The teacher candidate artifact system (TCAS) for education program provider continuous improvement

David W. Moffett

Franklin College

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Abstract

The Education Program Provider Chair's objective was to create a student legacy artifact archival retrieval system. The goal was to have the database system operational by Spring Semester, 2019. The purpose of the new system was to house and index student and pre-service candidate product across performance levels reflective of the program's key assessments. Program continuous improvement was the intended result of the new system. The Chair and a Senior Computer Science Major met 10 times, using a 16-stage process to create the new Teacher Candidate Artifact System (TCAS). Scored student artifacts were the study instruments. Evaluators improved ability to score student artifacts through their use of the system. Student and pre-service candidate reviews of prior student artifacts improved subsequent ones. Faculty accessing the system improved their writing of rubric performance levels. TCAS enhanced program continuous improvement. Knowledge regarding implementing such a system is valuable to all Education Program Providers.

The teacher candidate artifact system (TCAS) for education program provider continuous improvement

How can an Education Program Provider (EPP) best provide a no cost legacy archival retrieval database system with examples of artifacts representing standards and other required artifacts for its students, pre-service candidates, and faculty? In addition, can such a resource help to continuously improve student and pre-service artifacts reflective of Interstate New Teacher Assessment and Support Consortium (InTASC) Standards and other required items?

Can this new resource improve the scoring abilities of those who evaluate the student and pre-service candidates' artifacts? If so, how? Additionally, will the resource enable the EPP to better construct rubrics with relevant, homegrown performance level descriptions for evaluating future produced student and pre-service candidate artifacts?

Objectives, Goals, and Purposes

The EPP Chair's, hereinafter known as the Investigator, objective was to create a no cost to students legacy artifact archival, retrieval database system to address and answer the questions posed above.

The Investigator's goal was to secure resources for the design, launch, and operationalization of a student legacy artifact archival retrieval database system on the college's server by Spring Semester, 2019.

The purpose of the new student legacy artifact archival retrieval system is to index and house student and pre-service candidate artifacts representing InTASC Standards and other required items across rubric performance levels representing key assessments in the teacher education program.

Part of the vision for TCAS is for evaluators of students' and pre-service candidates' artifacts to access and view the scored artifacts for future scoring training purposes. Further, current and future students and pre-service candidates can access the artifacts across rubric performance levels, in the spirit of synthesizing former student product in new and improved ways. Review of the artifacts in an ongoing manner can also continuously improve faculty writing of the written descriptions contained within rubric performance levels.

Perspectives and/or Theoretical Framework

People seeking admittance into the teacher education program are "Students" until such time they are admitted. Upon being admitted into the teacher education program students become "Pre-Service Candidates" until such time that they graduate and accept full time teacher employment.

It is the responsibility of the EPP to continuously improve. For scoring reliability purposes evaluators of student and pre-service artifacts for key assessments must be trained. TCAS provides training opportunities. Evaluators of the artifacts access and review artifacts across rubric performance levels of key assessments for training purposes. Subsequently, higher scoring reliability of the key assessment rubrics result across raters and interraters. Continuous improvement of writing performance level descriptions for rubrics also result.

Students and pre-service candidates in the teacher education program learn much from reviewing former student artifacts submitted to satisfy key assessment requirements. While commercial software exists for students submitting artifacts to meet program requirements they require an expense to students. Such systems with costs to students also do not naturally provide open access for viewing all program artifacts across performance levels by the subscribers. Until the creation of TCAS there were no free systems available providing all EPP students, pre-

service candidates, and faculty access to key assessment artifacts across rubric performance levels. TCAS is a first of its kind free resource.

Providing electronic access to former students' artifacts creates student legacies. Past students become legendary as a result of TCAS. By accessing previously created InTASC-driven student and pre-service candidate artifacts current students and pre-service candidates create new and better artifacts across the EPP's program's key assessments. The new and better artifacts exemplify program continuous improvement.

Continuous improvement of student and pre-service artifacts product, combined with continuously improved faculty scoring training and writing of rubric performance levels, improves the teacher education program.

The student legacy artifact archival retrieval database system, TCAS, offers the opportunity for students, pre-service candidates, and faculty to be a community of learners in the quest of continuously improving the teacher education program.

Key theoretical framework components of TCAS include Program Continuous Improvement, Evaluator Training, Scoring Reliability, Students, Pre-Service Candidates, Teacher Education Program, Student Artifacts, Rubric Performance Levels, Key Assessments, Electronic Archival Retrieval Systems, Student Legacies, and Learning Community.

Methods and Techniques

Senior Computer Science Majors at Franklin College must complete a Senior Project. In January, 2019 a Professor from the Computer Science Department issued an email to college faculty announcing the projects and requesting proposals. The Study Investigator saw this as an opportunity to realize the possibility of the needed free database system envisioned for the teacher education program:

01/23/2019

Dear Faculty and Staff,

I am, once again, soliciting senior software development project ideas from you for our senior computing majors. This year, we hope to develop around 10 new information systems for our clients to help make their lives easier. You could be one of them. The projects will begin and be completed in the spring. But I need to have your ideas by the end of next week. Also, please don't confuse these projects with simple web pages. Our projects are *information systems*. Examples of past projects include:

- A team management system for Southside Thunder Soccer
- A promotion and tenure evaluation system for the P&T committee
- A personnel tracking system for Sandberg Trucking
- A meal menu development system for the Johnson County Juvenile Detention Center
- An internship search site for Kirk Bixler in the Office of Career Services
- A student registration system for Computing Services
- A sales processing system for Trotta Tailoring

If you have an idea for a new computer system that you would like developed, please contact me with your ideas as soon as you can. A short paragraph describing your project idea should suffice. Please do not re-submit any ideas you might have submitted last year as I still have all of those in the file to be considered. However, if you're desperate, I'll push on those.

Hope to hear from you soon,

Bob.

The Study Investigator replied to the Computer Science Professor with the idea about the needed student legacy artifact archival retrieval database system…

Message to Bob from the Investigator 01/23/2019:

Hi Bob,

Thank you for your message about senior computing majors software development projects.

The Education Department is in need of having a “Teacher Candidate Legacy Database” built.

The database will be one where we add student product reflective of performance levels across key assessments resulting from students’ and pre-service candidates’ journeys across their education programs.

The intention is to build the legacy database so current and future students, college supervisors, cooperating teachers, faculty, and staff can view product reflective of performance levels across the program’s key assessments. The product will complement, reflect, and inform the assessment instruments’ performance levels across the program.

It will serve as a training site for supervisors, cooperating teachers, faculty, and staff, as well as be a place where students and pre-service candidates can contemplate past student and pre-service candidate product while brainstorming ideas for theirs.

It seems like this could be a good project for one of the seniors.

Let me know what you think.

Thanks again! David

The Computer Science Professor notified Seniors about this opportunity. A Senior decided to include the Study Investigator’s proposal as one for possible project work. The Senior interviewed the Investigator regarding the project idea. The following document resulted:

1. **Please explain what you are wanting the system to do.**

Supervisors go to schools to observe where students are placed

Supervisors, students, and cooperating teachers need trained

Use as training tool for those above and principals

Accessible to look at the “artifacts” for key assessments

Also used to help score rubrics (can see examples of what these score levels look like)

2. **Please explain the current system that this database will replace.**

No system in place. No data archival retrieval system

3. **What are the issues with the current system?**

Does not exist

4. **How do you see the system functioning? How do users interact? Who are the users?**

Students (n=60) view any artifacts

Supervisors-10 view any artifacts

Franklin Education Faculty and staff- about 5 (not all admin)

Admin-3 to 5

go to a website with login and view all assessments by elements/semester/term/year (including Jterm)

specify which type of user each is (student vs teacher vs etc)

5. **What do you hope to gain from the system?**

Improve the product of artifacts (students know what is asked of them)

Improve scoring/evaluation of products (supervisors will know what is expected of different score levels)

6. **What could result from not having this system?**

Training of product evaluation will not be available

Students will not have examples of existing product to produce better future product

7. **Are there documents that you could provide (electronically) that pertain to this system? (Rubrics, prompts, etc.)**

See email (the 6 items circled on the hard copy of the QAS)

8. **Who would you say are stakeholders of this system? (the people that stand to benefit)**

Students, evaluators (supervisors), teachers, Dr. Moffett, education department, Teacher Ed Committee

9. **What constraints exist on this system? (Economic, Schedule, Cultural, Legal)**

Legal – liability waiver will be signed for all artifacts submitted to the system (not kept on system)

10. **What are parts of the current system for which this system will not be responsible? (maybe registering to use the system, maintaining the definitions of each score, etc.)**

Look at the QAS for the items not circled

11. **What will administrators be able to do on this system? (how many admins? Which of these are mandatory?)**

Upload and retrieve artifacts

Add/modify/delete teachers, FC faculty and staff, students, supervisors

Accept or decline registration for teachers, students, FC faculty and staff, supervisors

12. **What will each type of user be able to do on this system? (how many of each will there be? Which of these are mandatory?)**

Administrators

- Add modify or delete any non-administrator user

- Add modify or delete artifacts
- Accept or decline registration for non-administrator users

Teachers, Students, Supervisors, Faculty and Staff

- Retrieve artifacts
- Add artifacts (Not mandatory)

The interview resulted in the Senior deciding to select the teacher education program's new student legacy artifact archival retrieval database as their Senior Project. The Senior Computer Science student and Study Investigator held 10 meetings across spring semester 2019. The Senior followed the Computer Science Department's 16 step process for working with the Study Investigator on the project. The 16 documented steps included, "Request for System, Document Samples, Scope Definition, Software Requirements, Entity Definitions, Context Data, Functional Decomposition Diagram, Input Design, User-Interface, Output Design, Data Migration, System Installation, System Changes, Maintenance Tasks, Contact Information, and System Presentation". The following documents and events resulted from the meetings:

<table>
<tr><td>WebbDevelop()
101 Branigin Blvd
Franklin, IN 46131</td><td>Scope Definition Statement
(2019LEDD)</td></tr>
<tr><td>Franklin College Education Department</td><td>Date:
02/08/2019</td></tr>
<tr><td>Preparer
Name: Jakeb Webber
Title: System Analyst
Phone: 812-340-7940
Email: jakeb.webber@franklincollege.edu</td><td>Key Point of Contact
Name: Dr. David Moffett
Title: Visiting Professor and Chair of Education Dept
Phone: 317-738-8221
Email: dmoffett@ franklincollege.edu</td></tr>
<tr><td colspan="2">Project Name
Legacy Education Department Database (LEDD)</td></tr>
<tr><td colspan="2">Justification
This project must be undertaken if the Franklin College Education Department expects to provide real-world examples on which Supervisors can base future evaluations, provide Cooperating teachers in-class materials to demonstrate the expectations of the Franklin College Education Department, provide students examples of good and poor practices on their own Key Assessment submissions, and create an easily accessible measure of the trends of student responses to the Key Assessments.</td></tr>
<tr><td colspan="2">Goals and Objectives
The goal of this project is to design and implement the Education Department’s paper database. This system will allow electronic access to a collection of artifacts which make up the Key Assessments of the education curriculum by Franklin College faculty and staff, supervisors, cooperative high school teachers, and students.</td></tr>
<tr><td colspan="2">Stakeholders
The Project Stakeholders include:
1) Franklin College Education Department Head
2) Faculty and Staff of the Franklin College Education Department
3) Teacher Education Committee
4) Supervisors
5) Cooperative Teachers
6) Students accepted to and applying to the Franklin College Education Program
7) Dr. Robert Beasley
8) WebDevelop()</td></tr>
<tr><td colspan="2">Milestones
There will be six project milestones. These milestones will occur at the end of the analysis, database design, process design, input/user-interface/output design, implementation, and delivery activities of the Software Development Life Cycle.</td></tr>
<tr><td colspan="2">Deliverables
Documentation: 1) Request for System Services, 2) Document Samples, 3) Scope Definition Statement, 4) Software Requirements Specification, 5) Entity Definition Matrix, 6) Context Data Model, 7) Key-Based Data Model, 8) Database Schema, 9) Context Dataflow Diagram, 10) Functional Decomposition Diagram, 11) Input Design, 12) User-Interface Design, 13) Output Design, 14) Data Migration Plan, 15) System Installation Plan and 16) System Changeover Plan.

Working Software: The complete Franklin College Education Department system will be installed on the server.</td></tr>
</table>

Constraints (Schedule and Legal) Schedule: The system must be completed by May 10, 2019. Legal: The system will only include artifacts for which consent waivers are available.
Non-Scope Tasks and Items The system will only contain any data pertaining to the Quality Assurance System (QAS) if the data pertains to the Key Assessments of the QAS. The system will also not be responsible for maintaining the standards outlined by the Key Assessment rubrics.
Acceptance Criteria The system will be considered complete when Jakeb Webber, Dr. Robert Beasley, and Dr. David Moffett are confident that the system meets all agreed-upon requirements, is operating on the server, and is deemed stable and reliable.

Webb Development 101 Branigin Blvd Franklin, IN 46131	Software Requirements Specification (2019LEDD)
Franklin College Education Department	Date: 02/08/2019
Preparer Name: Jakeb Webber Title: System Analyst Phone: 812-340-7940 Email: jakeb.webber@franklincollege.edu	**Key Point of Contact** Name: Dr. David Moffett Title: Visiting Professor and Chair of Education Dept Phone: 317-738-8221 Email: dmoffett@ franklincollege.edu

Functional Requirements

Category	Priority	Type	The system shall permit an administrator to…
Mandatory	1	Input	Login
Mandatory	1	Input	Accept or Decline user registration
Mandatory	1	Input	Maintain Franklin College Faculty and Staff
Mandatory	1	Input	Maintain User
Mandatory	1	Input	Maintain Artifact
Mandatory	1	Output	Download Artifact
Optional	2	Input	Permit User to Upload Artifact
Category	Priority	Type	The system shall permit users to…
Mandatory	1	Input	Login
Mandatory	1	Input	Send Registration Request
Mandatory	1	Output	Download Artifact
Optional	2	Input	Request permission to add Artifact
Optional	2	Input	Add Artifact

Non-Functional Requirements

Attractiveness	The system shall utilize the Franklin College Education Department Logo and appropriate color scheme.
Availability	The system shall be available 24/7 for any user.
Compatibility	The system shall be compatible with existing Franklin College server platforms and Internet Explorer, Firefox, Chrome, and Edge Internet browsers.
Security	The system shall require login credentials for access.
Usability	The system shall be intuitive and easy to use.

Constraints (Operational and/or Technical)

The system must run on existing Franklin College servers running Microsoft SQL Server 2012 on Windows Server 2008 R2.

Standards

The system must be developed using the programming languages associated with the .NET framework. In addition, the system must follow the coding and quality standards established by WebbDevelop(). Finally, the system must follow the de facto user-interface design standards associated with modern web-based software systems.

WebbDevelop() 101 Branigin Blvd Franklin, IN 46131	Document Samples (2019LEDD)
Franklin College Education Department	Date: 02/08/2019
Preparer Name: Jakeb Webber Title: System Analyst Phone: 812-340-7940 Email: jakeb.webber@franklincollege.edu	**Key Point of Contact** Name: Dr. David Moffett Title: Visiting Professor and Chair of Education Dept Phone: 317-738-8221 Email: dmoffett@ franklincollege.edu

Quality Assurance System Outline

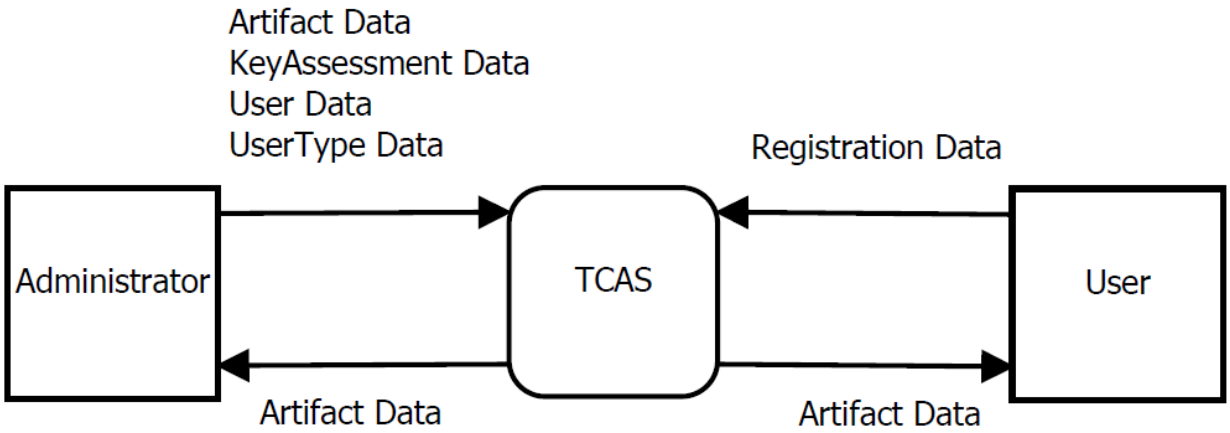
Quality Assurance System (QAS)

Key Assessment 1 Student Pre-Admission to Program	Key Assessment 2 Pre-Service Candidate In Program	Key Assessment 3 Pre-Service Candidate Student Teaching	Key Assessment 4 In-Service Candidate Employed First 3 yr
Required Prerequisite Education Courses for Admission Required Minimum G.P.A. for Admission Early Field Exp: INE 200 & EFE 284 Required Test Scores for Admission Passed Student Disposition, Recommendation Forms: Two from El Ed Faculty and One from Content Faculty KA 1/Pre-KA 2 InTASC Portfolio (including Philosophy of Education) Rater/Interrater Scores KA 1/Pre-KA 2 Interview Rubric Rater/Interrater Scores Key Assessment Point One Tally Admitted to Program	Required Program Courses Mid FieldExp/Clinical EFE 384, INE 300, EFE 385, EFE 484 School/Community Service Project 2 PD Experiences 3EdFaculty Completed Disposition, Recommendation Forms Pre-Service Candidate Self-Completed Disposition, Recommendation Form Ethics in Education Timed Writing Paper KA 2/Pre-KA 3 InTASC-driven Portfolio KA 2/Pre-KA 3 Presentation Key Assessment Point Two Tally Admit to Student Teaching	Student Teaching: EST489 Leadership Project Cooperating Teacher, College Supervisor & Student Surveys Pre-Service Candidate Program Survey Principal Survey State Required Tests For Licensure Required G.P.A. KA 3 Action Research (FACT) Poster Presentation Rater/Interrater Scores KA 3 InTASC Portfolio Rater/Interrater Scores Key Assessment Point Three Tally Graduation	Full Time Employment Program provided annual survey each year in first three years of teaching State and School District Data, etc Key Assessment Point Four Tally

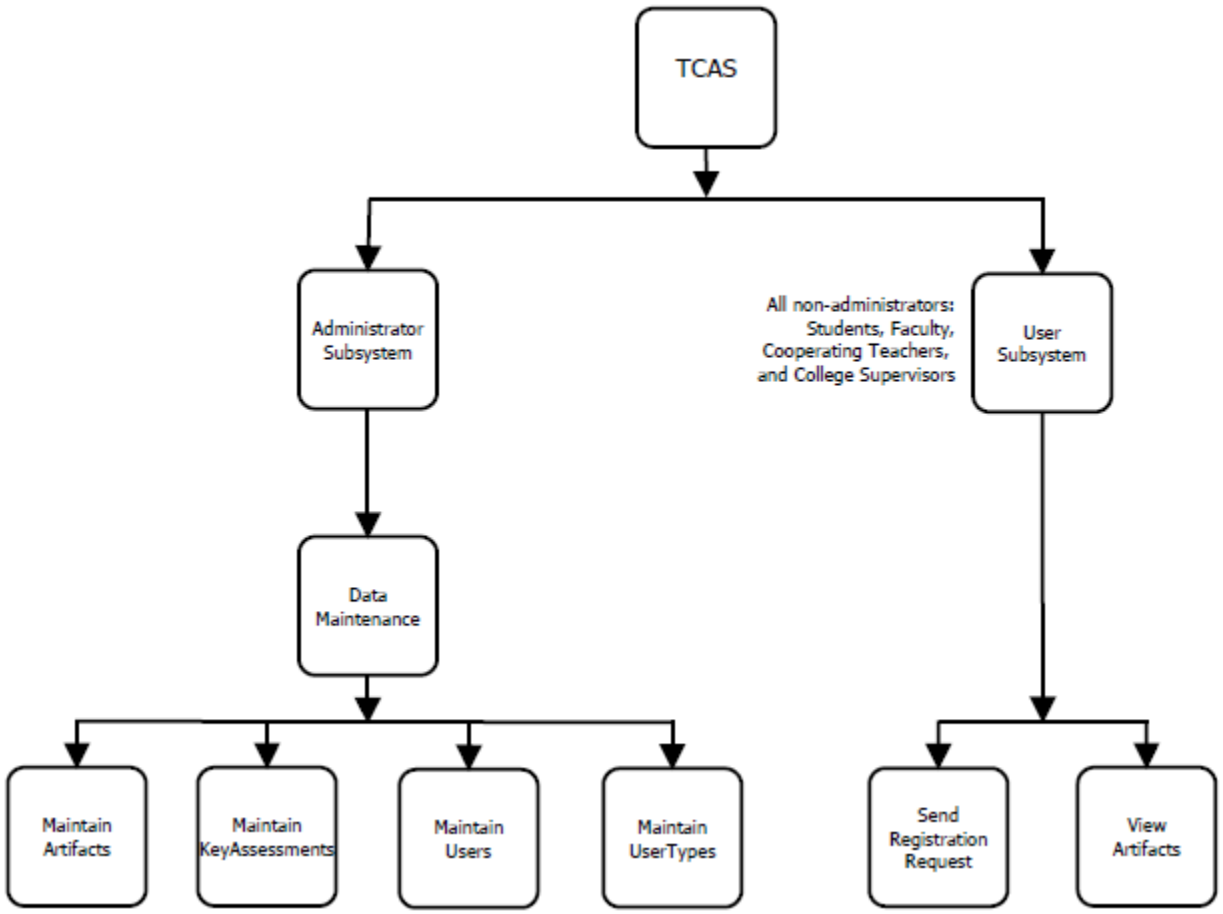
Key Assessment 1/Pre-Key Assessment 2 Student Interview Questions and Rubric *See digital or hard copy*
Key Assessment 1/Pre-Key Assessment 2 Student Portfolio Rubric *See digital or hard copy*
Key Assessment 2/Pre-Key Assessment 3 Pre-Service Candidate Portfolio Rubric *See digital or hard copy*
Key Assessment 2/Pre-Key Assessment 3 Pre-Service Candidate Portfolio Presentation *See digital or hard copy*
Key Assessment 3/Pre-Key Assessment 4 Pre-Service Candidate Portfolio Rubric *See digital or hard copy*
Key Assessment 3 FACT Action Research Project Poster Presentation Evaluation Rubric *See digital or hard copy*

<table>
<tr><td>WebbDevelop()
101 Branigin Blvd
Franklin, IN 46131</td><td>Request for System Services
(2019LEDD)</td></tr>
<tr><td>Franklin College Education Department</td><td>Date:
02/08/2019</td></tr>
<tr><td>Preparer
Name: Jakeb Webber
Title: System Analyst
Phone: 812-340-7940
Email: jakeb.webber@franklincollege.edu</td><td>Key Point of Contact
Name: Dr. David Moffett
Title: Visiting Professor and Chair of Education Dept
Phone: 317-738-8221
Email: dmoffett@ franklincollege.edu</td></tr>
<tr><td colspan="2">Executive Sponsor
Name: Dr. David Moffett
Title: Visiting Professor and Chair of Education Dept
Phone: 317-738-8221
Email: dmoffett@ franklincollege.edu</td></tr>
<tr><td colspan="2">Statement of the Problem
The Franklin College Education Department currently has no system through which cooperating high school teachers, supervisors, or students can access the previous works of education students from Franklin College. This makes facilitating and evaluating improvements in student responses to the Key Assessments of the Quality Assurance System (QAS) more difficult. Cooperating high school teachers cannot provide examples of what is expected of students in the Franklin College Education Program. Supervisors evaluating the work of pre-admission students, pre-service candidates in the program, and student teaching pre-service candidates cannot currently retrieve graded artifacts to view examples of work corresponding to the different scoring levels. Students cannot view other students' work to better understand the expectations associated with the Key Assessments.</td></tr>
<tr><td colspan="2">Vision of the Solution
The Franklin College Education Department would like a Legacy Education Department Database (LEDD) that would allow electronic access to a collection of artifacts which address the Key Assessments of the education curriculum. Access to these artifacts would be granted to FC faculty and staff, the supervisors that are asked to evaluate education students on their Key Assessments, cooperating high school teachers, and students selected for and seeking admission to the education program.</td></tr>
<tr><td colspan="2">Benefits of the Solution
This system will:
1) provide real-world examples on which supervisors can base future evaluations, 2) provide cooperating teachers in-class materials to demonstrate the expectations of the Franklin College Education Department, 3) provide students with examples of good and poor practices on their own Key Assessment submissions, and 4) create an easily accessible measure of the trends of student responses to the Key Assessments.
In addition, this system will provide a means by which students may learn from past errors to improve the quality of responses to the Key Assessments in the future.</td></tr>
<tr><td colspan="2">Risks of Not Completing the Solution
If the LEDD is not developed for the Franklin College Education Department, the problems raised in the "Statement of the Problem" section of this report will continue unaddressed. Furthermore, the Education Department will not be able to easily provide the materials needed on which supervisors can base evaluation, cooperating teachers can base lesson plans, and students can improve their own work.</td></tr>
</table>

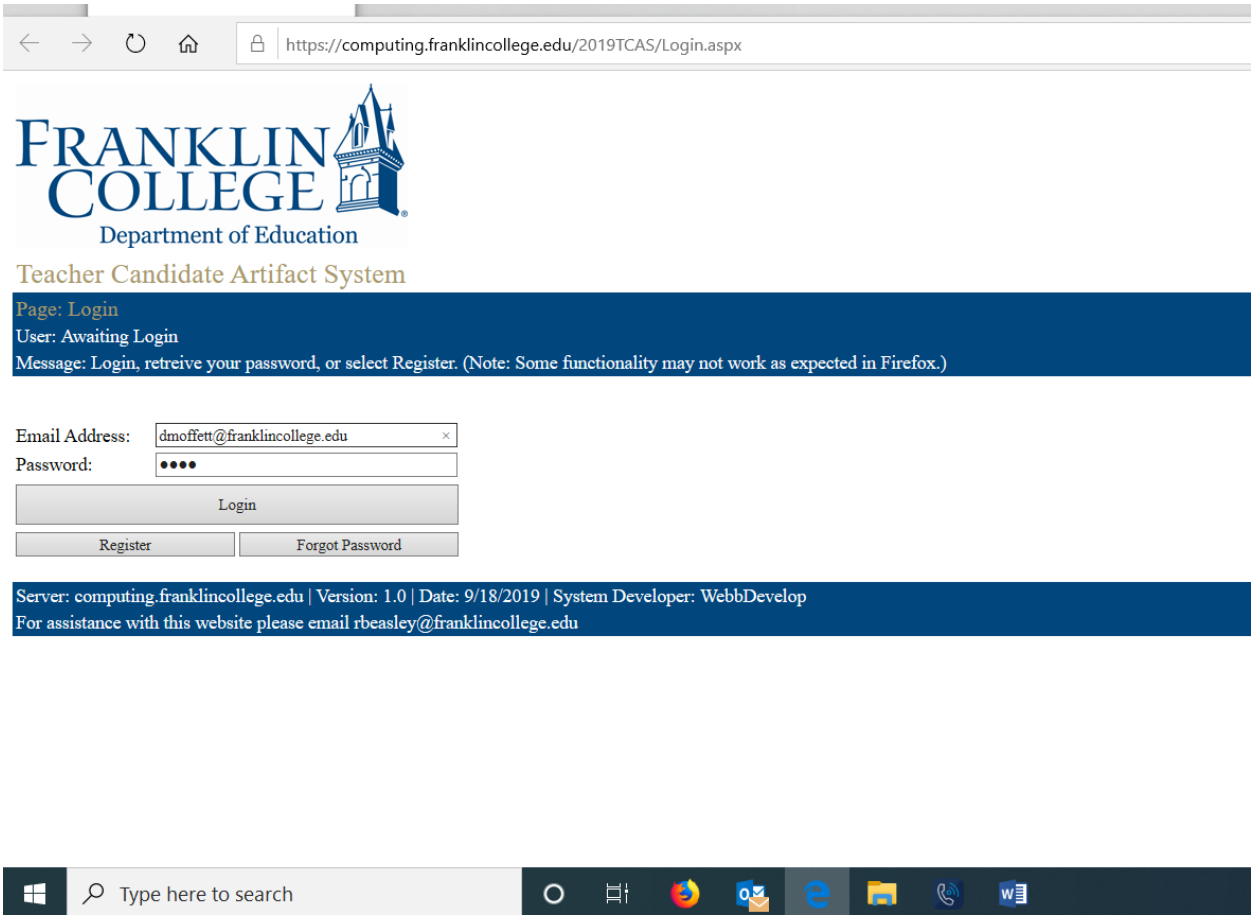
WebbDevelop() 101 Branigin Blvd Franklin, IN 46131	Context Data Flow Diagram (TCAS)
Franklin College Education Department	Date 02/22/2019
Preparer Name: Jakeb Webber Title: System Analyst Phone: 812-340-7940 Email: jakeb.webber@franklincollege.edu	**Key Point of Contact** Name: Dr. David Moffett Title: Visiting Professor and Chair of Education Dept Phone: 317-738-8221 Email: dmoffett@ franklincollege.edu



WebbDevelop() 101 Branigin Blvd Franklin, IN 46131	Functional Decomposition Diagram (TCAS)
Franklin College Education Department	Date 02/22/2019
Preparer Name: Jakeb Webber Title: System Analyst Phone: 812-340-7940 Email: jakeb.webber@franklincollege.edu	**Key Point of Contact** Name: Dr. David Moffett Title: Visiting Professor and Chair of Education Dept Phone: 317-738-8221 Email: dmoffett@ franklincollege.edu



The result of the Senior's writing of 2000 lines of code is the new "Teacher Candidate Artifact System (TCAS)", which is the student legacy artifact archival retrieval system.



The Study Investigator then sent an invitation to EPP members to register for access to TCAS:

Hi, Please register for access to the Department of Education's Teacher Candidate Artifact System (TCAS):

http://computing.franklincollege.edu/2019TCAS/Login.aspx

Click on "Register"

Click on "User Type" and select the appropriate type.

Provide your "First Name", "Last Name", "Email Address", and "Password"

Be sure to remember which email address you provide and the password you create (passwords have certain requirements).

(Once your registration is accepted you will use your email address and password you create to log in)

Click on “Register”

One of the System Administrators will see your Register request and allow you to enter the database.

The Administrators do not receive an auto email when you register.

However, the System Administrators check for user registrations often.

TCAS houses student and pre service artifacts across the key assessments at various performance levels for evaluator training purposes.

It also provides current and future Department of Education students and pre service candidates with opportunities to view current and former students’ and pre service candidates’ artifacts,

in the spirit of key assessment artifacts’ continuous improvement.

Thank you!

Then the Senior who created TCAS presented his project:

Hi Friends,

Tomorrow, Thursday, May 9th, Computer Science Major Jakeb Webber will present the new Teacher Candidate Artifact System (TCAS), to satisfy his CNP 499 course requirements for graduation,

In OM 236 at 3 p.m.

You are invited to attend this presentation.

Thanks to Jakeb for all of his work this semester on our Department’s new candidate legacy archival retrieval system of artifacts occurring across the key assessments.

It is a one of a kind database for teacher education programs.

Thank you,

David

The Investigator served as one of the evaluator’s of the Senior’s presentation of TCAS using the following evaluation instrument:

INTEROFFICE MEMORANDUM

TO: DR. DAVID MOFFETT

FROM: DR. ROBERT E. BEASLEY

SUBJECT: SENIOR COMPETENCY PRACTICUM

DATE: 5/8/2019

CC:

Thank you for agreeing to evaluate Jakeb's final senior seminar presentation.

During this presentation, he/she will be expected to spend 30 to 40 minutes discussing his/her project. There should be 10 to 15 minutes left at the end of the presentation for questions and discussion. Please note that your judgment of *competency* should include more than technical ability. As you evaluate this student's competency, please consider the following (respective weightings are provided for your guidance):

- Is his/her manner and dress professional (5 percent)?

- Is the room properly arranged (5 percent)?

- Is he/she properly prepared with any necessary support materials, overheads, handouts, etc. (10 percent)?

- Does he/she communicate clearly/answer questions directly (20 percent)?

- Is he/she knowledgeable about the client's requirements for the system (30 percent)?

- Does he/she seem to have mastered the technical aspects of software development (30 percent)?

After the presentation, please take a few minutes to summarize your impressions, assign a grade for the presentation (on a scale from 1 to 100, where 59 or below = F range, 60-69 = D range, 70-79 = C range, 80-89 = B range, and 90-100 = A range), and then return this memo to me. Thanks.

There were four evaluators including the Study Investigator of the Senior's presentation of the creation of TCAS:

At the beginning of academic year 2019-2020 the Computer Science Department assigned a Senior to follow up with the Study Investigator to address any revisions or additions to TCAS needed. Two rubric scoring categories for being admitted to student teaching and completion of the program needed to be added (Diversity and Technology) complementing accreditation evidence guidelines. The form used for launching this follow up process and work is as follows:

Thai Development 101 Franklin Blvd Franklin, IN 46131	Software Change Request (TCAS)
Franklin Education Department	Date 2019-09-05
Preparer Name: Tre Akers Title: Systems Analyst Phone: 317-517-5164 Email: thomas.akersiii@franklincollege.edu	Originator Name: Dr. David Moffett Title: Education Department Chair Phone: 317-738-8221 Email: dmoffett@franklincollege.edu

Version	SCR Number	Priority	Date Required	Date Completed
TCAS 2.00	1	☐Emergency ☐Urgent ☒Routine	2019-12-15	

Type of Service (Check all that apply.)

☒Corrective Maintenance (i.e., isolate and correct end-user identified errors)
☒Perfective Maintenance (i.e., improve usefulness)
☐Adaptive Maintenance (i.e., bring into compliance with changes in external environment)
☐Preventive Maintenance (i.e., correct latent errors before encountered by end users)
☐Refactorative Maintenance (i.e., improve performance and/or maintainability)
☐Documentation Maintenance

Change Description

(Important Note: Do not overwrite artifacts folder when printing updated software on server)

- Make header condensed and fix login page
- Place type of user after login name
- Allow general users to maintain personal data
- Automatically generate passwords for users created by administrators
- Eliminate the error message stating that the file is corrupt
- Permit users to filter artifacts which represent inTASC standards
- Add diverse and technology to element type
- Make any required user-interface modifications
- Fix any encountered bugs

Impact Analysis

Assigned To	Tre Akers (Software Engineer)						
Date Assigned	2019-09-05						
Date Completed	2019-09-12						
Extent of Modification	See Change Description						
Estimated Effort (PDs)	Analysis	Design	Coding	Integration Testing	System Testing	Acceptance Testing	Total
Actual Effort	0.25	0.125	1.0	0.25	0.25	0.125	2.0

(PDs)							
Comments							

SCCB Analysis

Date Assigned	2019-09-13
Date Completed	
Decision	☐Accepted ☐Rejected
Comments	
Signatures	Dr. Robert Beasley: _____Date:_____ (Project Manager) Tre Akers: _____Date:_____ (Software Engineer) Dr. David Moffett: _____Date:_____ (Client) Dr. David Moffett: _____Date:_____ (Client Acceptance Testing)

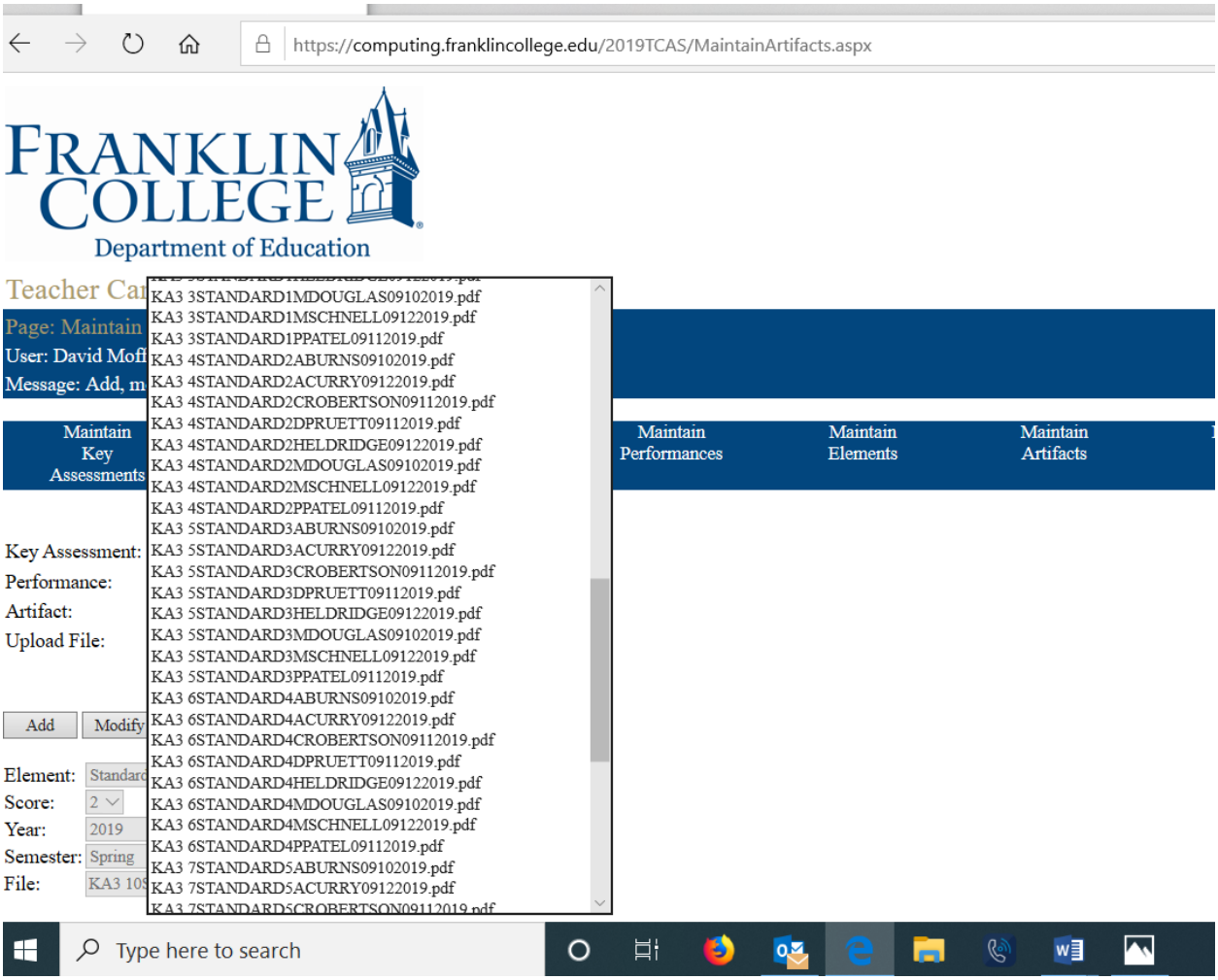
Study Data Source

Students submit artifacts beyond the InTASC Standards in consideration for being admitted to the program. Pre-service candidates submit artifacts reflective of InTASC's 10 Standards and other required artifacts for admission to student teaching, action research projects, and for program completion. These artifacts across the program's key assessments are scored by designated raters and interraters, as are student interviews and pre-service candidate presentations of both Standards artifacts and action research. The rater/interrater score averages result in artifacts placed in particular performance levels in TCAS. The artifacts reside in particular key assessments categories described above.

The study instruments are students' and pre-service candidates' artifacts that are best attempts at meeting InTASC Standards and other program required items performance criteria within three of the four key assessments across the teacher education program.

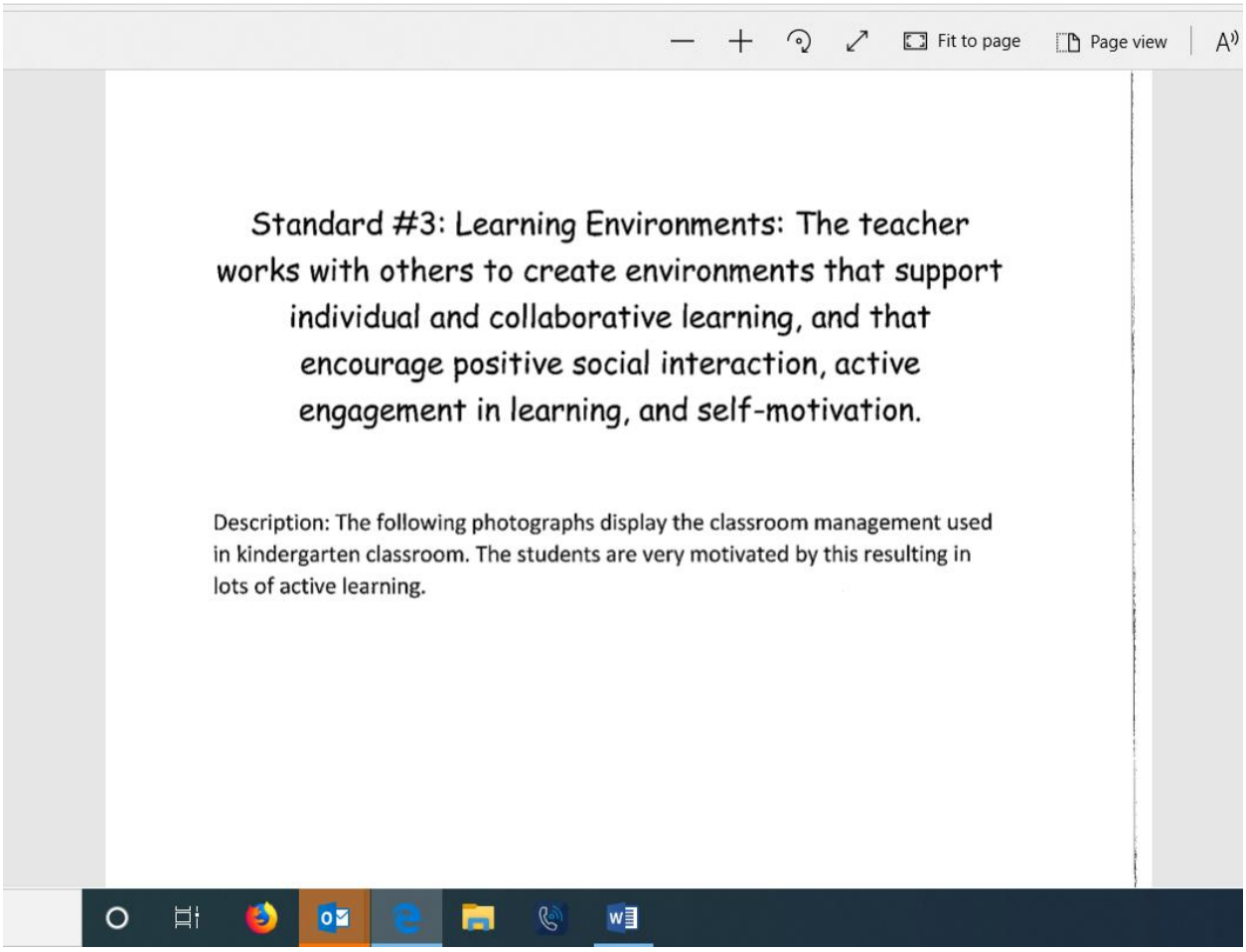
Study Procedures

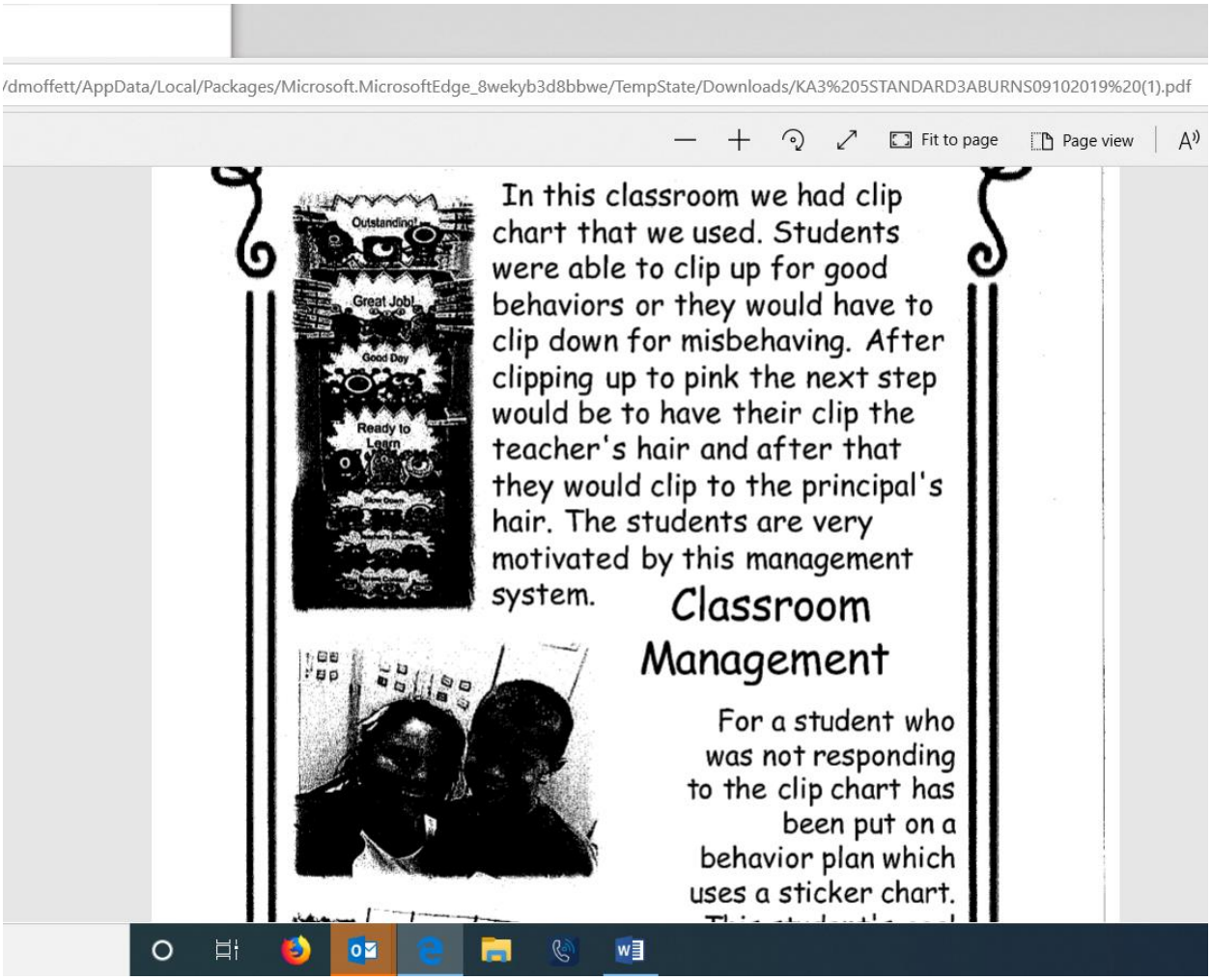
For evaluator training purposes artifact scorers access the previously scored student and pre-service candidate artifacts judged to be at particular rubric performance levels across the key assessments. Evaluators enhance their scoring expertise of artifacts by viewing the artifacts. Below is the view users see of TCAS when they select a particular performance level artifact representing a particular assessment for viewing:



Upon selecting a particular artifact for viewing it comes up on the screen. Below is a partial view of a pre-service candidate's artifact for InTASC Standard 3 in TCAS:

ett/AppData/Local/Packages/Microsoft.MicrosoftEdge_8wekyb3d8bbwe/TempState/Downloads/KA3%205STANDARD3ABURNS09102019%20(1).pdf





Students and pre-service candidate's access former candidates' artifacts at various performance levels across the program's key assessments to ascertain acceptable and unacceptable product. Students and pre-service candidates then create their artifacts informed by the reviews of previous student and pre-service legacy artifacts.

Results and Conclusions

Students and pre-service candidates accessing former students' and pre-service candidates' artifacts at various performance levels across the program's key assessments result in continuous improvement of program artifacts. By viewing what former students and pre-service

candidates submitted as artifacts for the InTASC Standards and other required artifacts students and pre-service candidates create better artifacts for them.

Evaluators accessing previously scored student and pre-service candidate artifacts across performance levels and program key assessments enhance their scoring expertise resulting in continuous improvement of scoring reliability. Additionally evaluators enhance their ability to identify the particular elements of artifacts resulting in improved writing of rubric performance level descriptions for the scoring of future artifacts.

Educational and/or Scientific Importance of the Work

EPP's must continuously improve. Continuous improvement efforts depend on evaluator and student/pre-service candidate training. TCAS offers evaluators, students, and pre-service candidates the electronic ability to view scored artifacts at various performance levels.

Continuous program improvement reflects improved student and pre-service candidate artifacts for Standards and other program-required items. Reviews of student legacy artifacts cause current students and pre-service candidates to synthesize former product in new ways resulting in artifact improvement. Improved student artifacts are at the heart of teacher education program continuous improvement.

Review of student artifacts in TCAS also provide faculty with continuous improvement opportunities for writing descriptions of performance levels within key assessment rubrics across the program. TCAS is a one of a kind free student legacy artifact archival retrieval database system. Knowledge of how to implement such a system is of great value to all Education Program Providers.

Summary

Answers to the four original study questions:

Q.: How can an Education Program Provider (EPP) best provide a free legacy archival retrieval database system with examples of artifacts representing standards for its students, pre-service candidates, in-service candidates, and faculty?

A.: By utilizing on campus Computer Science students seeking a project to fulfill course or graduation requirements and securing server space on the college's computer.

Q. Can such a resource help to continuously improve student and pre-service artifacts reflective of the Interstate New Teacher Assessment and Support Consortium (InTASC) Standards and other required items?

A: Yes. Students and pre-service candidates accessing previously scored artifacts at various performance levels across the program's key assessments can improve the quality of the artifacts created by them.

Q. Can this new resource improve the scoring abilities of those who evaluate the student and pre-service candidates? If so, how?

A: Yes. Scorers of artifacts accessing previously scored artifacts housed in TCAS can better know the particular qualities of artifacts at various performance levels thereby providing opportunities to improve scoring ability.

Q. Will the resource enable the EPP to better construct rubrics with relevant, homegrown performance level descriptions for evaluating the future produced student and pre-service candidate artifacts?

A: Yes. The attributes of artifacts at particular performance levels enable writers of rubric performance levels to better describe the particular differences within each level.

Figure 1 Special thanks to Jakeb Webber, designer of TCAS (at graduation ceremony, May, 2019, Franklin College).

About the Study Investigator:

Dr. David W. Moffett is Chair of the Department of Education and Professor of Education. Additional leadership experience includes serving as Dean and Associate Dean in Schools of Education, as well as Chair of two Education Divisions. His doctorate in Leadership and Evaluation is from a Top 10 nationally ranked program. As an expert in education program quality, Dr. Moffett is highly sought for program design, assessment design, and accreditation preparation. To date he has led four colleges to education accreditation success. Voted a college's faculty member of the year in 2008, a leading educator of the world in 2005, and finalist for a university's excellence in teaching award in 2003, Dr. Moffett's awards include initiation into three international education honor societies and selection for Who's Who Among America's Educators. He holds Professionalized School Leader and Teacher licenses. Fulfillment of academic and administrative roles feature designing and coordinating doctoral, education specialist, master's, secondary education, middle grades, elementary education, and educational technology programs. Dr. Moffett led an education association of 22 independent colleges and universities as President. He is the longest serving Board Member, Treasurer, and President-elect of an education association for 54 public and private colleges and universities. As a member of the professoriate, Dr. Moffett is in his third decade of higher education teaching. He has designed and taught 56 different college courses including the Doctoral Research Seminar. Dr. Moffett is a pioneer in online education. He delivered a university's first all online course in 1998, and has since designed and launched online degree programs. He possesses 30+ years of experience in database systems design.