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Revisiting Theory Camp: Improving Student Success in Freshman Theory

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Abstract:

Due to the emphasis placed on performing in many high school music programs, a large number of music majors enter college with limited knowledge of music theory. Some university programs require a remedial theory course while others place underprepared students into freshman theory without remediation. Many of us who teach in and/or coordinate the two-year theory sequence are looking for better ways to help students with deficiencies in theory be successful in their first year and beyond while avoiding adding courses and credit hours to their already full degree programs.

The Music Department at Missouri State University administers a basic theory entrance exam to all prospective music majors. Those unable to pass the exam at their audition are given the opportunity to learn fundamentals on their own and re-take the exam prior to the start of the fall semester. The department makes instructional materials available online, and offers suggestions for other materials to assist independent preparation on the part of the student. Many still enter the course unprepared however, and struggle through the first semester, causing difficulties with later courses or dropping the major altogether. To help address this issue, we

began offering a four- day “Theory Camp” for incoming freshman in the summer of 2008. In light of its initial success in preparing students to perform better in freshman theory, and as music majors in general, the camp has continued every year since its inception.

We were inspired to develop our camp from Butler University’s successful intensive “Elements of Music” course described by Jeff Gillespie in his article "Welcome to Theory Camp! More Than Simple Remediation" (*Journal of Music Theory Pedagogy*, Vol. 14, 2000). Our department faced different challenges from those at Butler, requiring several modifications in our approach. In 2011, the campers at MSU improved their scores an average of 23 points (min=8pts, max=57pts, median=18pts) when retaking the entrance exam. In addition, the camp improved academic performance in theory and provided social benefits through opportunities to work with classmates, staff, and faculty prior to beginning the academic year.

Revisiting Theory Camp: Improving Student Success in Freshman Theory

Many students entering college lack the basic skills and knowledge required for success. Students who have graduated from high school, taken the courses in high school required by colleges for basic acquisition of skills, and possess basic literacy are considered “ready” for postsecondary work.¹ However, of the 70% that graduate high school, only 32% are considered qualified to enter a four-year college. In addition, approximately one-third of all students entering postsecondary programs require remedial work in math, science, reading, and writing before entering the first semester of college. First generation college students, low-income, and racial/ethnic minorities make up a large portion of this percentage.² Differences in course offerings, available resources, socio-economic level, and parental and community support are contributing factors for college readiness.

Many higher education institutions offer summer bridge programs to help prepare students for their first semester of coursework. Students that participate in these programs are more likely to persist in college, transfer to a higher-level college, and complete a bachelor’s degree than students with similar background and entrance exam scores that do not participate in remediation.³ Self-efficacy, academic skills, a sense of belonging, and social skills are well-known predictors of success in college.⁴ Strayhorn measured the effect participation in a summer bridge program had on each of those predictors in underprepared low-income African-

¹ J.P. Greene, M.A. Winters, and Manhattan Institute for Policy Research, *Public High School Graduation and College-readiness Rates, 1991-2002* (Center for Civic Innovation at the Manhattan Institute, 2005).

² E.P. Bettinger and B.T. Long, *Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work?* (National Bureau of Economic Research, 2005).

³ Ibid.

⁴ Terrell L. Strayhorn, “Bridging the Pipeline: Increasing Underrepresented Students’ Preparation for College Through a Summer Bridge Program,” *American Behavioral Scientist* 55, no. 2 (February 2011): 142–159.

Americans. He found that participation in a summer bridge program had no significant effect on social skills or sense of belonging, but did have a significant effect in the development of academic skills and self-efficacy. He also found that 30% of the variance of first semester grades was attributed to academic skills and self-efficacy. Students are more successful when they believe they possess the academic skills required for success. In addition, retention rates improved through participation in a summer bridge program.⁵

Not only do students have a lack of general academic preparedness, many students enter their college level music degree underprepared for the freshman theory course. Students lack knowledge of the most basic concepts including recognizing and writing note names on different clefs, rhythm, meter, key signatures, major/minor triads, basic sight-reading, and aural recognition skills. The first semester of freshman theory is often considered the course that “weeds out” students who are unable to succeed in a music degree. However, these talented students may not have had an opportunity to learn the basic fundamentals through their high school program.

University music programs have sought creative ways to help these students succeed, but some solutions have led to other problems. Some institutions place students into Theory I, but many of those students struggle and drop out of the music program altogether. Other institutions offer self-paced tutorials and a chance to retake the placement exam. Others have students take a remedial theory course prior to Theory I. However, this course puts students behind at least one semester and often adds a year to the degree.

Missouri State University tried several of these solutions to address underprepared students in music theory. We began to administer a basic theory entrance exam to incoming

⁵ P. Garcia, “Summer Bridge: Improving Retention Rates for Underprepared Students,” *Journal of the Freshman Year Experience* 3, no. 2 (1991): 91–105.

freshmen during their audition prior to admission in 2003. The content of the test included pitch reading in treble and bass clefs, major and minor key signatures, simple intervals, triad quality, and notation of rhythm and meter. Students were required to score 70% or better on this exam to register for the Theory and Musicianship I course. In the first year, approximately 35% of all students failed this exam.

In an effort to improve the success rate on the exam, the Missouri State University theory program began offering a self-authored online tutorial covering all content on the test. The tutorial consisted of a brief music fundamentals textbook with accompanying exercises, a sample test, and an answer key. Students were given access to the tutorial prior to their audition date. Access to these tutorials improved the failure rate the first year (18% failed that year compared to 35% in the previous year). Students who did not pass the exam were again encouraged to utilize the tutorial and allowed to retake the exam prior to the fall semester. However, some who passed the exam still entered the course unprepared and struggled through the first semester and beyond. Students who did not pass the second administration of the exam were admitted with provisional status to the music program and enrolled in a semester-long Music Fundamentals course in the fall of their freshmen year.

Butler University also sought to address similar issues and offered a remedial “Elements of Music” course prior to the four-semester theory core to incoming freshman that failed the entrance exam (approximately 25%). Since this course put the students behind in their coursework, Butler University started an intensive 10-day “Elements of Music” course just prior to the academic school year, which became affectionately known as Theory Camp.

In his article “Welcome to Theory Camp! More Than Simple Remediation,” and his presentation at the CMS Great Lakes regional conference in 2000, Jeff Gillespie discussed the

many academic and social benefits of the course. Students arrived on campus ten days prior to the fall semester to take the intensive version of "Elements of Music." Upon successful completion of the course, students were eligible to enter the first core class at the beginning of their freshman year.

Student scores indicated that in the short term, the intensive version of the elements course was at least as successful as the full-semester course. Theory camp students (ten-day elements course) had higher scores at the end of the course ($m=90.57\%$ $n=68$) compared to the scores of those from the full-semester elements course ($m=85.58\%$, $n=38$). The fact that campers were submerged in the material with no other coursework to distract them may have contributed to the higher scores. In addition, campers performed as well academically as non-campers throughout the first four core classes.

Butler University surveyed students and faculty who participated in Theory Camp through the four-semester theory core. Faculty responses indicated that student attitude, comfort seeking help or asking questions, interest, study habits, and progress were generally positive. The data revealed that Theory Camp graduates were keeping up with the non-campers and had more confidence and a better attitude. Students reported increased interest, better study habits, and a greater ability to keep up with the class. Comments were all extremely positive about the social and academic benefits of the camp.

Inspired by Butler University's Theory Camp model, Missouri State University began our own version of the camp for incoming freshmen in the summer of 2008. Due to practical considerations, we needed to offer the camp in a format different from Butler's. We shortened the camp to a four-day format, and found the shorter version provided social and academic benefits similar to those reported in Butler University's ten-day camp. In light of its success in preparing

students for freshman theory, the camp has been offered annually since its inception. We will discuss the differences and similarities in schedule and content between the two camps before reporting and discussing the academic and social benefits achieved by our camp.

Since the Missouri State Band camp occurs two weeks prior to the fall school session, we were not able to offer our fundamentals class as a ten-day course, as Butler University did. Therefore, we structured our theory camp after our successful middle school/high school choir and string summer camps, though it was intended mainly for incoming freshmen. We wanted our remediation course to have all the social benefits of the Butler University course, including access to the university as a college student (student union, less structured free time, and choices of activities).

Like Butler University's course, the content of our camp was the same as the content included on the entrance exam. Both institutions' camps covered pitch identification and notation in four clefs (alto and tenor clef were not on the entrance exam for MSU), rhythmic notation, meters, scales, key signatures, intervals, and triads. The MSU camp included an introduction to the computer lab and software used for ear training and keyboard drill in the theory and musicianship sequence.⁶

At MSU, students were provided a 40-page textbook that included self-authored sight singing exercises (single-line melodies, duets, and rhythm reading exercises), instructional material, and worksheets adapted from the textbook used in the four-course theory core curriculum.⁷ The booklet also included instruction in Curwen/Glover hand signs for sight singing, written puzzles, and extra blank staff paper for drills.

⁶ Ann K. Blombach, *MacGAMUT 6* (Gahanna, Ohio: MacGAMUT Music Software, Inc., 2010).

⁷ Michael F. Murray, *Essential Materials of Music Theory* (New York: Linus Publications, in press). (Available Fall, 2013).

Like Butler, we used a team teaching approach. Three instructors taught the camp, and the “M, R, or K” indicated in Figure 1 next to each activity denotes which instructor was responsible for teaching that concept. Students and faculty alike enjoyed having the different personalities and the extra attention three instructors provided. Since the student to instructor ratio was so small, instructors constantly monitored student performance. Therefore, we assessed each student during board work, individual practice, and games, instead of giving quizzes and exams.

The cost of our theory camp was significantly less than Butler University’s camp. Their camp was a course for academic credit offered at summer tuition rates, and students were responsible for buying their textbook. Missouri State University offers a non-credit four-day course at a commuter rate or on-campus rate. The on-campus rate covers lodging, meals, and instructor costs (\$169 in 2011; \$190 in 2012), and the commuter rate only charged the instructor fees and lunch/dinner (\$108 in 2011; \$115 in 2012).

Each year we modified the camp based on answers to a survey administered the final day of camp. For example, one of the planned activities offered at Butler University included a meal for students and parents with the Fine Arts Coordinator, Music Department Chair, and the theory professors and instructors just prior to the camp. We agreed that this was an excellent opportunity for our students and parents to meet our department and see the campus. However, only one parent attended, and this was an activity that campers indicated as being less valuable. If our camp had been offered just prior to the start of the school year, more parents may have attended as they “sent their student off” to college.

Figure 1: 2011 Missouri State University Theory Camp schedule/syllabus (staff)	
Monday, July 25	
1:00-1:50	check-in for resident students -
2:00-5:00	Session #1 (Ellis 203)
2:00	welcome and overview (M)
2:15	pitch notation – clefs and keyboard (K)
2:45	singing with note names (R)
3:15	break
3:30	intervals – quantity; inversion(M)
4:00	singing – major scale solfege and hand signs; major melodies (R)
4:30	interval quantity drill (K)
6:30	picnic dinner in Phelps Grove Park
Tuesday, July 26	
7:00-8:30	dining hall open for breakfast
9:00-12:00	Session #2 (Ellis 203)
9:00	Dr. Combs to welcome students and introduce herself
9:10	rhythm and meter (M)
9:30	rhythm syllables–simple meter(K)
10:00	interval quality – (M) perfect, diminished, augmented (1,8,4,5)
10:30	break
10:45	singing major melodies; interval ID (1,8,4,5) (R)
11:15	interval drill (1,8,4,5); all quantities
12:00-1:00	lunch
1:00-4:00	Session #3
1:00	interval quality – major, minor (2,7,3,6) (M)
1:30	singing/melody dictation (R)
2:00	interval drill (all)
2:30	break
2:45	major and minor key signatures/circle of fifths (M)
3:15	compound meter syllables (K)
4:30-6:00	dining hall open for dinner
6:00 (6:15)	assemble at Hammons House; head to game
7:10	Springfield Cardinals vs. Arkansas Travelers at Hammons Field
Wednesday, July 27	
7:00-8:30	dining hall open for breakfast
9:00-12:00	Session #4 Ellis 203
9:00	review/drill 3rds (M)
9:30	singing/dictation/interval ID (R)
10:15	break
10:30	review/drill key signatures (K)
12:00-1:00	lunch
1:00-4:00	Session #5
1:00	triads – reduction to close position; quality; aural ID (K)
1:45	singing/dictation (R)
2:30	break
2:45	minor scales (M)
3:30	singing – minor key syllables and melodies (R)
4:00	Carillon tour
4:30-6:00	dining hall open for dinner
7:00	evening activity
Thursday, July 28	
7:00-8:30	dining hall open for breakfast
9:00-11:30	Session #6 Ellis 203
9:00	review/drill triads (K)
9:45	singing/dictation/ID (R)
10:15	break
10:30	review/drill minor scales (M)
11:00	wrap-up; survey (finish by 11:30)
11:45	check out of Hammons House

We also made modifications to the number of sessions and amount of instructional material between 2008 and 2011. Butler University's course offered 17 three-hour sessions. The first year we offered a total of seven three-hour sessions from Sunday afternoon to Wednesday evening.

The next year, to accommodate long drives and scheduling preferences, we offered five sessions beginning on Monday afternoon and ending Wednesday evening. However, faculty and students felt that five sessions seemed too rushed. We now offer six sessions from Monday afternoon to Thursday at noon. We also cut instruction and ear training of seventh chords out of the curriculum (see Figure 1) since this material was not in the original entrance exam and students could benefit from more time practicing basic intervals and triads. In addition, we gave ourselves the flexibility to change our activities or split the class into two or three groups based on the performance of the class for each curricular goal. Figure 1 shows the 2011 schedule of activities and the specific content in our version of the camp.

Results:

Based on the surveys returned by all the students immediately following camp, and the perception of the three instructors, our first year was a huge success. After making modifications to the schedule, the comments from the students were even more positive in the years following. Table 1 shows the average scores on a scale of 1-5 for questions in the survey. Figure 2 includes some representative comments from the surveys for 2008-2010.

Rating scale:	1-Strongly Agree	2-Agree	3-Neutral	4 Disagree	5-Strongly Disagree
1.	There was a good balance between scheduled instruction time and free time.				1.43
2.	Overall, the instruction was helpful to my understanding of music theory fundamentals.				1.57
3.	I feel more confident than before that I will do well in Music Theory I and Ear Training/Sightsinging				1.47
4.	I enjoyed the informal group activities with the RA's				1.57
5.	Meeting other students and getting together outside of class was an important benefit of the Camp.				1.36
6.	I would recommend Theory Camp to other incoming music students.				1.33

Figure 2: Survey Comments 2008-2010

The schedule was perfect, starting at a good, not-too-early time, and breaking it up into 2-3 hour intervals. I feel like I got good class time, but plenty of social bonding time to balance out the work.

Good idea switching out teachers/subjects/methods/breaktime. Perfect equation

The most valuable part of camp was the blend of teaching and socialization.

Seeing the carillon was amazing, and meeting instructors and future classmates ahead of time has helped make me a little less nervous about college and my music courses.

Very balanced. Each teacher brought something unique to their own lessons. Although I had many things to learn, it didn't feel like the material was shoved down my throat.

Everything was fantastic. I appreciated the freedom that the RA's gave us, and also the options they provided. It was nice to have the option of doing my own thing, but feeling welcome to hang with the group too.

The social meetings were excellent! They kept me busy during the free time we had by going to the bowling alley, baseball game, etc. This was an experience I won't soon forget!

The most valuable part of attending Theory Camp was the preparation for my theory classes coming up and meeting my fellow classmates. I loved meeting people that I will study with later in the year.

I had a great experience at Theory camp. Attending this camp helped me understand Theory more, and be prepared in the fall.

Excellent balance! I LOVED the RA's we had! Very educational and fun!

At the end of the 2011 camp, we had the students retake the entrance exam in lieu of completing the survey. All students improved their score on the second exam given at the end of the camp. The average improvement was 23 points (min=8pts, max=57pts, median=18pts). Thirteen of sixteen students scored a 65 or higher on this exam. Three students scored 60 or below on the re-test. One of these students chose not to enroll in the first core class of music

theory. The two other students with low scores on the second exam passed the first test of the semester in Theory I (same content as the camp) but failed the course.

We also looked at patterns of enrollment and completion rates of required theory classes for campers. Table 1 summarizes the data. Of the fifteen campers in 2009, twelve students completed the theory classes required for their major. In 2010, seven of the sixteen campers completed their required theory classes (three didn't enroll at all, and six changed majors during or after the first semester of theory). Of the nineteen campers in 2011, fifteen completed Theory I, three failed Theory I, and one did not enroll. There is no statistical way to compare campers to non-campers due to the number of variables that may have an effect on enrollment and retention for each person.

Table 1
Enrollment and Completion Rates of Theory Campers

Year	Total # campers	enrolled in Theory I	passed/completed Theory I	completed required core for major	changed majors
2009	15	15	13	12	3
2010	16	13	12	7	6
2011	19	18	15	8	10
Totals	50	46	40	27	19

Discussion:

Attending the Missouri State University Theory Camp for incoming freshmen music students was beneficial by providing: 1) improvement of basic knowledge of theory fundamentals and sight-singing; 2) opportunities to meet and work with MSU faculty and staff; 3) activities to help develop relationships with other students in a social and academic setting; and 4) familiarity with activities and services on and close to the MSU campus before starting college.

Students definitely improved their understanding, skill, speed, and accuracy of the content. Through worksheets, board work, and games, instructors were able to assess each student and found an improvement in all campers from day one to the end of camp. In the 2011 camp, students improved an average of 23 points when taking the entrance examination a second time.

Theory camp is also an opportunity for students to find out if they are truly interested in majoring in music. In 2011 one student chose not to enroll in Theory I. In 2010, three students did not enroll in Theory I, and three others changed majors, either completing Theory I (two) or dropping Theory I (one) mid-semester. For students who chose not to enroll at all, this camp gave them a valuable opportunity to experience the academic demands of a music degree, allowing them to change majors before spending money on tuition and losing a semester in their new degree path.

Many students commented in the survey on their improvement of basic skills due to the team teaching approach to instruction. The schedule was carefully arranged to change concepts and instructors approximately every 45 minutes. This schedule allowed a comfortable pace of instruction and enough variety to keep the students alert, interested, and attentive. Theory

activities for three hours at a time could be daunting, but comments about the length of sessions or pacing were positive. Several instrumentalists also commented on their improved confidence in singing and sight-singing using solfège syllables, and expressed appreciation for including that material in the camp. These singing activities also allowed an immediate application of each concept, resulting in a deeper understanding.

Scheduling three instructors for the camp allowed more assessment opportunities and the ability to break up into groups based on skill level. Modifications were made to the schedule to allow students more time to master specific skills. We often offered students chances to break into three small classes to review the skill they felt needed more practice. Our first year, we had several AP Theory students in addition to students who had no experience with music theory. Therefore, the class was split into two sections for the final day; one advanced group working with seventh chords, and a group working on intervals and triads.

In addition to meeting several of the theory faculty, students met the Department Head, the Dean of the College and the office staff. They were also able to orient themselves to the music building, libraries, computer labs, dormitories, cafeterias, student center, bookstore, and other buildings and services available on the MSU campus. Some students even chose to get their student ID made, buy textbooks, and inquire about financial aid before the busy beginning of the semester.

Though several social activities were scheduled, students were given the choice whether or not to attend every social function. Since almost all of the campers were adults entering college, MSU was not required to provide transportation or constant supervision, though we had two upper-level undergraduate music majors employed as Resident Assistants. The RA's stayed in the dorms and acted as tour guides throughout the camp, and occasionally helped out during

the academic sessions. Students experienced the freedom normally encountered in college life, some for the first time. The only required social activity was the opening night picnic. The next evening, campers were offered the option of going to a Springfield Cardinals baseball game, and the final evening was free. Students chose to go bowling, watch a movie, play laser tag, or just hang out at the dorm. Many positive comments were expressed in the student surveys about the flexibility of their free time.

While providing benefits similar to Butler University's ten-day "Elements of Music" course, we found that the shorter four-day camp was effective in preparing students for the first semester of the core theory sequence. Like Butler's camp, the content was presented with a team teaching approach in a focused but relaxed classroom atmosphere incorporating games, singing, relays, and a variety of other activities. In addition, Missouri State University campers reported social benefits similar to those experienced in the Butler University course. Our camp was offered at a relatively low cost with few logistic problems, and allowed underprepared students to enter the theory sequence in their first semester, thus avoiding falling behind a year in their course work. We strongly recommend this format to any institution searching for ways to improve their incoming students' skills in music theory.

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