

# Supporting Virtual Instruction in Rural Kentucky: Google Apps

Lesia Lennex  
Morehead State University  
United States  
[l.lennex@moreheadstate.edu](mailto:l.lennex@moreheadstate.edu)

**Abstract:** Fall 2020 marked the first fully virtual semester for P-12 classrooms across the Commonwealth of Kentucky. Teachers were faced with challenges such as the digital divide, device access, and materials access (Prichard Committee, 2020). Toward improving the success of our teacher education candidates to teach in virtual environments, a task force was formed to investigate the use of Google Classroom, a free learning management system (LMS) which allows third-party creation, distribution, and collection of common P-12 classroom artifacts (Clark, 2020), Google Apps for Education (GAPE), and Google Level I certification. Teachers (N=427) and school administrators (N=66) in 22 counties in Eastern Kentucky were invited to participate along with the entirety of a rural university's undergraduate teacher education population (N=623) and Educator Preparation Providers (EPP) (N=63). P-12 teachers comprised the largest participation rate with 34% followed by school administrators at 26%. Significantly, 65% of teachers believed that Google certification Level I should be a required part of teacher initial certification and 59% of P-12 school administrators (mainly principals) were 'somewhat' more likely to hire teachers with a Google certification and 29% were "much more likely to hire."

**Keywords:** google apps,google apps for education,gafe,google classroom,teacher certification,teacher hiring,virtual classroom technology

## Introduction

P-12 schools and universities largely experienced a virtual teaching semester Fall 2020. Many P-12 schools scrambled to put chromebooks or other devices into the hands of students. Many teachers complained through social media and other outlets that they were unprepared to teach in a wholly virtual environment. The lack of formal training in virtual teaching was triaged by P-16 with virtual professional developments (Lennex, 2021; Adams, 2020). One year into COVID-19 influenced teaching, [rural university] had anecdotal information from many P-12 schools claiming to need teachers trained in specific technologies. This paper describes the efforts of one Kentucky university to determine the extent to which Google Apps were being used in P-12 classrooms and if formal training for initial teacher certification candidates was recommended.

In Fall 2020, the Google Apps Ad Hoc committee was tasked with determining (1) in what way(s) Google Apps for Education (GAPE) were being used by the Educator Preparation Providers at [rural university] (EPP), and P-12 schools, (2) attitudes toward formally incorporating Google Apps for Educators into teacher preparation programs among the EPP, P-12 schools, and teacher education candidates, and (3) present recommendations regarding Google Apps to the Teacher Education Council at [rural

university]. To protect the confidentiality of study participants, the name of the university is listed as [rural university].

## **Literature Review**

Much has been written about the inception of GAFE and introduction in 2014 of Google Classroom, its most popular app. As this study goal was to answer, based on constituent voice, whether or not to formally require Google Level I certification for initial certification candidates, the literature review for this study is therefore much more narrowly defined. Franko (2021) describes higher education teacher certification programs either incorporating new credits for teaching virtually or expanding existing courses. Adams (2021) discusses lack of training Spring 2020 for teaching virtually among majority of teachers. The Prichard Committee (2021) surveyed 1300 Kentucky teachers and 700 parents. Their findings cite that 54% of teachers found success in communicating with students via learning management system or virtual platform such as ZOOM. A key finding of this study was that 12% of families claimed they did not have reliable wi-fi in their homes (p. 8). Among its recommendations, the committee called for more internet hot spots be established to provide access in rural communities.

## **Method**

The committee developed surveys for each target group ([Appendix A](#)) and validated the questions through focus groups. Surveys were administered to the [rural university] 22-county service region March 16-26, 2021. Principals were contacted to distribute the SurveyMonkey URL. Seven of 22 counties participated in the survey (Image 1). All members of the EPP and teacher education candidates at [rural university] were sent their respective SurveyMonkey URL ([Appendix A](#)). The response rate for P-12 teachers (N=427) 34%, P-12 school administrators (N=66) 26%, [rural university] EPP (N=63) 17% and [rural university] teacher education candidates (N=623) 9%. The overall response rate may have been negatively affected by individual district decisions to return to fully in-person instruction during the weeks of March 15 and 22. There was considerable upheaval to public schools during this month as students were given a choice of remaining in virtual instruction. School districts experienced chaos with large populations in some schools remaining virtual while others returned at nearly 100% to in-person instruction.

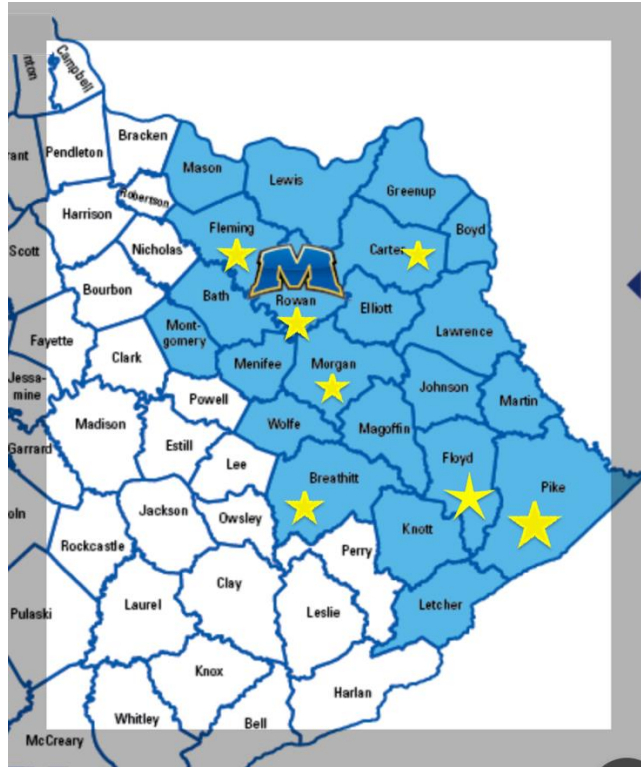


Image 1: Participating school districts

## Results

The guiding questions/actions for the Ad Hoc committee were: (1) in what way(s) Google Apps for Education (GAFE) were being used by the Educator Preparation Providers at [rural university] (EPP), teacher education candidates, and P-12 schools, (2) attitudes toward formally incorporating GAFE into teacher preparation programs among the EPP, P-12 schools, and teacher education candidates, and (3) present recommendations (included in the discussion section) regarding Google Classroom to the Teacher Education Council at [rural university]. Additionally, several themes became clear during data analysis: (1) At what level of use were the survey participants as of Spring 2021, (2) Who trained the Google Apps users, and (3) school district recommendations for having Google Educator certification.

Results for the guiding question regarding specific apps use were clearly responded from teachers (T), education candidates (S), and EPP (E). Table 1 displays responses to the question: *As a teacher, student, or educator, which Google Apps for Education have you used?* The reasons most often cited for use of Google Apps among the groups: sharing resources (84% T), (63% E); presentations (80% T); assigning classwork or projects (79% T), (69% S), (54% E); collaborating with peers (77% T), (63% S), (63% E); setting up meetings with peers/students (71% T); and group projects (66% S).

Google App	Teachers	Ed Candidate	EPP
Classroom	96	67	63
Docs	96	86	63
Calendar	54	19	27

Sites	28	22	27
Sheets	76	25	36
Slides	90	64	63
Meets	80	42	27
Hangouts	15	16	36
Forms	78	36	45
Scholar	9	6	27
Jamboard	30	22	27
YouTube	84	72	63
Education Suite	16	8	9
Bitmoji	45	44	0
Peardeck	16	6	18
Other	5	0	9
None Used	N/A	8	27

Table 1: *As a teacher, student, or educator, what Google Apps for Education have you used?* Answers are indicated as percentage of responses for that group.

The attitudes toward formally incorporating GAFE were identified through teacher, teacher education candidate, and EPP response to the question: *Should teacher education programs require Google Level I certification?* 65% of teachers, 55% of candidates, and 36% of EPP stated that certification should be required as part of the teacher certification program. Teacher education candidates were focused on the possibilities of Google Level I certification providing a hiring advantage (39%) and (45%) of EPP specified that the certification should only be required if [rural university] were paying the testing fee. Administrators (59%) stated that they would only be ‘somewhat’ more likely to hire a candidate holding Google Level I certification. Education preparation providers respondents (55%) indicated that they provided some instruction with Google Apps in their required teacher education coursework. The EPP response rate, 17% or 11 of 63 individuals, is low enough as to consider it unreliable for purposes of validating coursework containing use of Google Apps. However, this university also includes at least one course in secondary and P-12 education (serving English, social studies, art, theatre, and foreign languages) which requires a Google Level I certification attempt. It is quite likely that only one secondary/ P-12 educator responded to the survey with others being in elementary and middle grades programs.

The surveys provided necessary information regarding GAFE training in the P-12 schools, teacher education candidates, and the EPP. As of Spring 2021, the majority of teacher respondents (65%) had been teaching ten years or longer, were Google Level I or higher certified (26%), and while 57% stated that their school district had provided training on GAFE use, 26% responded that they had trained independently. School administrators claimed up to 25% of their school personnel were Google Level I or higher certified. Interestingly, incentives ranged from professional development hours (53%), a payment for Google training (6%), free hardware or software to use in the classroom (17%) to not providing any incentives (12%). Teacher education candidates largely (70%) were self-taught in GAFE; 17% reported instructors demonstrated GAFE use. Most candidates (77%) indicated that they had used one or more GAFE prior to attending [rural university]. None of the EPP respondents were Google Level I or higher certified, however, 45% stated that they want to achieve certification.

## Discussion

The Google Apps for Education Ad Hoc committee was tasked with determining (1) in what way(s) Google Apps were being used by the Educator Preparation Providers at [rural university] (EPP), and P-12 schools, (2) attitudes toward formally incorporating Google Apps for Educators into teacher preparation programs among the EPP, P-12 schools, and teacher education candidates, and (3) present recommendations regarding Google Apps to the Teacher Education Council at [rural university]. The survey data indicated that P-12 teachers were using many different Google Apps, most prominently Google Classroom, and were provided training in their school districts (53%) to support virtual teaching. Teacher education candidates acknowledged that most of them (77%) had some use of Google Apps prior to attending [rural university]. While EPP respondents were low comparatively (7%), responses confirmed that instruction and demonstration of GAFE did not appear often among initial teacher certification coursework.

Many universities during COVID, seeing the need for increased use of virtual technologies and appropriate training for their teacher education candidates, have either instituted or improved their coursework to provide training in GAFE and other virtual teaching tools. The study findings were presented to [rural university] Teacher Education Council in June 2021. The survey question, *Should teacher education programs require Google Level I certification?* and responses - 65% of teachers, 55% of candidates, and 36% of EPP stated that certification should be required as part of the teacher certification program. The question and responses were presented alongside administrator statements that they would only be 'somewhat' more likely to hire a Google Level I teacher and that 39% of teacher education candidates were in favor of requirement if it positively influenced their hiring after graduation. Requirement for Google Level I certification was not approved for initial teacher certification.

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