumes the placement of a knowledgeable, skilled teacher in front of every classroom. The teacher has not only mastered the material at hand, but he or she has also acquired the art of teaching. Without classroom finesse, everything else is a total waste. The school is, in the full sense of the word, a learning community. Teacher directed instruction, by its very nature, lends itself to the technique of storytelling. The teacher, given his or her greater maturity of experience, is in a position to select appropriate stories for use as advance organizers. The teacher's role is one of systematically helping his or her students to construct their cognitive systems. The end of the whole process is the education of a person who can formulate rational and humane goals and who is able to select suitable mean for realizing those goals.

Storytelling offers us a good example of metaphorical thinking. The English language houses a plethora of colorful metaphors. Using them is not the exclusive privilege of a highly educated mind. Children, as illustrated by the story of the four-year-old boy, are naturally drawn to the use of metaphors. Metaphors represent the Alpha and Omega of human discourse. All of the big ideas in science, history, and the arts are expressed in metaphorical language. How did the universe begin? Physicists tell us it all started with the Big Bang. Similarly, the words in the Declaration of Independence, "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable rights," represent a frequently sighted national metaphor. And where would literature be without the rubric of "character flaw"?

What are the marks of an effective story? We are told a picture is worth a thousand words. Stories represent verbal pictures we have created about ourselves and our interactions with the world. Stories have a way of cutting through the chaff, of simplifying complex ideas. Storytelling adds life and imagination to teaching. A good story is often a source of amusement and humor. Storytelling taps into the hopes and dreams of humanity. In an age obsessed with computerized instruction, storytelling needs to play an increasing important role in helping to humanize teaching and learning. Though musical scores and thoughtful stories can easily be placed on computer disks, there is no substitute for a live performance, either at a concert or in the classroom. Storytelling is the oldest, most pervasive way society has discovered for creating and recreating itself—of inducting each new generation into its cultural motif. If in the troubled times that may lie before us—we wish to appreciably increase the likelihood of some savage upheaval—accelerate the mechanization of instruction and neglect the humanizing effects of

storytelling—then not all the gods sitting on Mount Olympus will be able to save us from the maelstrom that may follow.

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