Technology Data

Examples of data providing evidence related to teacher candidate preparation to use technology

I. Student Teacher Final Evaluation Data – performance-based data gathered from cooperating teacher ratings and student teacher self-assessments
II. Exit Survey Data – reflective self-analysis by teacher candidates near the time of graduation
III. Disposition Data - performance-based data gathered from cooperating teacher ratings and teacher candidate self-assessment
IV. Completer Survey Data – first year teacher reflect on their preparation
V. Employer Survey Data – employer responses regarding the preparation of first-year teachers

I. Student Teacher Final Evaluation Data – this section displays the rubric and data gathered from cooperating teachers and self-assessment data from student teachers.

Standard #3: Learning Environments. The teacher works with learners to create environments that support individual and collaborative learning and that encourage positive social interaction, active engagement in learning, and self-motivation.

InTASC 3	Distinguished (4)	(3.5)	Proficient (3)	(2.5)	Emerging (2)	(1.5)	Underdeveloped (1)	Mean	3 or >
Guides learners in using **technologies** in appropriate, safe, and effective ways	plans for and uses interactive technologies as a resource to support student learning; anticipates how information may be misused and develops guidelines for learners to use technology appropriately, safely and effectively		uses interactive technologies as a resource to support student learning; guides learners in using technology appropriately, safely and effectively		attempts to use interactive technologies as a resource to support student learning; guides learners in using technology appropriately, safely and effectively		needs assistance to use interactive technologies as a resource to support student learning; rarely guides learners in using technology appropriately, safely, and effectively		
Fall 2017-Spring 2020 N=495 placements	28.9% N=143	22.8% N=113	41.0% N=203	5.3% N=26	1.4% N=7	0.4% N=2	0.2% N=1	**3.35**	**92.7%**
Fall 2019-Spring 2020 N=132	37.1% N=49	22.0% N=29	37.1% N=49	1.5% N=2	2.3% N=3			**3.46**	**96.2%**
Fall 2018-Spring 2019 N=195	25.1% N=49	23.1% N=45	43.1% N=84	7.7% N=15	1.0% N=2			**3.32**	**91.3%**
Fall 2017-Spring 2018 N=168	26.8% N=45	23.2% N=39	41.7% N=70	5.4% N=9	1.2% N=2	1.2% N=2	0.6% N=1	**3.32**	**91.6%**

Standard #8: Instructional Strategies. The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

InTASC Standard 8	Distinguished (4)	(3.5)	Proficient (3)	(2.5)	Emerging (2)	(1.5)	Underdeveloped (1)	Mean	3 or >
Uses **technology** appropriately to enhance instruction	engages learners in evaluation and selection of media and technology resources; uses technology appropriately to engage learners and enhance instruction		uses technology effectively to enhance instruction		uses limited instructional strategies that involve technology		identifies instructional strategies without involving technology		
Fall 2017-Spring 2020 N=495 placements	31.1% N=154	25.1% N=124	35.8% N=177	6.3% N=31	1.6% N=8		0.2% N=1	**3.38**	**91.9%**
Fall 2019-Spring 2020 N=132	43.2% N=57	23.5% N=31	28.8% N=38	2.3% N=3	2.3% N=3			**3.52**	**95.5%**
Fall 2018-Spring 2019 N=195	27.2% N=53	23.6% N=46	41.0% N=80	6.7% N=13	1.5% N=3			**3.34**	**91.8%**
Fall 2017-Spring 2018 N=168	26.2% N=44	28.0% N=47	35.1% N=59	8.9% N=15	1.2% N=2	1.2% N=2		**3.33**	**88.7%**

Analysis: "Guides learners in using technologies in appropriate, safe, and effective ways" is most closely aligned with InTASC Standard 3 and engaging students in a safe learning environment. The second student teacher assessment item, "Uses technology appropriately to enhance instruction", is more aligned with instructional strategies and InTASC Standard 8. The ratings for both items have similar cumulative mean scores (3.35 and 3.38), similar percentages of proficiency ratings (approximately 92% of the ratings at 3 or higher), and both items display an upward trend with the highest ratings in 2019-2020.

Action: VCSU was the nation's second laptop university in 1996. The use of technology is part of the university's culture. Technology safety and the use of technology to enhance instruction are important skills for teacher candidates to learn. The impact of COVID-19 in the spring of 2020 has highlighted the importance of teacher preparation related to the use of technology to enhance instruction. The August 5, 2020 annual data sharing session with K-12 educators and VCSU faculty included a section on discussing how teacher preparation can be improved in the midst of a pandemic. Ideas that came from K-12 educators involved preparing teacher candidates to be open-minded and flexible. The educators mentioned exposure to Teams/Zoom, flipped classrooms, learning to teach in an online or HyFlex format, and ways to build strong-positive relationships with students despite not being face-to-face in the classroom. Educators also mentioned experience with iPads, Universal Design, Schoology, and SeeSaw. The EPP listens to the feedback it receives from K-12 educators and works to prepare teacher candidates to use technology to enhance their instruction and their students' learning experiences.

The EDUC 300 Technology Education instructors model lifetime learning and a growth mindset for the teacher candidates. All unit faculty utilize technology on a regular basis. Faculty send general communication messages through email, to communicate about coursework and grades through the Blackboard Learning Management System. Faculty advise candidates toward their degree through Campus Connection resources. Faculty and staff use the School of Education Central Assessment System to enter data, review data, and help monitor candidates progress through the program. Faculty use technology to develop lesson materials and content to be shared in class sessions whether the lessons are taught in person or using a HyFlex or online session through Microsoft Teams or Blackboard Collaborate. Teacher candidates and faculty use technology on a regular basis. Regardless of the data high and low points, the use of technology to prepare teacher candidates is an area where the EPP works for continuous improvement.

Technology Data Disaggregated by Major 2017-2020 Student Teaching Data

Teacher Education Major	**InTASC 3 Learning Environment - Guides learners in using technologies in appropriate, safe, and effective ways.** (Mean and Count)	**InTASC 8 Instructional Strategies - Uses technology appropriately to enhance instruction.** (Mean and Count)
Art Education	4.00 N= 1	4.00 N= 1
Business Education	3.67 N= 9	3.44 N= 9
Elementary Education	3.34 N=292	3.40 N=292
English Education	3.27 N= 22	3.45 N= 22
Health Education	3.45 N= 13	3.27 N= 13
Math Education	3.09 N= 16	3.16 N= 16
Music Education	3.32 N= 14	3.32 N= 14
Physical Education	3.28 N= 30	3.40 N= 30
Kindergarten Endorsement	3.36 N= 53	3.40 N= 53
Science/Biology/Chemistry Education	3.25 N= 8	3.44 N= 8
Social Science/History Education	3.28 N= 23	3.37 N= 23
Technology Education	3.56 N= 8	3.13 N= 8
Total	**3.35 N=495**	**3.38 N=495**

Student Teacher Technology Data Disaggregated by Academic Level and Course Delivery Option

Student Teacher "Uses technology appropriately to enhance instruction"
Data Disaggregated Fall 2017-Spring 2020

Possible ratings: 4=Distinguished, 3.5, 3=Proficient, 2.5, 2=Emerging, 1.5, 1=Underdeveloped

Course Delivery Option	**Mean**	**N**
Elementary on VCSU Campus	3.49	100
Secondary on VCSU Campus	3.34	64
K-12 Art, PE, Music on VCSU Campus	3.31	43
Elementary on NDSU Campus	3.37	163
Elementary in Wyoming (Distance)	3.32	53
Elementary Online	3.37	23
Secondary Online	3.41	33
Elementary on TBC Campus	3.33	9
K-12 PE on TBC Campus	3.43	7
Total	**3.38**	**495**

Analysis: The unit examines the data disaggregated by major and delivery method. If the data is substantially different for a major or a course delivery option the unit will respond with an increased level of attention, resources, or strategy for instruction. The data for the academic level and course of delivery are highly similar. These data have a greater connection to the professional education sequence while the data listed by major is most important for each major to decide about its own course of action.

II. Exit Survey Data – completed by teacher candidates during the final weeks prior to graduation

A2. Teacher Education Program Satisfaction: Program Structure/Quality – Data gathered from Fall 2011 – Spring 2020

How satisfied were you with the following aspects of your teacher preparation program?

Criteria (VCSU Data)	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Does Not Apply	Total Count	Mean Score
Integration of technology throughout your teacher preparation program	55.21 %	37.56 %	6.67 %	0.47 %	0.09 %	1065	3.47

B1. Preparation for Teaching: Instructional Practice - Data gathered from Fall 2013 – Spring 2020

To what extent do you agree or disagree that your teacher preparation program gave you the basic skills to do the following?

Criteria (VCSU Data)	Agree	Tend to Agree	Tend to Disagree	Disagree	Does Not Apply	Total Count	Mean Score
Engage students in using a range of technology tools to access, interpret, evaluate, and apply information.	57.88 %	35.62 %	5.78 %	0.72 %	0 %	831	3.51

Analysis: The Exit Survey contains two technology items. The first item asked teacher candidates about the integration of technology throughout their preparation as a teacher. Just under 93% of the teacher candidates marked “Very Satisfied” or “Satisfied”. The second item asked teacher candidates about their preparation to use technology to engage students. Over 93% of candidates marked “Agree” or “Tend to Agree” that they were prepared with basic skills to Engage students in using a range of technology tools to access, interpret, evaluate, and apply information. The percentages of satisfaction and agreement are highly favorable.

Action: The mean score ratings from VCSU graduating seniors (in the tables above) are higher than the ratings reported by seniors in the super aggregate (tables below). Still, the unit believes that the use of technology must be worked at continuously. In addition to the experiences that teacher candidates have in the EDUC 300 Educational Technology course, faculty will be doing more with technology than ever before to prepare teacher candidates to use technology as teachers in the future.

A2. Teacher Education Program Satisfaction: Program Structure/Quality – *Super Aggregate Data from Spring 2019 Exit Surveys

How satisfied were you with the following aspects of your teacher preparation program?

Criteria (*Super Aggregate Data)	Very Satisfied	Satisfied	Dissatisfied	Very Dissatisfied	Total Count	*Mean Score
Integration of technology throughout your teacher preparation program	29.45%	55.87%	13.26%	1.43%	2941	3.13

B1. Preparation for Teaching: Instructional Practice – *Super Aggregate Data from Spring 2019 Exit Surveys

To what extent do you agree or disagree that your teacher preparation program gave you the basic skills to do the following?

Criteria (*Super Aggregate Data)	Agree	Tend to Agree	Tend to Disagree	Disagree	Does Not Apply	Total Count	*Mean Score
Engage students in using a range of technology tools to access, interpret, evaluate, and apply information.	50.58%	36.61%	11.19%	1.62%	0.0%	3029	3.36

*The following institutions contributed data to this report: University of Alaska, Anchorage; University of Alaska, Fairbanks; University of Alaska, Southeast; Dickinson State University; Minot State University; Mayville State University; Turtle Mountain Community College; University of Jamestown; University of Mary; University of North Dakota; Augsburg University; Bethel University; Concordia University, St. Paul; Hamline University; Minnesota State University, Mankato; Minnesota State University, Moorhead; North Dakota State University; St. Cloud State University; St. Catherine University; University of St. Thomas; University of Minnesota, Twin Cities; University of South Dakota; Valley City State University; Winona State University; Bluefield State College; Concord University; Marshal University; Shepherd University; University of Charleston; West Liberty University; West Virginia State University; West Virginia University; West Virginia University at Parkersburg; Glenville State College; Wayne State College; University of Minnesota, Morris; University of Wisconsin, Whitewater; and Colorado State University.

III. Disposition Data – the disposition assessment form was revised and piloted in Spring of 2019 (three cycles of data are shared)

InTASC Standards 6-8 Instructional Practice	Exceeds Expectations (3)	(2.5)	Meets Expectations (2)	(1.5)	Needs Improvement (1)	Not Observed
The teacher candidate…						
Values the exploration of how to use new and emerging technologies to promote student learning (InTASC 8.q, 8.r) (Danielson 1d) (MCEE II.A.1, II.A.3, C.1-2; III.A.1, B.3; IV.B.4)	seeks out opportunities to learn and apply new and emerging technologies that are engaging and result in learning.	In addition to score of "2" performance, partial success at score of "3"	explores ideas for using new and emerging technologies that are engaging and support learning.	In addition to score of "1" performance, partial success at score of "2"	lacks initiative for exploring new and emerging technologies that support learning.	

2019 VCSU Spring Pilot Disposition Data (one cycle of data)

3 =Exceeds Expectations**, 2.5 In addition to rating of 2, partial success at rating of 3, **2 =Meets Expectations**, 1.5 In addition to rating of 1, partial success at rating of 2, **1 =Needs Improvement

InTASC	**Disposition Item** - Rated by cooperating teachers *The teacher candidate…*	3	2.5	2	1.5	1	Mean Score	% at 2 or Higher
3	**Values the exploration of how to use new and emerging technologies to promote student learning** (InTASC 8.q, 8.r) (Danielson 1d) (MCEE II.A.1, II.A.3, C.1-2; III.A.1, B.3; IV.B.4)	17	7	24	8	1	2.27	84%

Fall 2019 - Spring 2020 Cooperating teacher ratings for teacher candidates during student teaching (two cycles of data)

InTASC	**Disposition Item** - Rated by cooperating teachers *The teacher candidate…*	3	2.5	2	1.5	1	Mean Score	% at 2 or Higher
3	**Values the exploration of how to use new and emerging technologies to promote student learning** (InTASC 8.q, 8.r) (Danielson 1d) (MCEE II.A.1, II.A.3, C.1-2; III.A.1, B.3; IV.B.4)	44	10	16	1	1	2.66	97%

Fall 2019 - Spring 2020 Teacher candidate self-assessment responses (two cycles of data)

InTASC	**Disposition Item** – SELF ASSESSMENT – rated by teacher candidates *The teacher candidate…*	3	2.5	2	1.5	1	Mean Score	% at 2 or Higher
3	**Values the exploration of how to use new and emerging technologies to promote student learning** (InTASC 8.q, 8.r) (Danielson 1d) (MCEE II.A.1, II.A.3, C.1-2; III.A.1, B.3; IV.B.4)	51	17	29	4	0	**2.57**	96%

Analysis: The 2019-2020 data are more favorable than the Spring 2019 pilot data. While 84% of the teacher candidates received ratings of 2 (Meets Expectations) or higher in the spring of 2019, 97% of cooperating teacher ratings and 96% of teacher candidate ratings were at the level of 2 or higher.

Action: The 2019-2020 data are encouraging. Having a growth mindset and an open attitude is important as teacher candidates discover the necessity of being lifelong learners who value the exploration of using new and emerging technologies to promote student learning. The annual data sharing session and faculty discussions have addressed how COVID-19 situations have increased the need for faculty to model and engage teacher candidates in learning and using technology to promote student learning.

IV. Completer Survey – gathered from alumni in the spring of their first year of teaching

Completer Survey Data - Technology is important to the VCSU mission for teacher education

Stem: To what extent do you agree or disagree that your teacher preparation program prepared you to…

Engage students in a range of technology tools to achieve learning goals.	Agree Count	Agree %	Tend to Agree Count	Tend to Agree %	Tend to Disagree Count	Tend to Disagree %	Disagree Count	Disagree %	Mean Score	Total Count
2017	32	56.1%	21	36.8%	3	5.3%	1	1.8%	3.47	57
2018	34	65.4%	13	25.0%	5	9.6%	0	0.0%	3.56	52
2019	31	55.4%	17	30.4%	8	14.3%	0	0.0%	3.41	56
2020	33	57.9%	20	35.1%	4	7.0%	0	0.0%	3.51	57
Overall Total	130	58.6%	71	32.0%	20	9.0%	1	0.5%	3.49	222

Analysis: The data indicate that over 90% of first-year teachers (58.6% Agree + 32.0% Tend to Agree = 90.6%) feel they were prepared to engage their students in using technology to achieve learning goals. The first-year teachers in the spring of 2020 indicated higher mean scores and percentages of agreement than 2019. The fact that first-year completers had to utilize technology in the midst of COVID-19 circumstances and 93% of the completers indicated they were well prepared to engage student learning while using technology is encouraging.

Action: The overall ratings and the spring 2020 data are encouraging. Annual data sharing session and faculty discussions have addressed how COVID-19 situations have increased the need for faculty to model and engage teacher candidates in learning and using technology to promote student learning. The unit knows that technology growth is an important aspect of continuous improvement.

***Comparison with the Super Aggregate Report gathered from first-year teaching using the same survey from 35 EPPs**

Engage students in a range of technology tools to achieve learning goals.	Agree Count	Agree %	Tend to Agree Count	Tend to Agree %	Tend to Disagree Count	Tend to Disagree %	Disagree Count	Disagree %	Mean Score	Total Count
*Super Aggregate data gathered in Spring of 2019 from 2017-2018 completers	448	44.7%	371	37.0%	155	15.5%	29	2.89%	3.23	1003

*VCSU data in the area of technology are much higher than the super aggregate completer ratings. Super Aggregate EPPs participating with the same survey: University of Alaska Anchorage, University of Alaska Fairbanks, University of Alaska Southeast, Dickinson State University, Minot State University, Mayville State University, Turtle Mountain Community College, University of Jamestown, University of Mary, University of North Dakota, Augsburg University, Bethel University, Concordia University St. Paul, Hamline University, Minnesota State University Mankato, Minnesota State University Moorhead, North Dakota State University, St. Cloud State University, St. Catherine University, University of St. Thomas, University of Minnesota Twin Cities, University of South Dakota, Valley City State University, Bluefield State College, Concord University, Fairmont State University, Glenville State College, Marshal University, Shepherd University, West Liberty University, West Virginia State University, West Virginia University, West Virginia University at Parkersburg, University of Minnesota Morris, Zayed University.

V. Employer Survey - gathered from the supervisors of alumni in the spring of their first year of teaching

Technology is important to the VCSU mission for teacher education.

Stem: To what extent do you agree or disagree that this first-year teacher does the following?

Engages students in a range of technology tools to access, interpret, evaluate, and apply information.	Agree Count	Agree %	Tend to Agree Count	Tend to Agree %	Tend to Disagree Count	Tend to Disagree %	Disagree Count	Disagree %	Mean Score	Total Count
2014	18	66.7%	7	25.9%	2	7.4%	0	0.0%	3.59	27
2015	31	54.4%	20	35.1%	4	7.0%	2	3.5%	3.40	57
2016	28	60.9%	15	32.6%	2	4.3%	1	2.2%	3.52	46
2017	32	72.7%	12	27.3%	0	0.0%	0	0.0%	3.73	44
2018	17	60.7%	8	28.6%	1	3.6%	2	7.1%	3.43	28
2019	23	60.5%	10	26.3%	5	13.2%	0	0.0%	3.47	38
2020	27	73.0%	7	18.9%	3	8.1%	0	0.0%	3.65	37
Overall Total	**176**	**63.5%**	**79**	**28.5%**	**17**	**6.1%**	**5**	**1.8%**	**3.54**	**277**

Analysis: The data indicate that 92% of first-year teachers (63.5% Agree + 28.5% Tend to Agree = 92.0%) feel they were prepared to engage their students while using technology to achieve learning goals. The 2020 employer mean score ratings (up from 3.47 to 3.65) and the percentages of agreement were higher (increased from 86.6% to 91.9%) than the 2019 ratings. The fact that first-year completers had to utilize technology in the midst of COVID-19 circumstances and 91.9% of employers indicated the EPP's completers were well prepared to use technology to engage students is positive.

Action: The overall ratings and the spring 2020 data are encouraging. Annual data sharing session and faculty discussions are in tune with how COVID-19 situations have increased the importance of modeling technology growth as part of continuous improvement. In addition to the EDUC 300 Educational Technology course, faculty model and engage teacher candidates in learning and using technology to promote student learning.

Engages students in a range of technology tools to access, interpret, evaluate, and apply information.	Agree Count	Agree %	Tend to Agree Count	Tend to Agree %	Tend to Disagree Count	Tend to Disagree %	Disagree Count	Disagree %	Mean Score	Total Count
*Super Aggregate data gathered in Spring of 2019 from employers of 2017-2018 completers	516	58.31%	294	33.32%	63	7.12%	12	1.36%	3.48	897

The VCSU data in the area of technology are higher than the super aggregate ratings from seniors exiting the program, from completers, and the employers of EPP's first-year teachers. The data are for internal purposes only, so VCSU does not publish this information for recruiting purposes.

*The following institutions or groups contributed to the super-aggregate: University of Alaska Anchorage, University of Alaska Fairbanks, University of Alaska Southeast, Dickinson State University, Mayville State University, Minot State University, Turtle Mountain Community College, University of Jamestown, University of Mary, University of North Dakota, Bethel University, Hamline University, University of Minnesota Twin Cities, University of Minnesota Mankato, University of Minnesota Moorhead, North Dakota State University, St. Cloud State University, University of St. Thomas, University of South Dakota, Valley City State University, West Virginia colleges and universities (administered statewide to supervisors of completers who are teaching in-state), and University of Minnesota Morris.