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TheWritingContinuum.com:
Expansion and Documentation of a Web Application

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Abstract

With the introduction of new summative writing assessments in 30 states, there is a need for schools to be able to have a tool for easily assessing students' writing achievement and growth throughout the year. A new scale called the Universal Writing Continuum (UWC), originally The Writing Continuum, has been created by Dr. Deborah Powell to access students' writing based on 10 unique criteria. TheWritingContinuum.com is a web-based application used by teachers, principals, district administrators and parents to score, review, and report on the evaluations of students' writing submissions. The purpose of this project was to expand the functionality of UWC, document the current capabilities in a comprehensive technology plan, improve the overall user experience and evaluate ideas for future expansion.

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Chapter 1: Introduction

In the education community there is a shift in belief of how a student should be assessed. In the past, teachers assigned a letter grade of A-F at the end of the grading period, and the student knew how well they were doing in that grade level. The letter grade of an "A" in 5th grade meant that you were near the more advanced levels of your grade, but this summative assessment, or end of term assessing of learning, was very subjective from teacher to teacher and grade level to grade level. It also did not inform the teacher or student about the steps required to help students make progress in their learning. With 30 states beginning to assess writing on national tests at the end on 2014-2015 school year, schools are in need for a method for tracking students' progress prior to the end of grade test. One idea is that students can be assessed on a continuum for formative assessment (the assessment before and during learning that informs strengths and needs) based on the national standards rather than a letter grade of A-F. Proficiency levels are established for each period of each grade level based on a set of standards. If students are making the expected growth, they will stay within this proficiency range on the continuum. If they are advanced, their strengths will be identified in levels above the proficiency range on the continuum. Vice versa, if they are working below level, they will be rated at a level below the proficiency level for their grade. The strengths of a continuum are two-fold: teachers are clearly informed of the expectations for proficiency at their grade level and there is a developmental next step for the students to strive for, whether this is to reach proficiency or to go beyond proficiency. Teachers can assess students on this continuum at any stage of learning and the school or district can

establish benchmarks to indicate students' progress.

The Universal Writing Continuum (Powell, 2012) is an online, formative assessment tool that provides teachers the ability to score students' writing with a continuum scale. The continuum now ranges from level A, Emergent Literacy (pre-K to beginning of K), to level N, 12th grade-Advanced (equivalent to College Freshman English; see Appendix A). In Kindergarten, there are three levels of proficiency (Level A, Emergent: August to November; Level B, Novice: December to March and Level C, Independent or meeting the end of Kindergarten standards: April to July). In first grade through eighth grade, the proficiency level on the continuum at the beginning of the grade level is the same as the end of the previous grade to allow students to strengthen their skills before moving to the next level. In January, the continuum's proficiency level shifts to the standards of the current grade level, the level students are expected to meet at the end of the grade.

In 9-12 there are three levels for the 4 grades because the standards are written for grades 9-10 and 11-12.

Chapter 2: Background and Related Work

2.1 History

Dr. Debbie Powell, an associate professor in the Watson School of Education, originally created this system's idea in 2004 as a way for her undergraduate students to assess strengths and needs of their elementary tutees. In 2010, Melissa Nicholson Clark and Dr. Powell correlated the continuum to the new national standards, the Common Core State Standards adopted by 45 states.[1] In 2011, Dr. Powell, after determining from research with local schools that a computer application would be helpful, enlisted the help of MSCSIS master student Zach Wilson to help build a tool that would allow teachers to maintain the scores of their students' writing based on the new continuum. Wilson received credit for a Directed Independent Study while building the database and a working prototype for the system. The system needed to be easily accessible from anywhere, so a web based implementation was chosen. ASPX and Visual Basic were chosen as the languages of choice for the front-end of the application due to their enterprise level durability and easy to follow syntax. Microsoft SQL was chosen as the back-end database because of its durability as well as its compatibility with the ASPX/VB front end. Zach trained me on how the system was developed, and I began working on the project in the summer of 2012.

In 2012, Dr. Powell formed the company Uni-Spire in association with the University of North Carolina Wilmington and its College of Education. Since that time, there have been 5 additional technology students hired to also develop other aspects of the continuum. I have trained all of these students and have been instrumental in helping Dr. Powell in designing additional features of the system.

2.2 Related Products

There are currently three writing assessment tools that could be considered related to the Universal Writing Continuum Assessment tool. The first is a product by Pearson Education

called 'Write to Learn'. 'Write to Learn' is a fully automated online literacy tool for building writing skills and developing reading comprehension in grades 4-12 [6]. A second similar writing assessment tool is "NC Write" by Measurement Inc. NC Write is intended for students in grades 3-12 and also provides an automated assessment of a student's writing. 'My Access' by Vantage Learning is the third known competitor. "My Access School Edition is a Web-based, cross-curricular program that transforms writing instruction and assessment by applying superior artificial intelligence and linguistic technologies to the writing process" [4].

2.3 Problem

All three of these tools grading criteria are based on the Common Core Standards, similar to the Universal Writing Continuum. Also, all three of these assessment tools provide an automated assessment that provides an automatic grade to students without instructors ever having to read the students' writing. This is convenient for teachers because they now have more time to spend on other activities rather than grading. At the same time, it does not encourage the teacher to read each student's writing and prevents teachers from have a true understanding of where each student's writing skill level is and, therefore, not assisting the students to reach their learning potential. UWC requires teachers to read each student's

writing submissions and score the paper on any of 10 unique criteria that provide clear feedback to the student.

Chapter 3: Current Functionality and Definitions

3.1 Terms

TheWritingContinuum.com, now *The Universal Writing Continuum (UWC)* – Is a web based application, written in ASPX and Visual Basic that allows teachers to score students writing, based on a list of 10 criteria. The UWC is also a website for principals and district administrators to view reports of students, grades levels, schools, and districts to confirm learning proficiency.

Evaluation Score (ES) – This is the record of one paper for one student within UWC application. This would relate to a paper with an A on it and the comment "Good Work" in the current education, grading paradigm. A full evaluation score has the follow attributes: Title, Paper Type, Draft Number, Teacher Notes, Student Feedback, Evaluation Period, A-N scoring for 10 criteria, and a Holistic Score for the paper.

Evaluation Period (EP) – An EP is a month or milestone used to track when a student's ES was submitted. Evaluation Periods are the months of the year (January, February …) and "benchmarks," such as Beginning of Fall, and End of First Semester. These EPs are used by the system to determine normal proficiency based on month and grade.

Benchmark – This is an evaluation period that marks a milestone for students. Benchmark Evaluation Periods include Beginning of Fall, End of First Quarter, and Middle of Fall Semester (equivalent to Mid Term in the current grading paradigm), End of Second Quarter, etc. The school district chooses the benchmarks they want to use and informs the teachers.

Criteria – This is the list of ten elements of writing makes up the primary

content of an Evaluation Scores (ES). Criteria include Ideas/Content, Organization/Structure, Voice/Point of View, Word Choice/Description, Sentence Structure/Fluency, Conventions, Presentation/Publishing, Writing Process, Research/Writing to Learn, and Attitude/Range of Writing. Each of these criteria are scored on an A-N scale and averaged for the ES for each student.

3.2 Current Roles

Teacher – This is the primary role of the system. Teachers are the primary data entry users and produce most of the data that reports are run against. The help and resources are also geared towards assisting teacher's to enhance their teaching styles and techniques. The brand of Uni-SPIRE is "Inspiring teachers to inspire students."

Principal, School Administrator – This role is provided so that principals can run reports for a particular teacher or grade level. Principals can then access the status of a teacher or grade level and make changes if needed. Principals are able to drill down all the way to the student level and may view a student's individual ES.

District Administrator – This role is used by superintendents or district-level curriculum administrators. District administrators are able to run reports across grade levels within an entire district, or within a school. District administrators may drill down to a class but may not view a particular student's ESs.

Researcher – This role was created so that researchers may have access to anonymized data to run custom reports on student's ESs. A researcher may view reports at a high level across an entire district, like a district administrator, and may drill down all the way to a student's particular ES, like a teacher. For each report, the student and teacher's name is replaced with

a system generated ID.

Web Administrator – This role is used to manage some of the system's individual components. Web admins may create and manage individual users as well as their role in the system. Web admins may also create and manage district and schools as well as school codes, which are given to teachers to register. The web admin also has the ability update the text that appears for each level of the continuum for each criterion. Lastly, the web admin can update the glossary, the quote of the day, text on the teacher dashboard and school types. This role could be considered the "Back End" admin of the system.

3.3 Workflow

In UWC the primary user is the teacher, as the teacher is the source of the Evaluation Scores. A Teacher in UWC begins "enrollment" by registering with a school code given to them by Dr. Debbie Powell. Once a teacher has registered themselves, a teacher then creates classes and assigns students to their classes. The teacher gives a writing assignment to the students and collects their submissions. Teachers may also evaluate students' writing that is not related to a particular prompt or assignment. The teacher will then create Evaluation Scores for each student's writing submission. Digital copies of students' submissions may also be attached to an ES. After there have been multiple ESs for each student, teachers can run reports to determine where teaching can be improved. Principals and District Administrators may access benchmark reports to determine where resources, professional development and funding should be distributed. Administrators can determine if one class or grade level is not making sufficient progress toward all students becoming proficient in writing. They can pinpoint the qualities of writing that students are struggling with and arrange for support in those areas. Teachers may then use Resources, Help and Anchor Papers and soon to be

developed search box for all of the resources and teaching strategies to improve their teaching capabilities. See Appendix B

Chapter 4: Analysis, Design and Implementation

4.1 Parent Access

4.1.1 Analysis

The Writing Continuum is an excellent resource for teachers to record and report their scoring of a student's writing submission, but it is not useful to the student unless the scoring and feedback is available to the parents. Teachers could print off and return a physical grading report to the students and parents, but this could be time consuming to do within a class period. Physical reports are also easily lost and misplaced. It was determined that a parent portal would be convenient way for teachers to provide scores and feedback to parents without wasting time during class or resources printing out physical documents for each student's submission. One milestone of this project was to create a landing page for the Parent user role. This project has also provided the ability for parents to check their students' grades and update their own profile information such as email address and password. The landing page will provide a foundation that other future functionality may be added.

The system also needs a way for parents to be added, edited, and deleted. After some discussion we decided that the Teacher would be the best role to manage parents as teacher would have the most interaction with the parent relative to principals and district admins.

4.1.2 Design

UWC already has multiple use roles within the system, each with their own landing page, so a landing page for teachers and students would be similar to the landing pages of the other user roles. Each role within the system has its own master pages that provides the security and features available to the user role. The security is provided by a small snippet of code that checks to determine that the user contains the correct role when page is loaded (see

Appendix U). The functions provided to the Parent role are provided via the menu on the Parent master page.

The client/visionary of the project was notorious for requesting extra features and capabilities before the completion of an individual component. Therefore, a strategy was needed that allowed for lots of input at the beginning, very little during the implementation, and then a review at the end to determine what could be added during the next iteration.

4.1.3 Implementation

The implementation of the parent portal began by first adding another role to the roles table within the UWC database. Once the role was created, we could create a parent table that would house any additional information needed from the parent. An associative table was then needed to connect the parent to the student as a parent can have multiple children. The additional role would allow for the login script to direct the parents to the correct pages after logging in. Once the role was created, the master page was created making sure that the page-load section checked that the user was a parent. The landing page, or home.aspx, was created next and acts as a launching pad to get to the other Parent functions (see Appendix T). Since the primary function of the parent portal is for teachers to view their child's writing submissions and scores, it was decided that a list of the parent's children would be provided on the main landing page so that extra navigation was unneeded. Standard functions, such as the ability to update personal information, would be accessible through the menu. In the end a new folder, called Parent, was needed within the website files, and within that new folder, 5 pages existed:

- Home.aspx – this would be the first page a teacher sees after logging in. It contains a list of students belonging to that parent.

- PasswordReset.aspx – This page allows parents to reset their current password
- updateProfile.aspx – This page allows parents to update their contact information such as name, phone number, and email.
- StudentScores.aspx – This page shows all courses a student has been enrolled in and all submissions for a course after a course has been selected.
- PaperResultsStudent.aspx – This page show detail information about an evaluation score.

Adding parents to students is performed by the teacher. It was decided that the class roster would be the most logical place to put a new page that would allow teachers to manage parents. A new link was added to ViewClasses.aspx that would take teachers to ParentMgmt.aspx to allow them to manage parents. Teachers would view a list of existing parents or have the ability to add a new parent. The teacher would enter the email address, name and phone number of the parent onto the page. Upon submission a new record is created in the User table follow by a new record in the parent table, followed by a new record in the ParentStudent table associating a student with a parent. After these inserts were performed successfully, a new Parent could login with their email address and a predefined password (currently ILoveWriting).

4.2 Improve User Experience

4.2.1 Analysis

During the beginning stages of development of UWC a shared hosting package was purchased so a prototype could be created, tested and used. The shared hosting package provided the basic necessities needed to get a website up and running: web hosting, database, email, and document repository. The shared hosting was fine during the testing phase, but

became slow and bogged down once users were added to the mix. Sometimes slowness was so severe that pages would timeout while navigating the website. After repeated complaints to the hosting company, and repeated upsell attempts from the hosting company, we determined that a hosted change would be needed if the site was going to improve. Two options would be explored for the move: upgrade the shared hosting to a better package or migrate to a Virtual Private Server.

4.2.2 Design

UWC is a web application that is composed of 3 major components: web hosting, database, document repository. These components could be modularized across different providers or could be combined into one hosted package.

4.2.2.1 Modularized Hosting – In this scenario, each component is hosted by a different provider.

Pros: When each component is modularized, you may acquire a provider for each component that specializes in their particular field. Modularizing also allows the ability to increase the capabilities of each component separately, so if you need a faster database, it can be increased without having to add space to the document repository.

Cons: By hosting each component in a separate location, there are more moving part and more connections that can break. This can cause longer troubleshooting and resolution times to connection issues. This can also be more costly as each components hosting will have to be purchase individually.

4.2.2.2 Combined Hosting – In this scenario, each component is hosted with one provider or on one machine sometimes referred to a Virtual Private Server (VPS).

Pros: Everything is in one place. Less connections and moving parts are used to connect each

component. Only one bill is received for the whole service and cost is normally lower due to bundled package from one provider.

Cons: Items may not be able to be increased on an individual level. Sometimes package hosted will force customers to increase their whole package rather than an individual component. For instance, you may need to increase your document repository size, but increasing your package may force you to purchase more RAM or processing power when all you need is hard drive space.

4.2.3 Implementation

While reviewing and researching options, an opportunity was presented from a local hosting provider. CloudWyze, a Wilmington based technology provider, could provide a VPS at no cost for UWC as long as CloudWyze did not have to provide any special support to keep the server up and running. This would be a temporary solution until UWC outgrew the VPS that CloudWyze could provide. UWC was able to accept the VPS. The first step in setting up the VPS was to enable the IIS role on the server. Internet Information Services (IIS) for Windows® Server is a flexible, secure and manageable Web server for hosting anything on the Web. From media streaming to web applications, IIS's scalable and open architecture is ready to handle the most demanding tasks (www.iis.net, 2015). Next, a version of SQL would be needed. Since only basic database functionalities would be needed, it was determined that SQL Express 2012 would be the best fit for UWC because the database was already in a SQL form and SQL Express does not require additional funding. Lastly, a local folder on the server was designated as the document repository and the IISUser user account was given full permission to the folder so that documents could be added and removed via the website. See Appendix G

The migration of the website was performed in 4 steps:

- Move over documents, website files and papers
- Backup database from old server and restore to new server.
- Change WebConfig settings to point to new database location
- Change DNS records to point to new website.

After the migration was performed, latency and timeouts stopped almost immediately due to all components being installed on one machine. Users reported a faster experience and higher probability to use the system due to the increase speed.

4.3 Code Management Improvement

4.3.1 Analysis

As with most growing software implementations, UWC has struggled with ways to allow multiple developers to work on the project simultaneously. In the beginning, Zach Wilson and then Zach Glaser were solo developers on the project. With only one developer working on the project at a time, an emailed Task List was sufficient for keeping track of working improvements, bug fixes and future ideas. As more developers were added, small issues began arising. One issue was overwriting another developer's work due to not checking for current versions of existing pages.

Example: Developer 1 works on page 6 locally from a current copy of page 6 from the web server. Developer 1 finishes testing page 6 locally and then uploads their new version of page 6 to the web server. Developer 2 then begins working locally on a old copy of page 6 without checking for recent versions from the server. Developer 2 then uploads page 6 to the webserver, overwriting all of the work done by Developer 1.

Another issue UWC was experiencing with multiple developers was determining which

developer was working on which particular issue/bug. In this situation, developers were working on a task without telling other developers, who were already working on the same task. Work was being doubled up and the efficiency of the team as a whole was degrading.

4.3.2 Design

Two options were discussed to resolve the issue of overwriting another user's work. One would be to educate the developers and create a standard operating procedure for how to begin working for a particular day. The procedure would stress the importance of checking for new versions of live files as well as determine responsibility if a developer overwrite another developers work. The second option would be to implement a version control system that all developers could submit new versions of their files. This way all copies of all documents would be in one place and could be reverted or combined if needed.

4.3.3 Implementation

It was decided that both options would be implemented to help with code management. A standard was created and documented in the Tech Plan that describes how to begin working on a particular file. It stressed the importance of checking for new versions of a particular file on the current working website. The standard also explained that if it was determined that developer 1 overwrote anything that developer 2 created then it is now developer 1's responsibility to recreate or rewrite any lost functionality or feature. After this standard was implemented, overwritten code was significantly reduced.

A version management system was also implemented on top of the new standard for added documentation. An online private repository provider, RiouxSVN, was selected and the source files of the website uploaded. The version management system has not been needed to retrieve any lost work yet, but will be available as needed.

4.4 Technology Plan

4.4.1 Implementation

UWC has been an ongoing project before my involvement and will continue to grow after my involvement. Outside of the files that make up the website, very little documentation has been collected on the current system. A document of some kind was needed to describe the current functionalities, components, roles, standards, and capabilities of the system. Also, history on the ideas or concepts used within UWC would be explained in this document (see internal UNI-Spire document: Documentation and Tech Plan, Glaser 2015).

4.5 Regular Maintenance

4.5.1 Implementation

Since UWC was in use when my involvement began, and I became the lead developer, regular maintenance has been required to keep the website functional and current.

Help and Resources- When I began first working with UWC, no help or resources were available to teachers. It was assumed that teachers would receive some training from Dr. Powell or their supervisor before using the system. After receiving numerous requests to explain the basic system functions, Dr. Powell created organizational diagrams, anchor papers, and instructional videos. I was able to upload the items to the server and modify the primary teacher menu to provide links to the documents.

Scoring a paper notes and drafts- Originally, an evaluation score only stored the name, type and score for each criteria. Teachers began requesting the ability to leave notes on a student's submission to help explain anything not recorded by the criteria scores. Teacher

also requested the ability to track drafts (1-5) and draft types (continuing, final). To fulfill these requests, new columns were added to the ES table in the UWC database. The Score.aspx page and its affiliated database stored procedures were then modified to allow teachers to add notes, draft number, and draft types. See Appendix R.

Class Data Chart Printable – The class data chart, which can be seen in Appendix N, is a webpage that consist of a grid of multiline textboxes that is 5 textboxes by 11 textboxes. This chart is clear and legible when viewing online, but was too wide when printing, which made the report very hard to understand. A printable view of the report was created to resolve this issue. See Appendix O.

Continuum Shift- The continuum is set to shift proficiency levels during the school year as the student's writing skills grow. Example: Proficient for a 3rd grade student at the beginning of the semester is E, while proficient at the end of the semester is F. This "shift" is created by records in the lookup tables for each criterion. A change in the way the Continuum shifts was necessary. Since proficiency is not determined by a mathematical formula, the shift change required manually adjusting each record in each lookup table. Each lookup table has 738 records and there are 10 lookup tables.

Increase file upload size and type -The original max file upload size for UWC was close to 2MB. This caused errors for some teachers who had to scan in students' writing submissions to digitally upload them to UWC as their files were sometimes too large. The maximum upload size was increased to 5MB to allow larger file submissions. Directions were written for how to zip files and keep files sizes smaller. The page code was also modified to allow multiple file types. (See Appendix S)

4.6 Testing

4.6.1 Design

Testing is an integral part of any development environment. At the beginning of UWC, developers just tested on their local machines, connecting to the live database. As UWC migrated to the VPS we lost SQL access from off the VPS as the SQL management port was disabled for security purposes. The shared hosting was relatively inexpensive and the new VPS was functional at no current costs, so we saw an opportunity to maintain an inexpensive test environment by keeping the shared hosting. We kept the Go Daddy hosting as a place to test website and database modifications.

4.6.2 Implementation

To make the test site live, a new DNS A record was created for Test.TheWritingContinuum.com pointing to the former Go Daddy hosting platform.

The process for getting code onto the live website would change as the VPS database is not accessible off of the VPS. All testing would be done on the local machine or on the Go Daddy hosted test server and database. The database was also accessible externally so SQL management studio could be run locally. Once everything was working on the test site, the developer could then make changes to the live database, adding attributes, tables, and relationships as needed. After database changes were made, then the website files could be pushed to the live site.

Chapter 5: Summary and Conclusions

5.1 Summary

The Writing Continuum scale and TheWritingContinuum.com are a bold change to the current writing education system. The scale is unique as it follows the student through their writing education life, rather than forcing a student to compare themselves to an A-F standard for their grade that is at the discretion of the educator. I believe that UWC has the potential to allow students to grow their writing ability without being constricted to a grade level. I believe UWC application will get some backlash from secondary educators solely because they are accustomed to creating their own rubrics (criteria on a 3 or 4 point scale) for scoring set assignments, while the UWC was created to allow topics to be individually established by the students rather than as assignments for a class. I also believe that UWC allows more teacher freedom to educate the way they see fit, while providing well-documented standards for what is expected as each grading level. This is unique as the UWC implements the main concepts expressed in the common core, which has received recent backlash for limiting teacher's instructional freedom. Many teachers will be looking for scripted lesson plans to know what and how to teach. We think that the professional development and teacher resources such as searchable teaching strategies will be critical for the program's success, but ads targeting different features will be run and analytics collected to make certain that what educators tell us they want is really what they are searching to purchase.

5.2 Lessons Learned

Initially, I viewed this capstone as a way to expand my current development capabilities. As the project has progressed, it has transformed into an education on how to manage an active web application and its users and visionary. While I did expand coding practices and

concepts, more of my time was spent managing users and their workflow so they could produce more code more efficiently. Managing expectations and scope was a concept learned from this project. Dr. Debbie Powell is an incredible visionary, documents all of her ideas and concepts, and receives inspiration from all parts of life. Dr. Powell also struggles with organizing her ideas into a prioritized list and visualizing what is capable within a web application. Working with Dr. Powell has assisted my communication to be as clear as possible when discussing timelines, scope, and final deliverables. When this project began I was very closed minded to the idea that there was more to a web application than code. Completing this project has shown me that user management, expectations management, scope management, and documentation can be just as important as the code that makes the application. Lastly, I believe this project demonstrates that an online assessment tool is a functional way to deploy new methods of teaching and grading across a wide geographic area with limited resources. Dr. Powell has shown the UWC tool to more than 100 schools and districts across multiple states all while maintaining a small workforce powered by UNCW students and alumni living within the greater Wilmington area.

Chapter 6: References

1. Common Core State Standards Initiative - www.corestandards.org/
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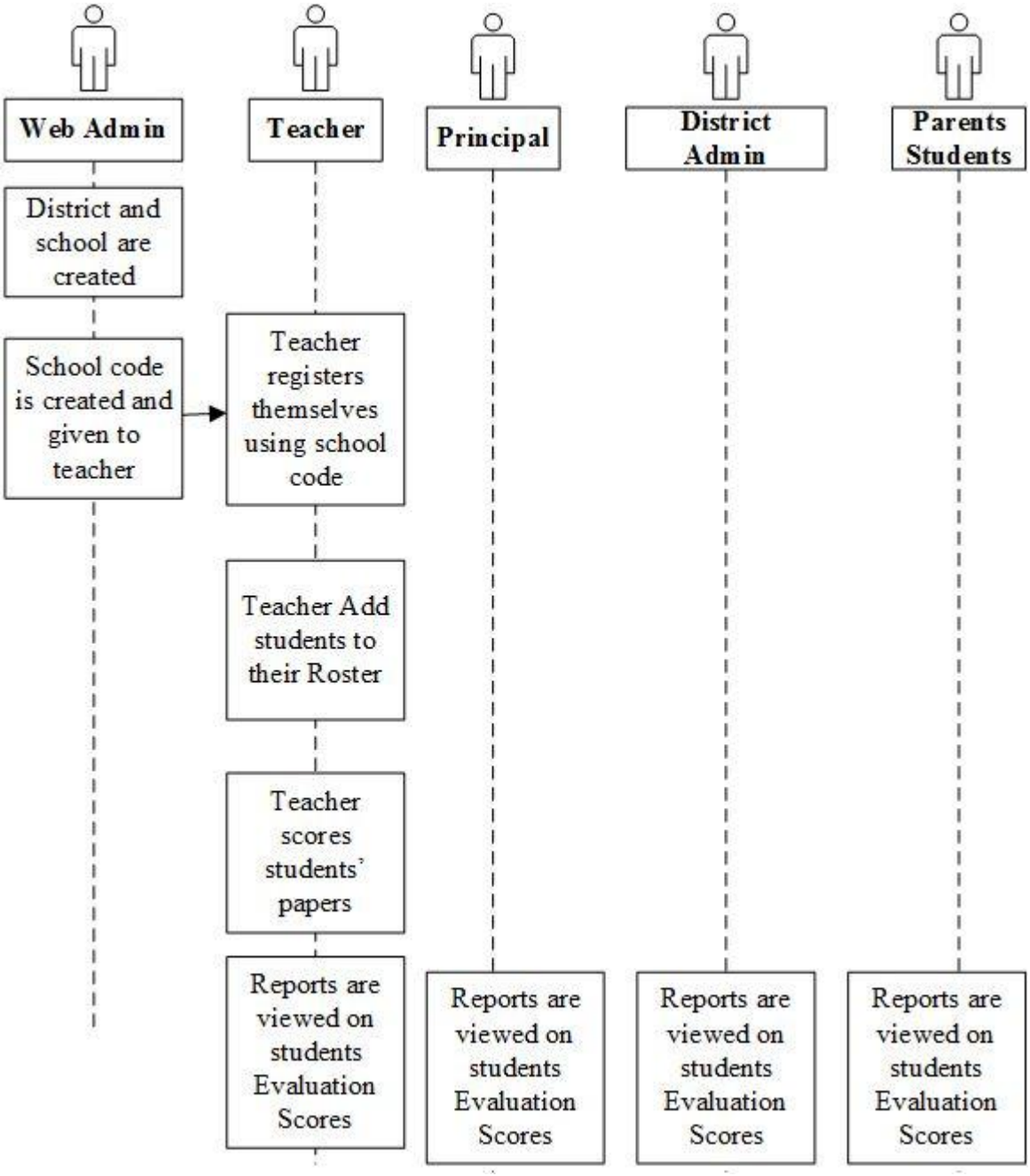
Chapter 7: Appendices

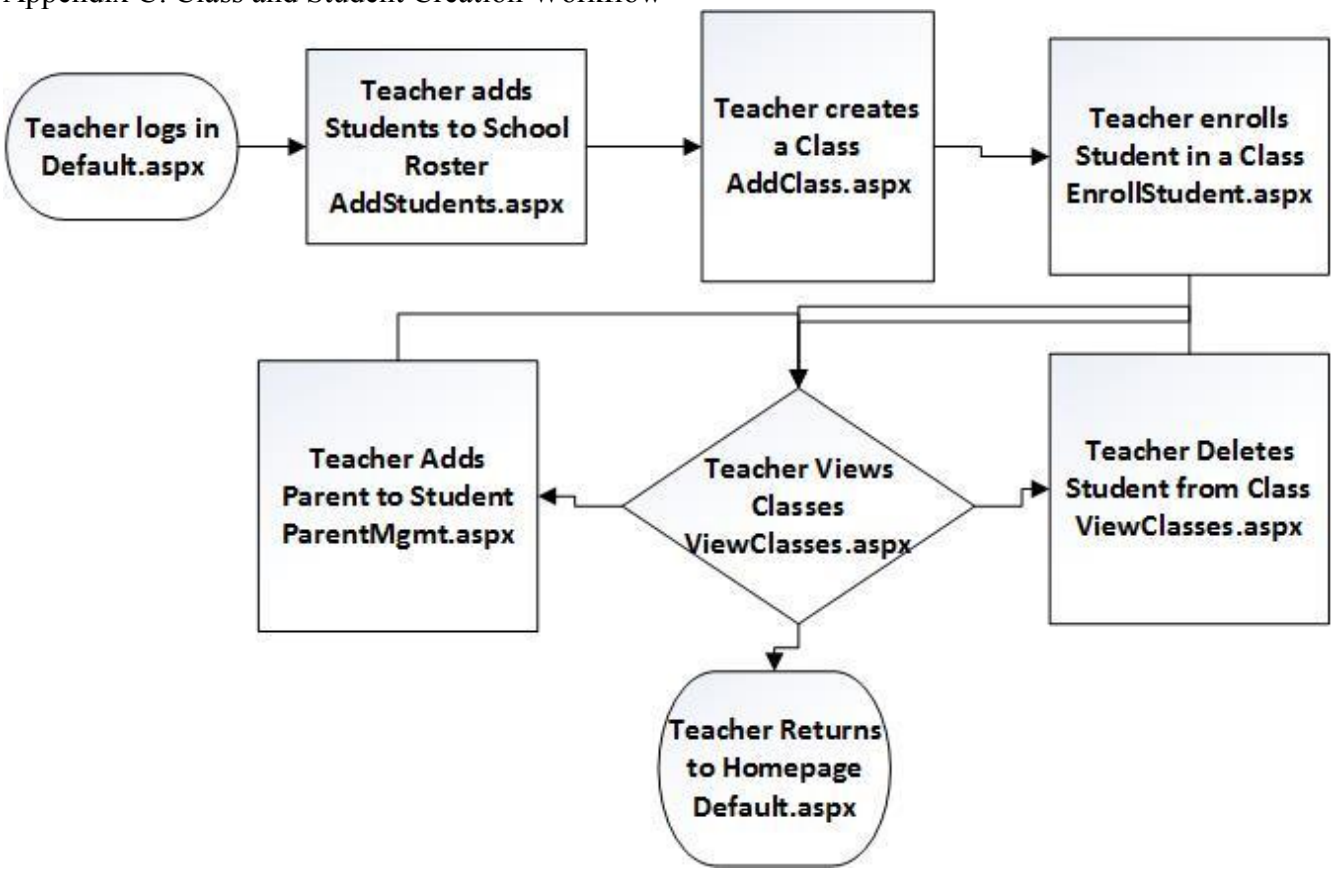
Appendix A: The Writing Continuum

Grade Level	Writing Stage/Writing Level	First Semester	Second Semester
Pre-K to Kindergarten	A	Proficient PK-K (Sept.)	Proficient PK; Below Basic K (May)
	B	Proficient K (Dec.) (2); Advanced+ PK	Advanced PK; Basic K
	C	Advanced+ PK; Advanced K	Proficient K (May)
	D	Advanced	Advanced
First	B	Basic	Below Basic
	C	Proficient (Dec.)	Basic
	D	Advanced	Proficient (May)
	E	Advanced	Advanced
Second	D	Proficient (Dec.)	Basic
	E	Advanced	Proficient (May)
	F	Advanced	Advanced
Third	E	Proficient (Dec.)	Basic
	F	Advanced	Proficient (May)
	G	Advanced	Advanced
Fourth	F	Proficient (Dec.)	Basic
	G	Advanced	Proficient (May)
	H	Advanced	Advanced
Fifth - Sixth	G	Proficient 5th (Dec.) Basic 6th	Basic 5th Below Basic 6th
	H	Advanced 5th Proficient 6th (Dec.)	Proficient 5th (May) Basic 6th
	I	Advanced 5-6th	Advanced 5th Proficient 6th (May)
Seventh - Eighth	I	Proficient 7th (Dec.); Basic 8th	Basic 7th; Below Basic 8th
	J	Advanced 7; Proficient 8th (Dec.)	Proficient 7th (May); Basic 8th
	K	Advanced + 7th; Advanced 8th	Proficient 8th (May)
Ninth - Twelfth	K	Proficient 9 (Dec)	Basic 9
	L	Proficient 10-11 (Dec)	Proficient 9-10 (May)
	M	Proficient 12 (Dec)	Proficient 11-12 (May)

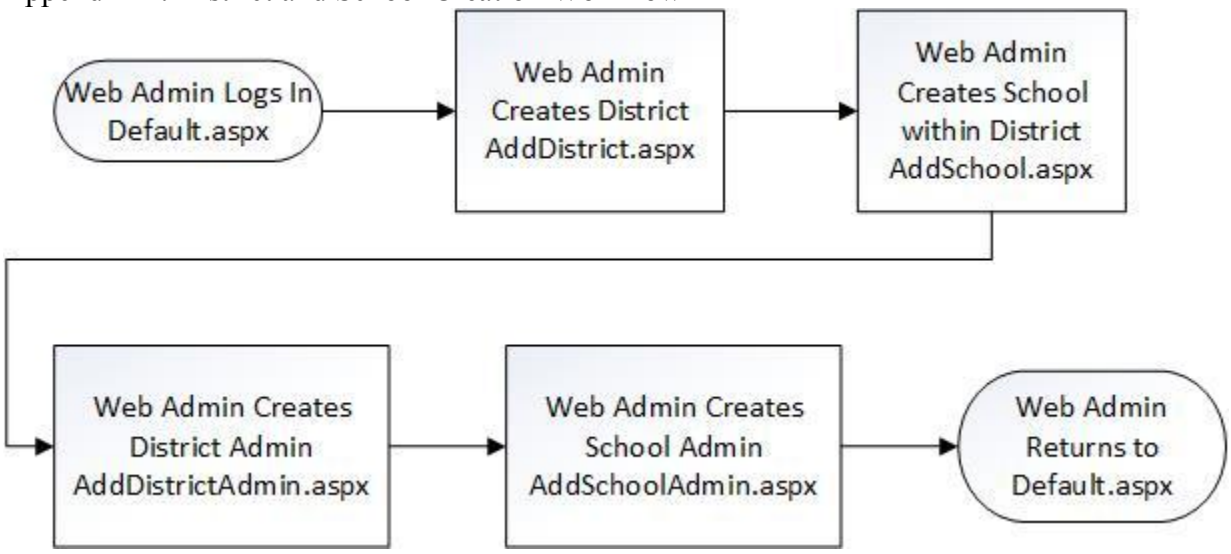
Appendix B: Actor Swim lane



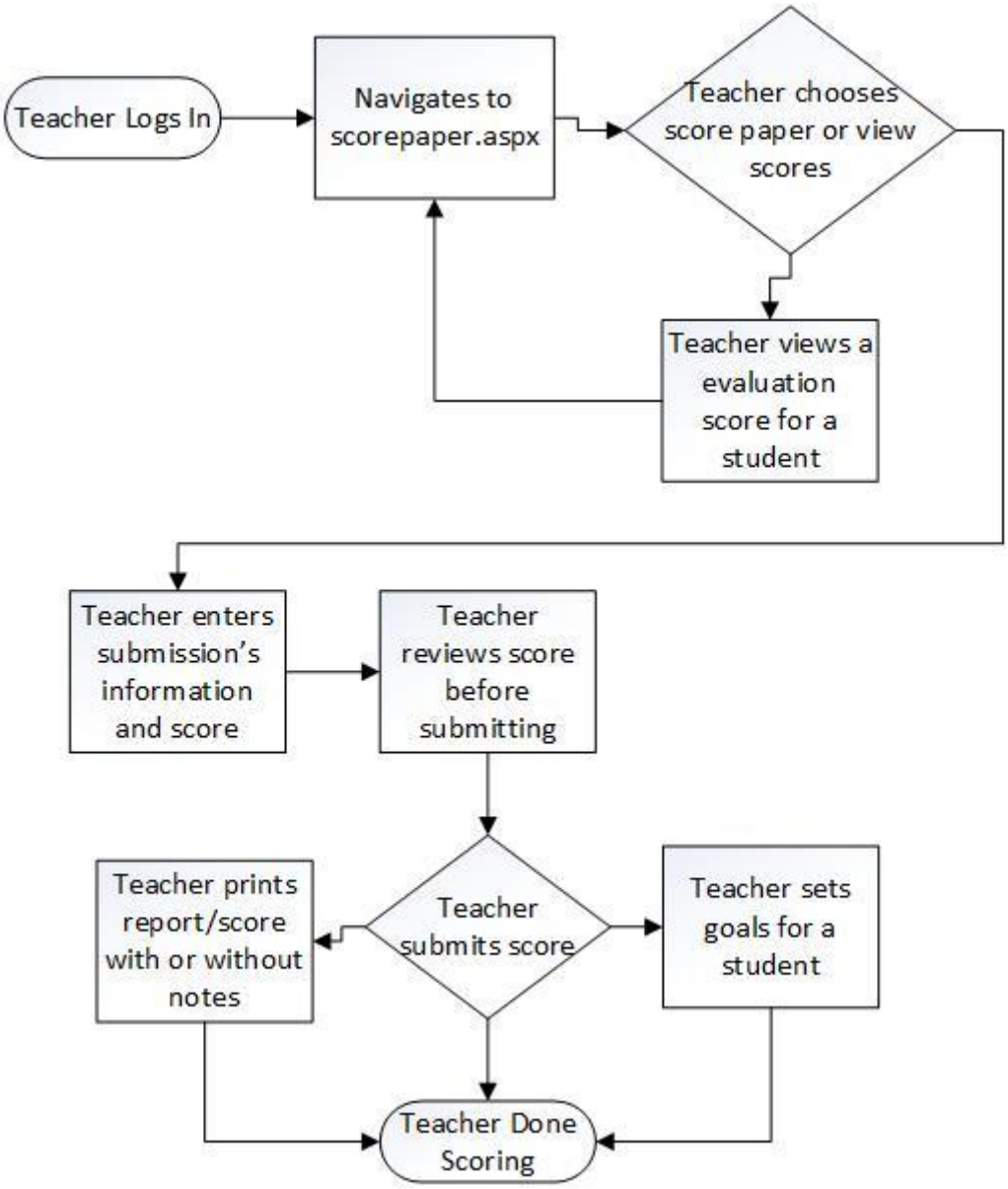
Appendix C: Class and Student Creation Workflow



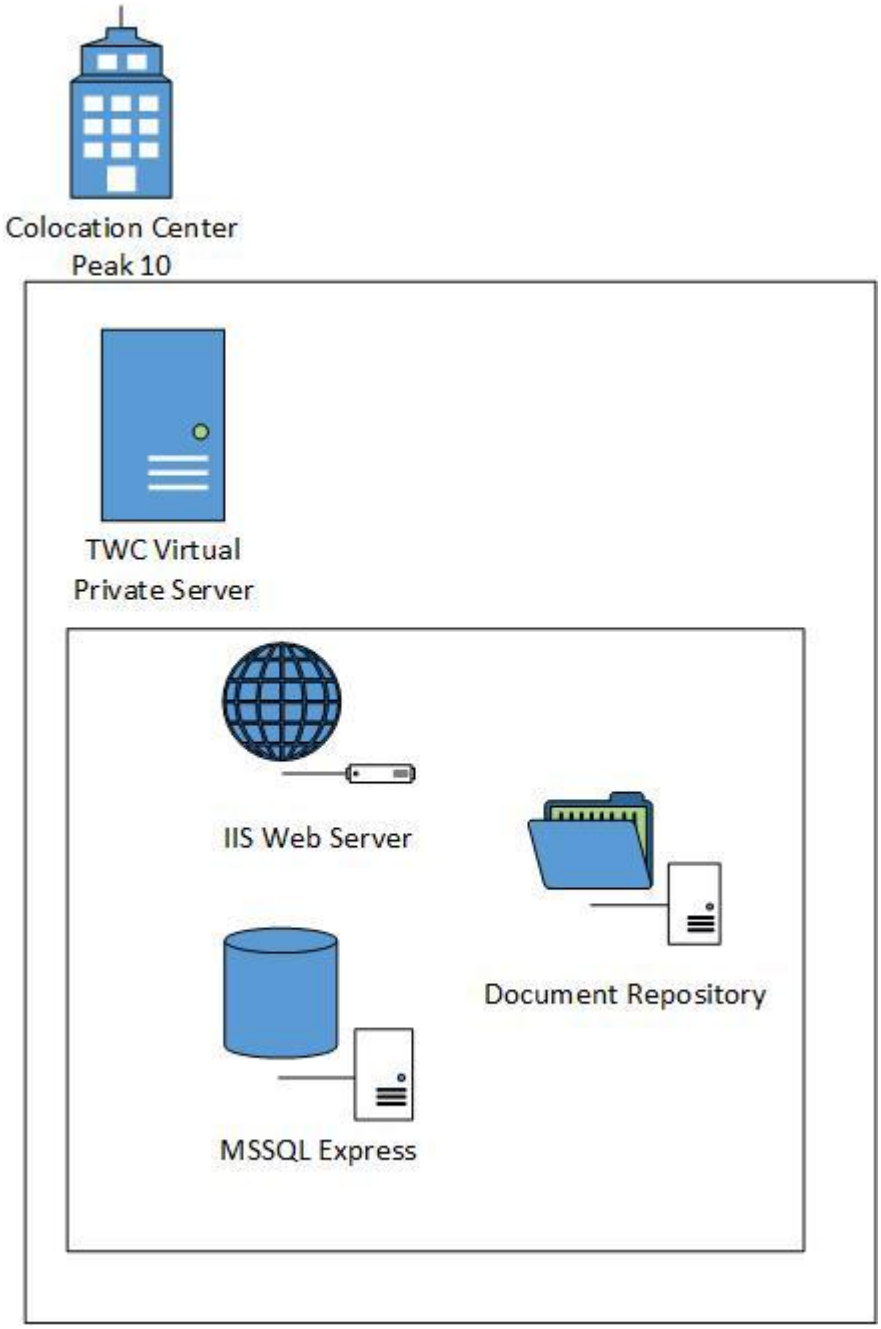
Appendix D: District and School Creation Workflow



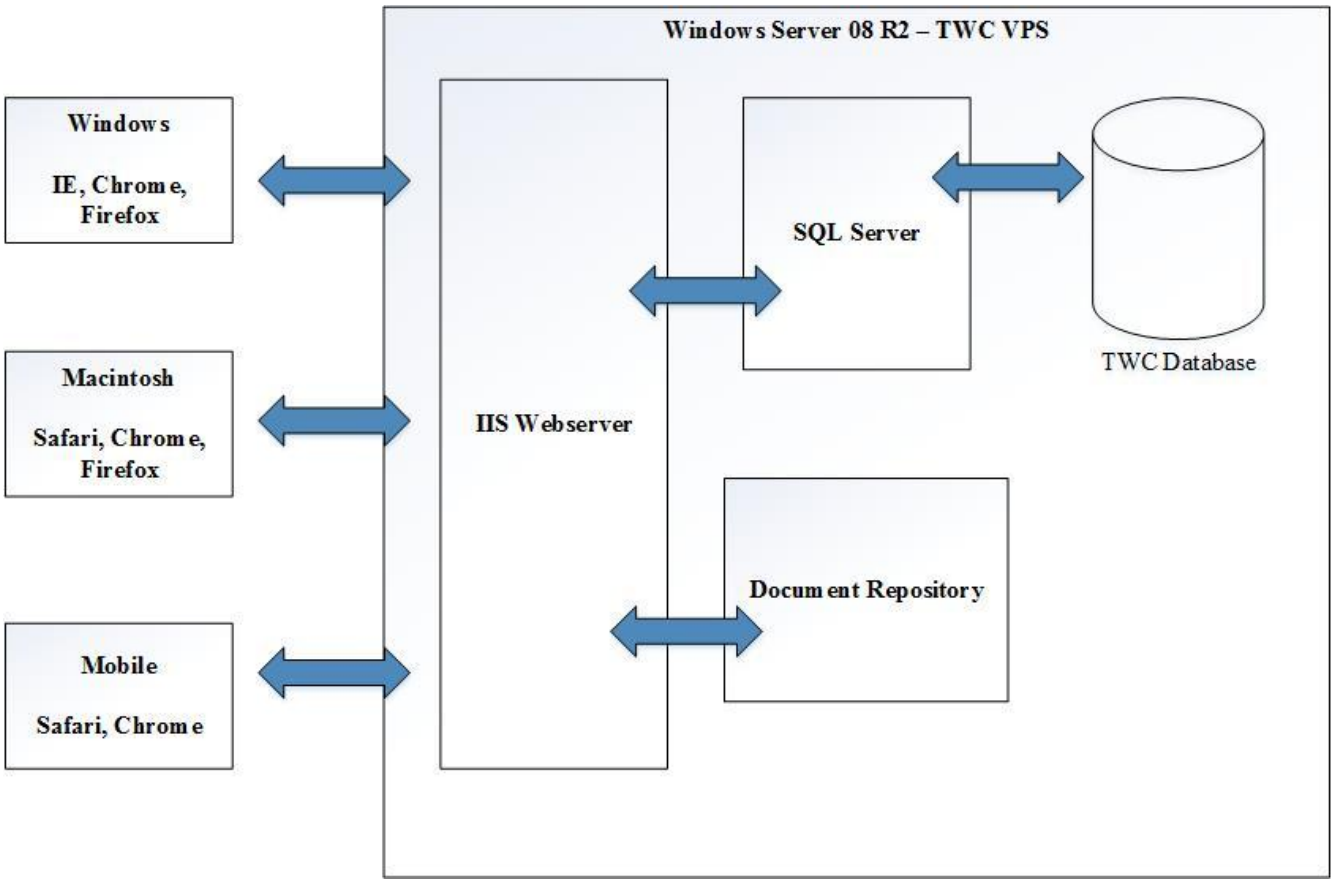
Appendix E: Teacher Scoring Workflow



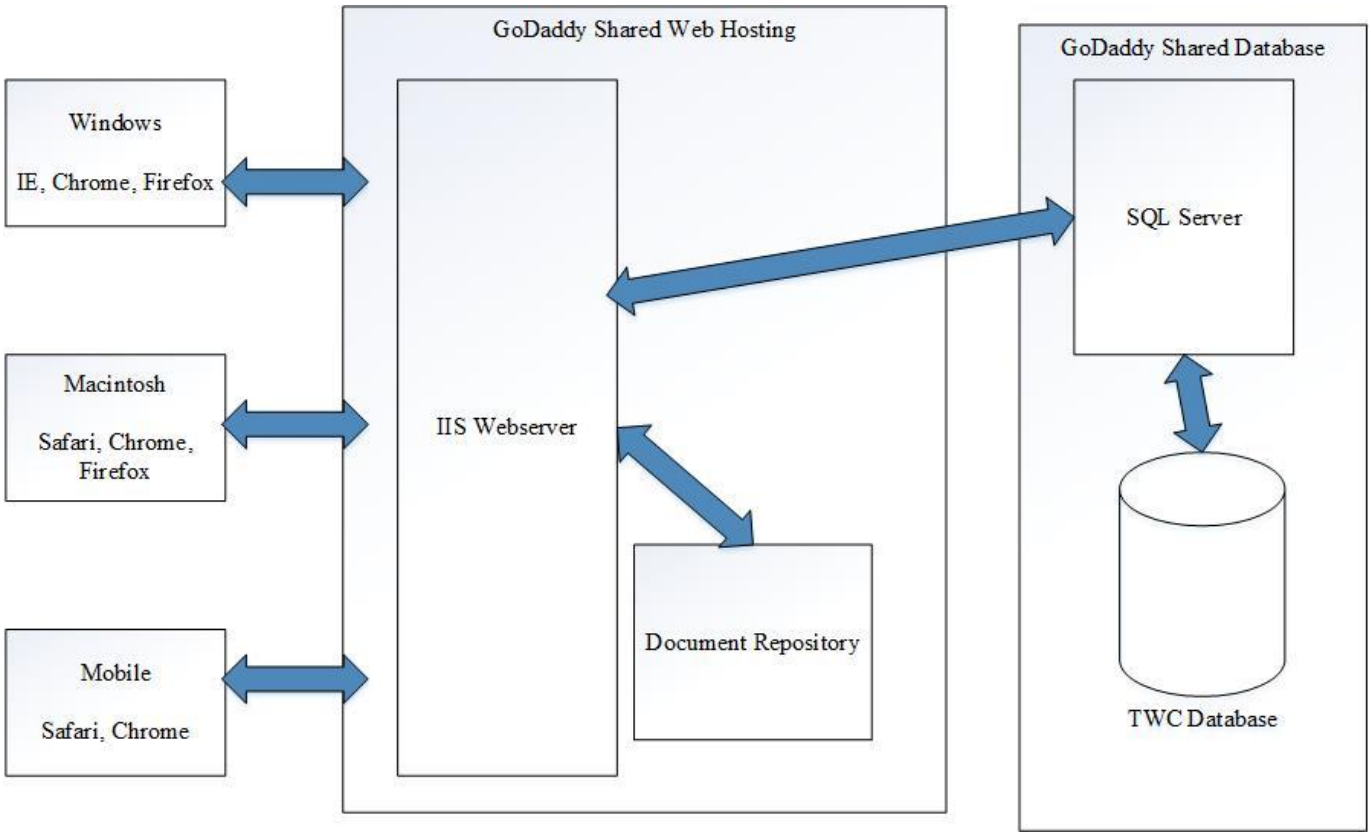
Appendix F: Current Server Location and Roles



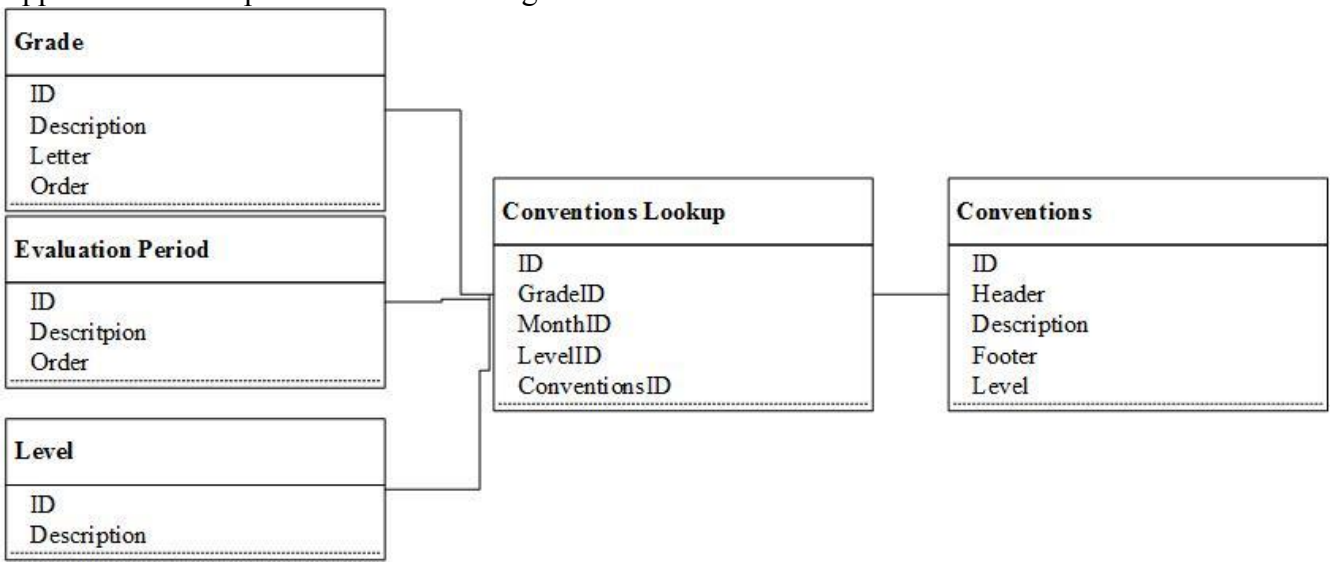
Appendix G: Systems Diagram - Current



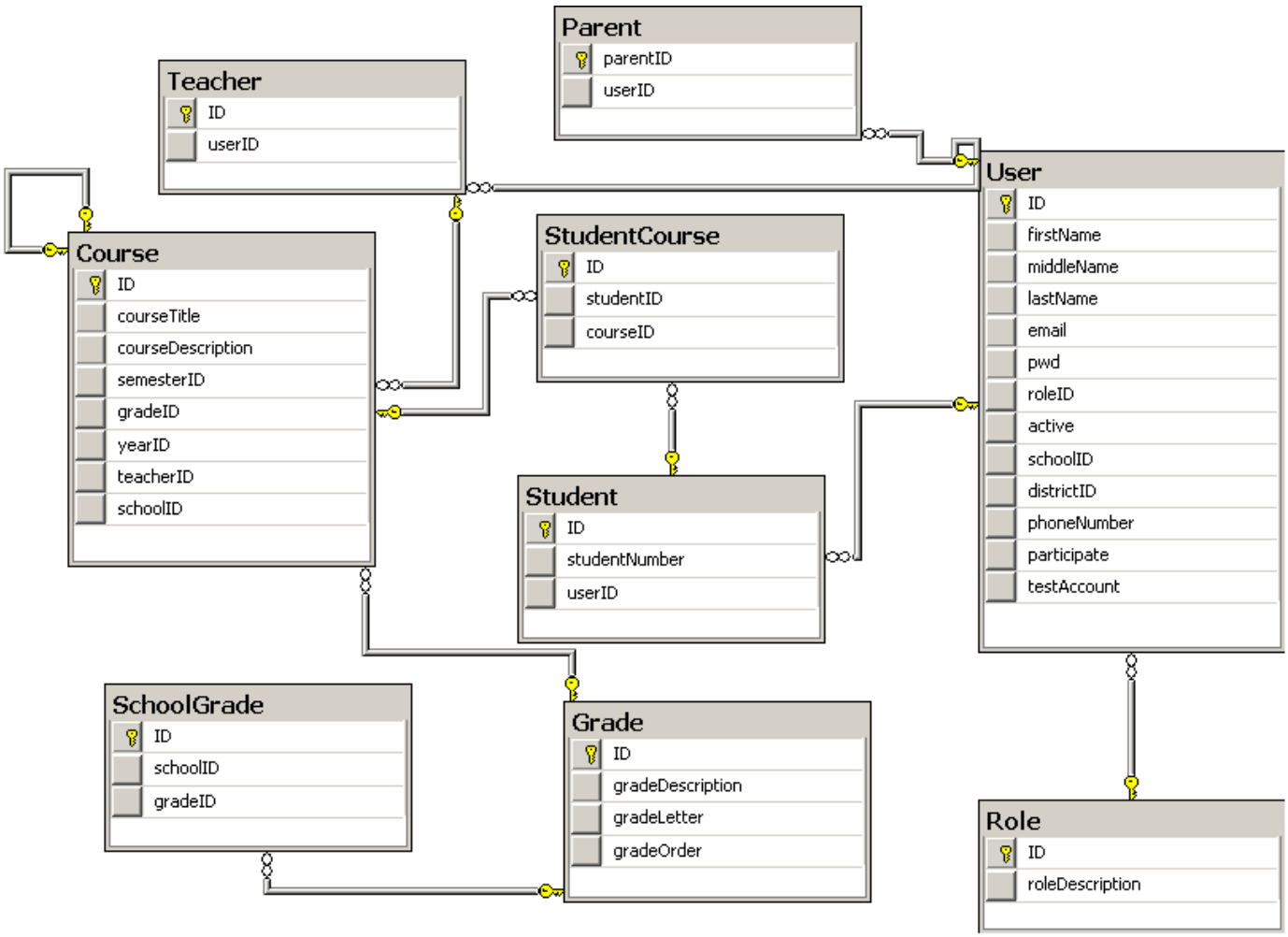
Appendix H: Systems Diagram – Go Daddy



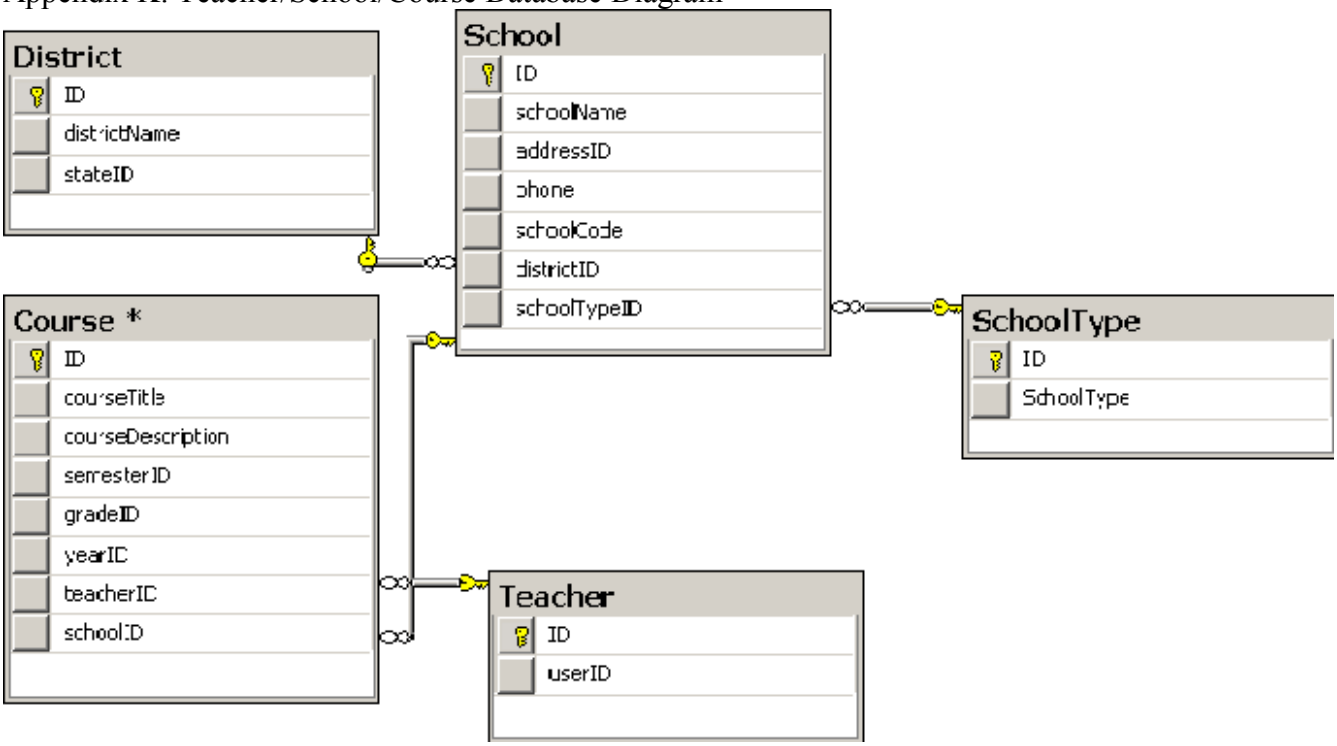
Appendix I: Lookup Table Database Diagram



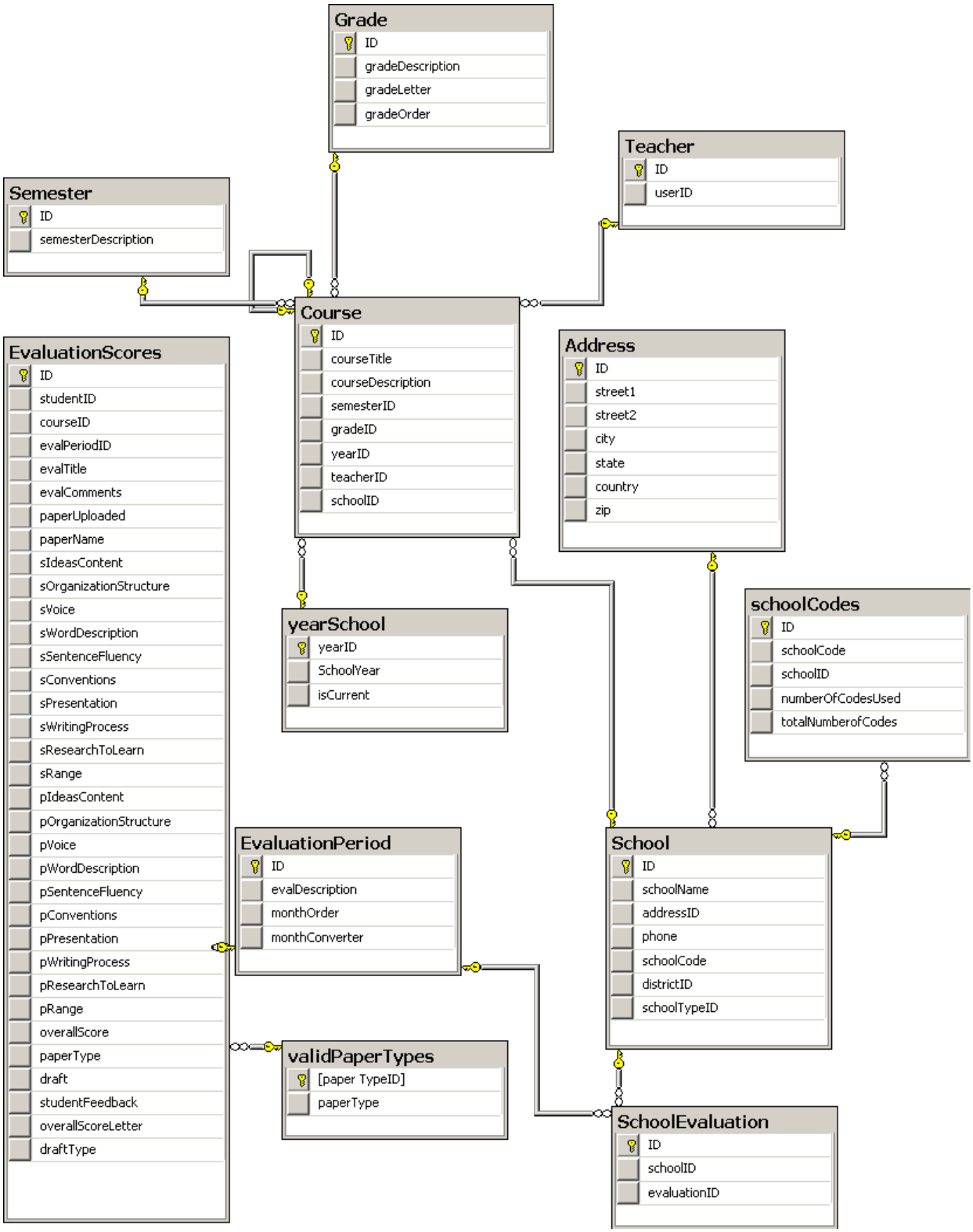
Appendix J: User Database Diagram



Appendix K: Teacher/School/Course Database Diagram



Appendix L: Score Database Diagram



Appendix M: Continuum Master Database Diagram

Appendix N: Class Data Chart – On Screen

Appendix O: Class Data Chart Printed

Holistic Score

- Below Basic
- Basic
- Proficient
  - Donald Duck (George, my mentor- Narrative- 3)
- Advanced
- Advanced Plus

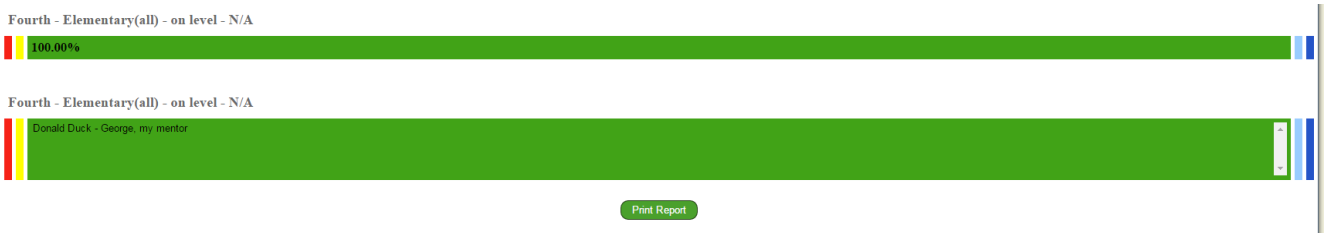
Ideas/Content

- Below Basic
- Basic
- Proficient
  - Donald Duck (George, my mentor- Narrative- 3)
- Advanced
- Advanced Plus

Organization/Structure

- Below Basic
- Basic
- Proficient
  - Donald Duck (George, my mentor- Narrative- 3)
- Advanced
- Advanced Plus

Appendix P: Benchmark Report

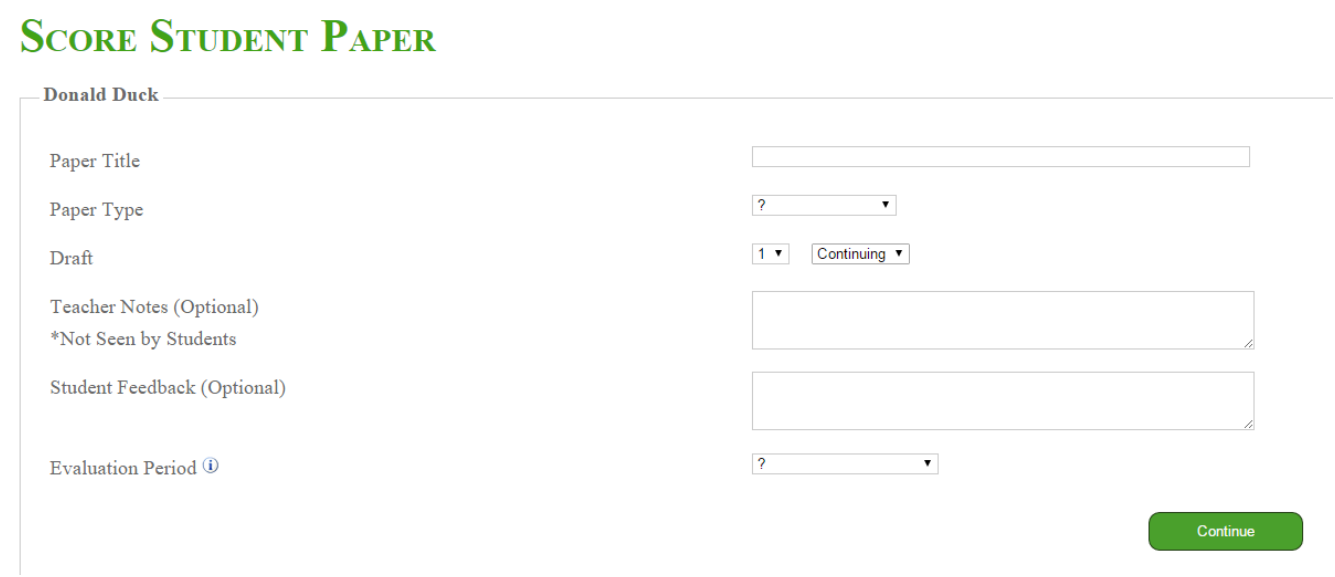


Appendix Q: Continuum Score Chart

D End of 1st to Beg. 2nd Grades	E End of 2nd to Beg. 3rd Grades	F End of 3rd to Beg. 4th Grades	G End of 4th to Beg. 5th Grades	H End of 5th to Beg. 6th Grades
OPINION: States an opinion and supplies at least one reason for the opinion. [W.1.1]	**OPINION:** Begins with an introductory statement or section that gives some information about the topic or book. [W.2.1] Writes an opinion and supports it with two or more reasons. [W.2.1] Provides a conclusion that reiterates what the writer feels is important. [W.2.1]	**OPINION:** Introduces the topic with some detail. [W.3.1] Writes an opinion and provides reasons and examples to support it. [W.3.1] Concludes with a strong statement or section, assuring that the readers understand the writer's opinion of the topic or book. [W.3.1]	**OPINION/ARGUMENT:** Introduces the topic with some background details to create a context. [W.4.1a] States a claim (argument) or point of view (opinion) and supports with reasons. [W.4.1b] Adds supporting details that enrich and develop the piece. [W.4.1, 1b] Concludes with a statement or section that gives the readers some thoughts to take away that are related to the opinion. [W.4.1d]	**OPINION/ARGUMENT:** Chooses a topic based on interest and background knowledge. [W.5.1] States a claim (argument) or point of view (opinion) and builds the context for the claim. [W.5.1a] Clearly explains reasons and evidence, supporting writer's claim or argument. [W.5.1b] Writing shows evidence of evaluating, analyzing, and applying reasoning skills. [W.5.1]
Below Basic	Basic	Proficient	Advanced	Advanced ++
D1 D2 D3	E1 E2 E3	F1 F2 F3	G1 G2 G3	H1 H2 H3

D End of 1st to Beg. 2nd Grades	E End of 2nd to Beg. 3rd Grades
OPINION: States an opinion and supplies at least one reason for the opinion. [W.1.1]	**OPINION:** Begins with an introductory statement or section that gives some information about the topic or book. [W.2.1] Writes an opinion and supports it with two or more reasons. [W.2.1] Provides a conclusion that reiterates what the writer feels is important. [W.2.1]
Below Basic	Basic
D1 D2 D3	E1 E2 E3

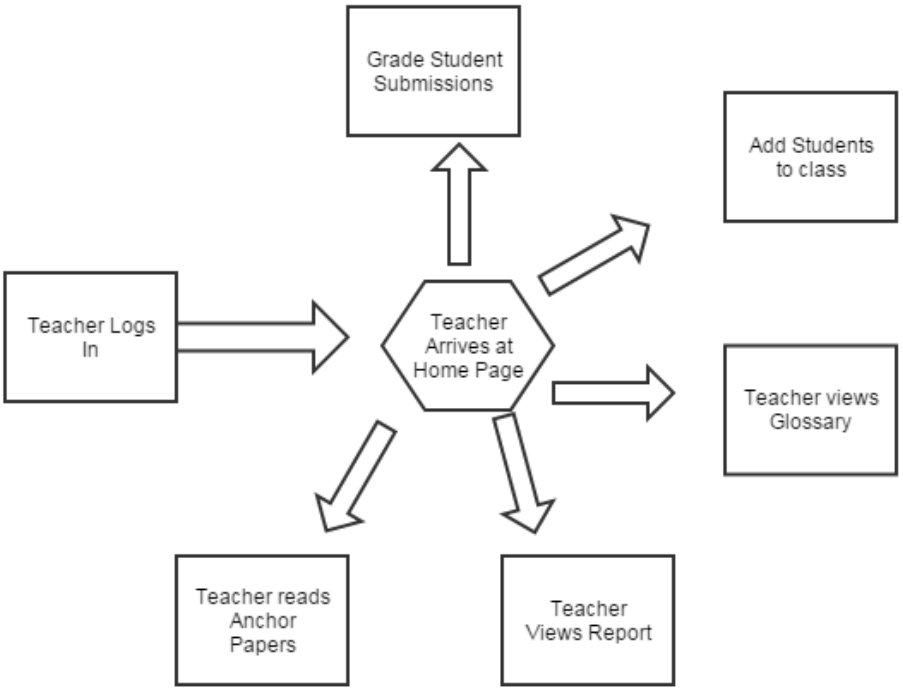
Appendix R: Score Paper Form



Appendix S: Paper Upload Type Code

```
Protected Sub lnkPaperTitle_Click(sender As Object, e As System.EventArgs) Handles lnkPaperTitle.Click
    Dim filePath As String = lblPath.Text
    If filePath <> "" Then
        If filePath.ToLower.EndsWith(".docx") Or filePath.ToLower.EndsWith(".doc") Then
            ContentType = "Application/msword"
            Response.WriteFile(filePath)
            Response.End()
        ElseIf filePath.ToLower.EndsWith(".pdf") Then
            ContentType = "application/pdf"
            Response.WriteFile(filePath)
            Response.End()
        ElseIf filePath.ToLower.EndsWith(".jpg") Or filePath.ToLower.EndsWith(".jpeg") Then
            ContentType = "image/jpeg"
            Response.WriteFile(filePath)
            Response.End()
        ElseIf filePath.ToLower.EndsWith(".gif") Then
            ContentType = "image/gif"
            Response.WriteFile(filePath)
            Response.End()
        ElseIf filePath.ToLower.EndsWith(".zip") Then
            ContentType = "application/x-zip-compressed"
            Response.WriteFile(filePath)
            Response.End()
        End If
    End If
End Sub
```

Appendix T: Launching Pad Flow - Teacher



Appendix U: Parent Role Check Code

```
Private Sub Page_Load(ByVal sender As Object, ByVal e As System.EventArgs) Handles Me.Load
    If (Session("User") Is Nothing) Then
        Response.Redirect("~/Login.aspx", True)
    Else
        u = CType(Session("User"), User)
        If u.RoleID <> 6 Then
            Response.Redirect("~/Login.aspx")
        End If
    End If

End Sub
```