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Listening to the Voices of Teacher Candidates to Design Content Area Literacy Courses

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While teacher candidates take courses that prepare them to deliver content in secondary content area classrooms, they often lack the knowledge necessary to help their future students learn discipline-specific information through the use of literacy strategies. In many cases, content area teacher candidates do not view themselves as literacy educators, believing instead that English teachers or elementary level educators are responsible for developing the reading and writing skills of students. However, development as teachers of literacy is possible. Through a content area literacy course taken as part of a teacher preparation program, secondary content area teacher candidates reported changes in their perceptions of and willingness to use literacy strategies to improve the learning outcomes of their students. Through pre-course and post-course surveys, teacher candidates reported an expanded understanding of the importance of literacy in the development of content knowledge.

Realizing the importance of educating future teachers to address the literacy needs of their students, the majority of the state departments of education in the U.S. mandate that secondary content area teacher certification programs include one or more content area literacy courses. The purpose of these courses is to provide content area teachers with literacy strategies that will facilitate their students' comprehension of discipline-specific content (Draper, 2008; Draper, Smith, Hall & Siebert, 2005).

The Common Core State Standards for English Language Arts and Literacy (CCSS) (2010) which emphasize literacy integration in content area instruction place new demands on both teacher candidates and teacher educators. Considering that literacy demands are discipline-specific, middle/secondary content area teachers have to be able and willing to integrate literacy

strategies into their instruction (Carter & Dean, 2006; Friedland, del Prado Hill & McMillen, 2011; Marri, et al., 2011; Moje, 2008; Shanahan & Shanahan, 2008). Secondary education teacher candidates, therefore, need to learn discipline-specific literacy strategies and develop an understanding that literacy is not something additional that they have to teach but rather a means to build content knowledge (Gillis, 2014; Hynd-Shanahan, 2013; Lester, 2000; Shanahan & Shanahan, 2008).

Fisher and Ivey (2005) note that many secondary teacher candidates enter content area literacy courses without understanding the relevance to their content instruction. They assert that the teacher educator "... will have to spend the first few classes, at the very least, helping students understand why literacy is critical to all subject areas" (Fisher & Ivey, 2005, p. 4). Moreover, research findings on the impact of these courses on teacher candidates' attitudes toward content area literacy courses have been equivocal. For example, Christiansen (1986) found that 85% of the 248 secondary teacher candidates who completed a content area literacy course reported that such a course should be required, while Lesley (2014) reported that teacher candidates often remain skeptical as to why these courses are required and question their relevance to content instruction. There is also some indication that attitudes may differ depending on the teacher candidates' content area (Draper & Siebert, 2004; Draper, et al., 2005; O'Brien & Stewart, 1990; Siebert & Draper, 2008). For example, Darvin (2007) found that secondary mathematics teacher candidates in her content area literacy classes were "...often quite vocal about the fact that they want to teach math... not literacy" (pp. 246-247).

In a survey of 185 practicing secondary mathematics teachers, McMillen, del Prado Hill and Friedland (2010) found that these teachers reported a lack of awareness of literacy strategies and how to integrate them into mathematics instruction. The pressure to cover content was also reported as an obstacle that prevented teachers from implementing the literacy strategies that they did know. Since the goal of content area literacy courses is to effect a change in the pedagogy of middle and secondary teachers, designing effective courses that will promote a positive change in the attitudes and practices of future teachers is essential. There is some indication that a course can make a positive impact if the content area teacher candidates are guided to see how literacy strategies can be used specifically to promote disciplinary literacy (Johnson, Watson, Dalhenty, McSwiggen & Smith, 2011). Therefore, teacher educators need to

design assignments and discussions to help these teacher candidates understand that literacy instruction and content instruction are not mutually exclusive (Conley, 2012; Masuda, 2014).

Course Content

Goals and Purposes

Ellen, one of the authors, developed her course, Teaching Literacy in the Middle and Secondary Schools, to effect change in the teacher candidates' ideas of what "teaching literacy" means. This course is the first of two literacy-related courses required for all secondary education majors at the college to fulfill the state certification requirements for literacy. When the International Reading Association published its first position statement on adolescent literacy in 1999 (see Moore, Bean, Birdyshaw, & Rycik, 1999), it became the starting point for the Ellen's content area literacy classes' discussion. In its 2012 position statement, the International Reading Association reiterated its stance on adolescent literacy and stated: "Adolescents deserve content area teachers who provide instruction in the multiple literacy strategies needed to meet the demands of the specific discipline" (International Reading Association, 2012, p. 5). Furthermore, the International Reading (Literacy) Association's *Standards for Reading Professionals* (2010) indicate that middle and secondary content areas teachers should be aware of how reading and writing relate to their content areas and how to "...implement and evaluate content area instruction in each of the following areas: vocabulary meaning, comprehension, writing, motivation and critical thinking" (International Reading Association, 2010, p. 20). Additionally, the CCSS' (2010) call for integrated cross-curricular literacy at all educational levels as a "shared responsibility within the school" (CCSS, p. 2) supports the longstanding position of the International Literacy Association. Each of these documents contribute to the underpinnings for the course's learner outcomes and serves as the platform to promote the credibility and relevance of literacy instruction. Moreover, the learner outcomes for the teacher candidates in the course also stem from the college's teacher education unit's mission to prepare teacher candidates. When creating the course, Ellen considered the following outcomes required of all teacher education courses at her institution:

Content – The teacher candidate will know the subject matter to be taught to P-12 learners in his/her certification area.

Learner – The teacher candidate will understand P-12 learners' socialization, growth and

development; the learning process; reflection of teaching; and the establishment of a classroom climate that facilitates learning.

Pedagogy – The teacher candidate will attain an understanding of the strategies that candidates use to teach all learners.

Technology – The teacher candidate uses technology as a vehicle for learners to acquire information, practice skills, use higher order thinking skills, and participate in collaborative projects.

Reflection – The teacher candidate exhibits the ability to reflect and assess his/her own effectiveness, and to systematically make adjustments to improve and strengthen areas needing attention.

Dispositions – The teacher candidate demonstrates respect for learner differences, commitment to own personal growth, and engagement in short and long-term planning.

Diversity – The teacher candidate is aware of and sensitive to diversity issues and uses culturally and socially responsive pedagogy.

Ellen's specific literacy course student outcomes are as follows:

1. Develop an awareness of the importance of adequate literacy skills and strategies that facilitate their students' learning of content area material.
2. Exhibit a working knowledge of a variety of literacy strategies that promote comprehension, vocabulary development, writing and study skills that can be incorporated into content area instruction.
3. Recognize specific reading problems students encounter related to each content area, such as specialized vocabulary, difficult concepts, graphic materials and symbols.
4. Exhibit a working knowledge of strategies to develop students' higher order thinking skills such as making inferences, forming evaluations and making critical analyses.
5. Apply their knowledge to design lessons that incorporate a variety of literacy strategies into content area instruction.
6. Demonstrate how to use a wide variety of materials such as trade books, newspapers, magazines, and other forms of media in the content areas.
7. Recognize the wide variety of interests, backgrounds, and abilities of adolescents and know how to group and adjust assignments for optimal instruction.

8. Develop strategies that promote responsibility, motivation, and an appreciation for diversity.
9. Apply informal assessment techniques.
10. Apply culturally and socially responsive practices in the instruction and assessment of all students.
11. Develop a working knowledge of the Common Core Learning Standards and the New York State Standards in the teacher candidate's specific content area.

The teacher candidates often enter the course with limited knowledge of what literacy or text is. Since she began teaching the course in 1999, Ellen has strived to convince these teacher candidates of the importance of literacy within each of their disciplines. Providing experiences that help teacher candidates understand how and why the strategies are effective has been shown to positively impact their attitudes toward literacy integration. Therefore, if teacher educators incorporate opportunities to apply literacy strategies to discipline-specific texts (Lesley, 2014; Masuda, 2014; Nourie & Lenski, 1998), design lesson plans, and allow for reflection on practice (Masuda, 2014), attitudes toward literacy integration may improve.

Focus

The course focuses on literacy integration as a shared responsibility among content area teachers and on the specific literacy demands of each discipline. Although there were some changes in the course assignments, readings, and delivery (starting in fall 2013, 6 of the 28 class meetings were online) the content has essentially stayed the same. The course is designed in sections focusing on vocabulary, comprehension, writing, and study strategies. Discussions about how to use resources other than the textbook (e.g., trade books, online resources) took place throughout the semester.

The first two weeks of the course focus on readings and discussions about adolescent literacy, the definition of "text," the International Literacy Association's *Adolescent Position Statement*, and the CCSS in Literacy and English Language Arts. Most teacher candidates begin the course with a limited understanding of literacy and of how to define "text." For the purpose of the class, the definition of "text" is "...sets of potential meanings and signifying practices adhering for readers and writers in both local and larger discourse communities" (Neilson, 1998, p. 4). During this time, the teacher candidates are grouped "heterogeneously" in mixed content

area groups. It is Ellen's goal that the teacher candidates begin the course learning about other disciplines and other teacher candidates' views to help them understand literacy within the context of adolescents' learning experiences. Discussion addressing the needs of all learners including English Learners is ongoing throughout the semester.

Throughout the semester, the teacher candidates are asked to reflect (in writing and in discussion) on their own literacy experiences, their view of literacy in their content area, and on their responsibilities as teachers. Ellen discusses her past experiences as a high school English teacher and literacy specialist. She also shares anecdotes of her own children's experiences: students who excelled academically but when they reached high school could not retain the vast amount of content because they were never provided with strategies to do so.

Because Ellen wants the teacher candidates to see how literacy strategies can facilitate content knowledge in different disciplines, she models the use of a literacy strategy using specific content material and stresses that the strategies can be modified to suit the content being taught. She uses texts from different disciplines during modeling and discusses how using the strategy addresses the CCSS. The teacher candidates then work in "homogenous" content area groups and use discipline-specific material to apply the strategy. Because teacher candidates should be engaged in critical discussions about how well the strategies work with different texts in specific contexts (Fisher & Ivey, 2005), Ellen works with the groups and engages them in a discussion of why they selected the specific strategy and how they may apply the strategy as is or modify it based on their students' needs.

Later, the groups present their work to the class and discuss why they selected the specific strategy, how using the strategy facilitates content learning, and how the implementation of the strategy and the content address the literacy CCSS and their specific content standards. These presentations allow the teacher candidates to see how the same strategies can be used and/or modified in different disciplines and how they can support students' content learning.

Requirements

The course requirements include several assignments in which the teacher candidates are asked to reflect on how the literacy strategies discussed in class can be specifically used in their content area instruction. The major assignments include a strategy portfolio and two lesson plans. The portfolio includes four sections of literacy strategies: vocabulary, comprehension,

writing, and study. The course's emphasis on these four core areas of strategies addresses the English Language Arts Common Core Standards' focus on academic vocabulary, critical comprehension of literature and informational texts, and writing across the curriculum. Each section contains templates and examples of strategies modeled by Ellen and then applied by teacher candidates during collaborative group work as well as those strategies explored in the online assignments. After each portfolio section is completed, the teacher candidates write a reflection in which they select one strategy they thought they would use in their future instruction and describe how they would use it to address the needs of all of their students and how it addresses the CCSS. When describing this assignment to the class and throughout the semester, Ellen stresses how the information included in the portfolio will serve as an excellent resource for developing future lessons. Ellen also discusses how the portfolio will help the teacher candidates prepare for interviews for teaching positions if asked how they will address the CCSS in their instruction.

One lesson plan assignment focuses on a vocabulary strategy and a second one requires that teacher candidates incorporate either a comprehension or study strategy. The second lesson plan is presented in class as a micro-teaching situation as if the teacher candidates were the students in that specific class. Simulated lesson presentations can help teacher candidates become more comfortable with implementing the strategies in authentic settings. After completing the lesson, the teacher candidates complete a guided reflection discussing why they selected the strategy and any modifications they would make in the lesson. Reflecting on the lessons can help the teacher candidates engage in critically examining how well the strategy worked within the specific context.

Data Sources and Analysis

Teacher candidates completed a pre-course and post-course survey. The pre-course surveys are designed to provide information about the teacher candidates' background (e.g., previous education courses completed, work experience) and professional goals and to determine their background knowledge of literacy and literacy strategies. There are also questions to reveal the teacher candidates' expectations of their future students' literacy needs. The post-course surveys includes many of the same questions that were on the first survey but also includes an additional question "How has your view of literacy instruction changed from the beginning of

the semester? Explain.” Data from post course surveys of 140 junior, senior, and post-baccalaureate teacher candidates (55 male, 85 female) in 13 different middle/secondary education majors at a four-year public college located in an urban area were included in the study (see Table 1). The data were gathered over nine semesters (spring 2010 through fall 2014).

Our data analysis involved an iterative process of comparative analysis (Glaser & Strauss, 1967) in which the authors wrote, exchanged, and discussed theoretical memos that highlighted emerging themes, including similarities, contrasts, divergent findings, and questions. When initially reviewing the data for the post-course survey question, we each listed the reasons the teacher candidates reported for how their views changed or how and/or why they stayed the same. We shared our lists and created a final master list. We then individually evaluated the responses and wrote memos as to the reasons for our categorization, compared our analyses and came to a consensus when there was a difference in interpretation.

Changes in Views of Literacy Instruction

In the post-course survey, 98 percent of the teacher candidates noted that their view of literacy instruction in their content area changed for several reasons (see Table 2).

Who is Responsible for Literacy Instruction

Forty-five percent of the teacher candidates indicated that their view of who is responsible for the literacy of their students changed. Overall, these teacher candidates stated that they now believe that (1) all content area teachers are responsible, (2) the teacher candidate himself or herself is responsible and/or (3) not only the English teacher is responsible.

After completing the course, the teacher candidates seem to realize that all content area teachers need to address specific disciplinary literacy demands. In addition, some teacher candidates reported that they now understand that they specifically have the responsibility for their students' literacy:

LOTE: I never thought that it was my job as a Spanish teacher to teach literacy in my classroom but now I see, to help students succeed, we all need to have some sort of literacy instruction in our classrooms!!

FCS: At the beginning of the semester, I did not realize how important teaching literacy in my content area was. I now realize it is my responsibility as well to help students with their reading and incorporate reading, writing, listening and academic vocabulary in each of my lessons.

Others mentioned that they now know that not just the English teacher is responsible for developing lifelong literacy skills:

TECH: My view has changed greatly. When I first realized that I had to take a literacy class as a Technology major, I wondered why it would even be a requirement. To me, teaching reading and writing was the job of an English teacher or possibly social studies, certainly not a Technology teacher. Now, I realize how important it is to teach students good reading and writing habits in every content area. It may not be easy to do but it is my responsibility as well as every other teachers to make sure that every student has the reading and writing experiences needed to be successful beyond their time spent in middle or high school.

BUS: I always thought the English teachers taught students how to read but now I realize that every subject area can enhance reading. I want to help incorporate lifelong reading into my own content area because it can help benefit students' futures in all areas of education. I used to think that literacy instruction should be mainly focused on in English content areas.

MATH: After this semester, I realize that literacy instruction is necessary for all content areas in order for the students to understand and comprehend the content. A student may be able to read a fiction novel just fine, but when reading a math textbook is completely lost because they don't understand the mathematical vocabulary. It wouldn't make sense for the English teacher to help that student with the vocabulary; the math teacher would have to focus on that.

Interestingly, even an English teacher candidate did not realize that literacy was the responsibility of teachers in all disciplines and not just his until participating in this course:

At the beginning of the semester, I honestly had no idea how important reading and writing across the curriculum was. As an English teacher I find it a relief that the responsibility will be shared with other content area teachers.

Importance of Literacy

Almost thirty-four percent of the teacher candidates indicated that they now know how important literacy is in their content area and in all content areas:

LOTE: At first, I did not realize the importance of literacy. Moreover, I was not aware of all the different and creative literacy strategies that can be applied to almost any content area. I knew students were going to be on all different levels of reading and writing but I didn't think that teachers also have the duty of teaching literacy, in addition to their content area instruction. Being knowledgeable of the importance of literacy strategies, I will make it my goal to incorporate them into my lesson instruction.

MATH: I have learned so much about literacy instruction in mathematics. Before this class I never would have thought teaching vocabulary and other literacy strategies was important in mathematics at all. Now I have learned ways to teach literacy and mathematics at the same time.

TECH: In short, at the beginning of the semester I really believed there was little room to incorporate literacy in my Technology classrooms. However, after taking this class I can see now how important it is and understand how to do so. I am actually kind of motivated to find new ways to be able to incorporate literacy skills into my lesson plans and hopefully give students a new medium in learning the necessary literacy skills that they as human beings will need in the "real world."

New View of literacy

Almost 29 percent of the teacher candidates noted that they developed a better understanding of what literacy is and the need for content area teachers to address the different disciplinary demands of texts in order to help their students comprehend content.

MATH: The biggest change for me happened at the beginning of the semester as I came to a better understanding of the term literacy. Before this class, my view of "literacy instruction" in math involved having to work on reading and writing in math class, which I felt should be the English teacher's job. However, literacy is more than just the skills learned in English class, encompassing skills learned in

any content area, which allow a student to better comprehend the material by interacting with the text in a different way. Naturally, engaging in the strategies we discussed in any subject will also make the students stronger readers and writers.

SS: I still feel that literacy instruction in my content area is very important. Now I am much more aware of the diverse array of great strategies that teachers should use in the classroom. I also view literacy much more broadly than before - photos charts, graphs, timelines are texts that students should be instructed on how to examine.

MUS: I was under the impression that much of what was expected of me was having the students do excessive reading and writing in English and that it often would take away from music teaching. Now I realize that the definition of text is broad and music literacy can be my focus. I also learned that there are many traditional literacy strategies that can easily propel a music lesson forward and be beneficial. The integration is much easier than I originally believed.

ENG: Now I realize that every teacher has to teach how to read in their specific content area. Reading is not just about reading words either. It includes different forms of text and even symbols.

Students Need Skills and Strategies to Learn Content

Twenty-three per cent of the teacher candidates indicated that they now realize that teachers should not just disseminate content and that their students need to have tools to learn the content:

LOTE: I thought that teaching reading was basically teaching them how to put letters together to make words and then put words together to make sentences, and so on. Now I know that you have to help them using some strategies that will make it easier for them to comprehend what they are reading.

MUS: At the beginning of the semester I really thought that literacy instruction in the music classroom was very difficult, if not impossible. However, now I see that by using the right strategies it is actually easy to incorporate literacy instruction into music. Also, I've learned that it is more beneficial for your content area

instruction if the students are very literate. The stronger the students' literacy skills, the more information they comprehend and retain. This is why it is possible and necessary to incorporate literacy instruction into your content area.

SS: I have realized that teaching is not just teaching our students our content but actually teaching the students to become better students in any content through an increased comprehension of the material that they read.

Use of Literacy Strategies

Over half of the teacher candidates noted that there was change from the beginning of the semester because they now know how to use literacy strategies (n=61) and different resources (n=13):

SCI: I did not think that there were many ways to teach literacy in my field of science. But this class really showed me how to incorporate many types of literary strategies into a lesson. It's important to use a literary strategy in every lesson and I now know a bunch of different strategies to use. Some work better than others but it shows me how to get vocabulary or concepts across to my students other than by just taking good notes... It takes a lot of work to have a student gather information and really understand it.

SS: I think coming into the semester I had a very narrow view of literacy instruction and strategies. I think after taking this class and reading the textbook my view of what literacy instruction is has expanded. Before this class I knew that every teacher should be a teacher of literacy but now I know how to better go about using ideas I have learned in this class. I think I better understand that instead of sticking with novels and textbooks, I can use graphic novels to get students interested in otherwise dry subjects.

ENG: I have a larger collection of literacy strategies to add to my resume. I have always believed reading is essential to success in all areas of education, but now I have a better understanding of how to help others who may not share my enthusiasm. Providing the students with a variety of choices in regard to reading material can help spark enthusiasm and empower them.

Twenty teacher candidates' views changed in some ways but stayed the same in other ways. Several teacher candidates reported that they always knew that literacy was important in their content area but they now have learned ways to integrate literacy into their teaching that can impact student learning:

LOTE: My view of teaching reading hasn't really changed, what has changed is I now have many tools and strategies to implement in my lessons to help students read efficiently and critically. I now understand that we teach reading in all content areas and that what strategies we teach will make it easier for students to understand.

ENG: I feel as though my view of literacy instruction has changed a little since the beginning of the semester in the sense that I feel as though I am actually equipped with more to combat anti-literacy in the classroom. I always felt the same about teaching literacy.

Three teacher candidates' survey responses indicated that they did not change in their views at all by the end of the course. All three noted that they started the course believing in the importance of literacy and maintained that belief:

ENG: I have believed since the beginning of the semester that it is the duty of every teacher to teach literacy, which has not changed.

MUS: I honestly don't think my view of teaching reading in the classroom has changed much. I already have classroom experience so I know first-hand how valuable reading is, and I did have a student who was held back 4 times because he struggled so bad with reading. Although my views have not changed it was nice to see everyone else's views become the same as my own, that reading is important and essential, regardless of what you are teaching.

SS: I think the same, literacy is important in the classroom. As teachers we need to help the students get prepared for college.

Final Thoughts

Although there are areas for continuing improvement, it is encouraging that when content area teacher candidates complete one literacy class, they seem to develop an understanding of the importance of literacy within their disciplines. By the end of the course, the majority of teacher

candidates in all content areas seemed to have changed their views about literacy integration. They appreciate having a portfolio containing literacy-focused instructional strategies to incorporate into their future lessons. This appreciation is also indicated in the college's course evaluation administered at the end of the semester. Most teacher candidates note that learning and applying the strategies and completing the portfolio assignment and having it as a resource for future teaching were extremely beneficial. Moreover, several teacher candidates indicated that the course helped lessen their apprehension about teaching and made them feel more confident:

SS: My view of teaching reading to students has changed from that of fear to confidence. The task of developing student reading ability seemed daunting at the start of the semester, but as I was introduced to new strategies and implemented them in lesson plans I realized how easy it can be. I am grateful that you had us compile this portfolio, as I am sure I will reference it when planning lessons in the future.

TECH: I always thought it was important to incorporate reading into my classes, I feel more confident that I can use effective reading and writing strategies to accomplish that. After this course, it does not seem so daunting to try to include reading and writing in my class regularly.

We offer the following suggestions based on our findings and Ellen's experiences to help teacher educators develop their content area literacy course to impact secondary teacher candidates' views of literacy:

1. Identify teacher candidates' misconceptions about the meaning of literacy and text and develop common definitions together.
2. Explore literacy within the context of the teacher candidates' disciplines and discuss interdisciplinary differences and similarities.
3. Provide opportunities for teacher candidates to reflect on their perceptions of their role in the literacy development of their students.
4. Encourage content area teacher candidates to share views about literacy within their content area.
5. Conduct learning activities that demonstrate the significance of content-area literacy for both learning content and developing literacy.

6. Discuss the Common Core State Standards as well as the teacher candidates' specific content area standards and how integrating literacy strategies addresses both sets of standards.
7. Provide practice using strategies such as graphic organizers that will help teacher candidates support the literacy development of students in their content area and across content areas.
8. Model applications of the literacy strategies using discipline-specific texts.
9. Promote teacher candidates' ongoing reflections on how the strategies can be used in their specific content area and how they facilitate student learning.
10. Allow for collaboration among teacher candidates to discuss the strategies and apply the literacy strategies.
11. Give opportunities to design and execute lesson plans integrating literacy strategies in a classroom environment (even if simulated) and encourage reflection on the lesson's effectiveness.
12. Introduce teacher candidates to alternative multimodal forms of text that they may use with their students such as trade books and online texts.

The teacher candidates finished Ellen's course with optimism, confidence, and knowledge of the expectations of their profession. As one mathematics teacher candidate noted: In the beginning of the semester I thought that literacy for mathematics was a dumb idea and that I was wasting my money on this school for a required class. Now I am happy for what I have learned this semester. I know for a fact that it has made me a better teacher. I feel now that I am better off in a classroom with the strategies I have learned.

If teacher educators develop courses that can change teacher candidates' attitudes toward literacy integration, there is hope that those future teachers will take the tools they learned in their literacy courses, implement them in their classrooms, and share them with their colleagues to possibly effect school-wide changes. Determining whether teacher candidates integrate content area literacy into their classroom practices is a goal for future research.

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Table 1

<i>Teacher Candidates by Content Area (n=140)</i>	
Education Major	#
Biology (SCI)	1
Business (BUS)	4
Chemistry (SCI)	1
Family and Consumer Sciences (FCS)	1
Earth Science (SCI)	1
English (ENG)	27
French (LOTE)	2
Mathematics (MATH)	38
Music (MUS)	16
Physics (SCI)	1
Social Studies (SS)	30
Spanish (LOTE)	7
Technology (TECH)	10

Table 2: How has your view of literacy instruction in your content area changed? (n=140)

	CONTENT AREA:									
	BUS	FCS	ENG	LOTE	MATH	MUS	SCI	SS	TECH	TOTAL
View has changed	4	1	27	9	38	15	4	29	10	137
<i>Teacher candidates now:</i>										
View all content area teachers as responsible for literacy instruction.	1	1	7	5	12	8	2	6	3	45
Know how important literacy is in all content areas.	1	1	5	4	16	8	1	8	3	47
Have a new view of what literacy is.	2	0	6	2	14	4	0	9	3	40
Have a new view of what a text is.	0	0	1	0	4	2	0	2	1	10
Realize that not all students will be able to read the texts.	0	0	5	1	0	1	0	2	2	11
Understand that students need skills and strategies to learn the content.	0	0	5	4	9	4	1	4	4	31
Know many literacy strategies to use with their students	1	0	14	4	15	5	3	15	4	61
Know how to use different types of resources.	1	0	4	0	3	0	0	5	0	13
Believe it is not as difficult to incorporate literacy into instruction as previously thought.	0	0	0	0	2	2	0	3	1	8
View has not changed	0	0	5	1	2	3	1	9	2	23*
<i>Teacher candidates always:</i>										
Knew how important literacy is in all content areas.	0	0	2	0	1	2	1	7	2	15

Believed s/he was responsible.	0	0	2	1	0	1	0	1	0	5
Believed that all content area teachers are responsible for literacy instruction.	0	0	1	0	1	0	0	1	0	3

* Twenty of these teacher candidates stated that they had some views that stayed the same and some that changed. Three of the teacher candidates (one English, one music, and one social studies) indicated that their view had not changed at all from the beginning of the semester.