

Future Directions for PrintED: A Needs Assessment

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This study was designed and conducted during the first half of year 2016 in conjunction with the Graphic Arts Education and Research Foundation (GAERF) focusing on an assessment of and recommendations for future directions of the PrintED program.

Two email surveys were sent to PrintED instructors. A total of 128 total members were surveyed with a final result of 53 total responses (50 completed and 3 partial).

PrintED instructors were informed that their consent to participate in the 15 question survey was completely optional and that their answers would be kept completely confidential. They were informed that results would be reported in aggregate form only and that an executive summary of the results of the study would be available for their review if they so requested.

The questions in the survey were primarily of the multiple choice answer variety. Where appropriate, the survey questions had an option for interviewees to add comments. In addition, interviewees were offered the option to elaborate further on a number of responses with the principal researchers in a telephone interview. A total of ten follow-up interviews were conducted.

This report is divided into two sections.

The first section of the report:

- Provides the researcher's recommendations to GAERF based upon the survey findings and analysis with respect to the future of the PrintED Program.

The second section of the report (intended as reference/support material with respect to the researcher's recommendations):

- Summarizes the survey respondents answers to each question;
- Provides a summary of selected comments received (through the initial survey and follow up interviews) with respect to each question;
- Provides the researcher's perceived implications of the respondents' answers to each question on which the recommendation to GAERF in Section 1 of the report are based.

Section I Recommendations to GAERF based upon research data.

Re-defining the Mission of PrintED

The graphic communications industry has undergone significant changes during the past few decades. PrintED was founded at a time when offset presses dominated the industry. As the results of this study imply, offset's market share might be decreasing, as might be the need for skilled pressmen. Digital press applications are growing along with the need for skilled operators. There is also strong demand in industry for skilled digital pre-press experts as well.

In addition, successful 'printing establishments' have developed into true media solution provider centers. They are not technology-specific – they are customer-solution focused. Media solution providers go well beyond supplying print to their customers, but will utilize Web applications, Mobile applications, data analytics and database publishing to provide solutions to their clients' needs.

The interest of PrintED instructors to enter into Web production and Social Media certification areas in the study was very strong. The potential of adding these new certification areas should be further investigated and considered. (There was a moderate amount of interest expressed in Color/Quality and Estimating/Production areas as well.)

The mission of PrintED should be re-visited and re-defined in line with these dramatic changes that have affected the graphic communications industry. The idea of renaming the program should also be considered if it is decided that the PrintED certification areas will be moving into new areas of study.

Building a Brand

In order for PrintED to grow and prosper it will need to develop an updated brand image and value proposition based upon the decisions made when re-defining its mission.

It will be important for this brand image and value proposition to be well communicated and understood in four key markets:

1. School Administration and Instructors involved with or considering PrintEd accreditation.
2. State Governments Offices that finance and approve accreditation programs for high schools.
3. The Graphic Communications Industry (particularly those companies that will be hiring graduates directly from PrintED affiliated programs of study.)
4. Higher Education Institutions with Graphic Communications programs of study, i.e. Cal Poly, RIT, Clemson, Ferris State, etc. (that want to recruit the finest graduates from each PrintED High School program).

Streamlining the Certification Process

In many discussions with respondents it became apparent that the PrintED certification process was somewhat dated, extremely time consuming for instructors, and somewhat painful.

Having applicants prepare loose leaf notebooks for each course of study that had overlapping content was particularly mentioned on several occasions.

Some ideas for consideration when streamlining the accreditation process should include:

Having instructors present course guides and lesson plans in a digital format.

The possibility of developing a PrintED database of graphic communications knowledge (with publishers' permission). Another alternative to be considered is the development of a current and complete bibliography with cross links to each accreditation area.

Developing methods to have PrintED take some of the burden off of instructors when they are applying for accreditation. The possibility of developing digital ‘templates’ for each accreditation area was discussed. The process should be smooth and welcoming.

PrintED should increase communication with Schools once accreditation is achieved. A PrintED Accreditation Certificate, follow up one-on-one communications with instructors, invites to seminars (state-wide/national) should all be considered.

Building a Community of PrintED Instructors

During many follow-up conversations in the study it became very apparent that PrintED instructors like being in touch, communicating with, and learning from other PrintED instructors. (Some actually coordinate their own gatherings with PrintED colleagues, particularly during the summer months.)

PrintED should explore ways to build a community forum (through Web-based applications and/or social media applications and/or in-person gatherings) where instructors can better share information, lesson plans, industry connections, etc. This community would act to ‘lock in’ existing PrintED instructors and work to attract new members to PrintED.

In addition, a surprising percentage of respondents would welcome training from PrintED to help them get certified in new offerings. One efficient way for PrintED to offer such training could be through the use of Webinar offerings. (Webinars might have strong potential in this area at a minimal cost investment. Having PrintED instructors volunteer to work on particular webinars based on their own personal expertise could be an approach to consider.)

Another possibility is to expand in-person seminar offerings (either nationally or by state) which would give PrintED instructors further opportunities to network with each other, PrintED Administration, and industry leaders/presenters.

Re-vamp the Testing Process

Based upon the re-defined mission of PrintED, existing certification areas will need to be reviewed and updated. (Note: The author has been informed that some of this work actually began prior to this survey study.) New certification areas will should be considered as well (i.e. Web Production, Social Media).

It is recommended that the content, questions and diagrams for each student certification exam be revisited and updated where needed. The testing process brought the strongest criticism from PrintED instructors (who, on the whole, have a very positive feeling for PrintED as a program.)

Once exams are updated, the development of study guides for each area, along with sample questions/practice exams should be considered. Instructors felt very strongly about this particular issue. Very often, preparation methods for the SAT and/or GRE exams were used as positive examples. A wealth of review guides, practice questions, and past exams are available for these exams.

In addition, PrintED should consider the development of a glossary of terms used in each area of certification.

Complementing Adobe Certification

Many schools pursue PrintED and Adobe Certification. Adobe Certification has possibly created many opportunities for PrintED to meet the cross-media needs of the industry by expanding the scope of its offerings. Adobe Certifications are closely tied to Adobe software programs (Creative Suite, InDesign, Photoshop, etc.). PrintED can become a complementary certification area by exploring the opportunities in filling the gaps in cross-media production workflow that are not covered in Adobe Certification areas.

Building an Advisory Council to PrintED

The establishment of a volunteer-based advisory council to the PrintED program should be considered.

Representatives on the council could be from State Government, School Administrators, Industry representatives, and directors of programs in Higher Education.

The council could be organized by sub-committees that act on each of the recommendations above in a logical order and time line resulting in a powerful flow of effective results.

For example, during the first year, sub-committees might focus on:

- Redefining the mission of PrintED.
- Analyzing the potential of new areas of accreditation and building content for these areas.
- Building a community of PrintED instructors (finding ways, particularly through the Internet and Social Media forums, to further establish relationships with each other and PrintED)

Based upon the work accomplished during the first year, sub-committees could then, during their second year, focus on:

- Marketing/Communicating the re-defined PrintED brand
- Streamlining the Certification Process
- Re-vamping the testing process
- Exploring ways to complement Adobe Certification programs

The PrintED Advisory Council would help keep PrintED current in an ever changing world and help build strong ties that would allow the program to grow and prosper in years to come.

Section I

Survey question responses, interviewee comments, researcher's perceived implications

Q1. Please check the PrintED accreditation areas that your program has achieved (check all that apply).

Answered: 50

Responses:

Introduction to Graphic Communications	98.00% (49)
Digital File Preparation and Output	56.00% (28)
Digital Production Printing	10.00% (5)
Graphic Design	34.00% (17)
Offset Press Operations/Bindery & Finishing	48.00% (24)
Screen Printing	24.00% (12)

Interviewee Comments:

N/A

Research Implications:

- Digital File Preparation and Output is a strong area of accreditation at 56%.
- Offset Press Operation/Bindery & Finishing represents a significant percentage at 48% (but is expected to decline as indicated in other responses.)
- Digital Production Printing is only at 10%, (but is expected to grow as indicated in other responses.)

Q2. Please check the PrintED accreditation area(s) you are considering adding in the near future (check all that apply):

Answered: 36

Responses:

Digital File Preparation and Output	38.89% (14)
Digital Production Printing	47.22% (17)
Graphic Design	50.00% (18)
Offset Press Operations	8.33% (3)
Screen Printing	30.56% (11)

Interviewee Comments:

N/A

Research Implications:

- Digital File Preparation and Output, Digital Production Printing, Graphic Design, and, Screen Printing showing strong potential for future growth.
- Offset Press Operations is declining as an area of accreditation.

Q3. Software Programs – please list the following resources that you use with respect to PrintED (check all that apply):

Answered: 49

Responses:

Adobe Creative Suite	97.96% (48)
Quark Xpress	8.16% (4)
MS Office (Including Publisher)	34.69% (17)

Interviewee Comments:

Other programs that were listed by several respondents included:

- Dreamweaver, Flash, Fireworks and Freehand
- Nexus Font – font management
- Corel Suite
- Microsoft Excel
- Google Drive (Docs, Sheets, Slides, Forms)

Research Implications:

- Adobe Creative Suite is clearly the dominant player in Graphic Communication Education software.

Q4. Computer Hardware – please list the following resources that you use with respect to PrintED (check all that apply)

Answered: 51

Responses:

Mac	80.39% (41)
PC	47.06% (24)

Interviewee Comments:

Other hardware included:

1. HP scanner, digital camera, HP printers and USB flash drives

Research Implications:

- Mac is the dominant platform in the industry. (Some of the PC users have both Mac and PC).

Q5. Printing/Bindery Equipment – please list the following resources that you use with respect to PrintED (check all that apply):

Answered: 50

Responses:

Offset	68.00% (34)
Letterpress	12.00% (6)
Screen	66.00% (33)
Digital	96.00% (48)
Folder	92.00% (46)
Saddle Stitch	88.00% (44)
Perfect Binding	36.00% (18)
Mechanical Binding	50.00% (25)
Cutter	90.00% (45)

Interviewee Comments:

- Other miscellaneous Printing/Bindery Equipment listed by respondents included:
- Laminator, embroidery and dye sublimation, bookbinding by hand, large format printing, paper drill, score/perforation, flexo wide format, padding station, jogger, heat press, drill press

Research Implications:

- At current point in time, traditional offset, screen, and bindery equipment represent equipment held by a good percentage of respondents. (Although, as indicated in other response areas, this percentage is expected to decline.)

Q6. Please check any new accreditation areas that you think could become a valuable part of PrintED's future (check all that apply):

Answered: 44

Responses:

Color/Quality	36.36% (16)
Web Design/Production	63.64% (28)
Print Estimating/Production	29.55% (13)
Data Collection & Management	20.45% (9)
Social Media Marketing & Integration with Print	65.91% (29)

Interviewee Comments:

Some other miscellaneous categories mentioned by one or two participants included: sublimation, hydrographics, large format, dye sublimation, signage, embroidery, variable data printing, motion graphics, illustration.

Research Implications:

- Web Design/Production and Social Media show strong potential for successful accreditation areas at 63.64% and 65.91% respectively.
- Fairly good response to interest in Color/Quality and Print Estimating/Production as well at 36.36% and 29.55% respectively.

Q7. Have you experienced any issues in working with printing presses as part of your PrintED offerings? (check all that apply):

Answered: 29

Responses:

Expense	86.21% (25)
Lack of Training	34.48% (10)
Opinion of School Administrators	44.83% (13)

Interviewee Comments:

- No issues, love the presses.
- We do not have presses.
- Lack of time for use with large classes.
- Doesn't fit the needs/wants of my school system.
- Offset was removed. Seems that is the trend but we worked with industry toward an on-demand digital printer.
- In the past administration accepted the cost of offset. Now all they see is cost compared to copier
- Messy and lack of student interest compared to other processes.
- Small presses decreasing in popularity by students and job openings.
- Repair costs.
- Review of current labor trends shows decreasing jobs in offset production with moves to digital workflow.
- Most of PrintED focuses on offset production, which is not in the curriculum, nor a common form of printing locally – almost all printers around here have gone 100% digital and send out their offset-sized jobs. I have taught one student offset production for the sake of a SkillsUSA competition, and she didn't even end up using an offset printer at the state level.

Research Implications:

- Strong indication that interest in offset presses by school administrators and government officials is declining.
- There are indications that there is a trend toward 100% digital production workflows (including digital printing, web, and mobile output.)

Q8. In your opinion, is teaching with a printing press simulator program a practical suggestion to explore further?

Answered: 48

Responses:

Yes	52.08% (25)
No	47.92% (23)

Interviewee Comments:

- Run a real press.
- A lot of companies in the DFW area are going digital in regards to printing.
- If inexpensive and offers real world working experiences to student, could be very beneficial.
- Students aren't interested.
- SkillsUSA uses the offset press as part of the competition. Students will still need real hands on time in order to compete effectively.
- Not for me. I have 4 offset presses available. Two at each school I teach at.
- Yes, because it is highly unlikely that my school system will actually begin or integrate any offset presses into my program...
- I'm not sure. I think we need to spend some time covering industry, but not sure we'd need to do a simulation for longer than a few days of study...
- My school does mostly digital printing over the past few years and I have used a couple of offset printing videos in class when explaining the offset printing process.
- My advisory members, who own printing shops, have explained to me that they would rather train them on their own presses...
- With a press simulator you don't have the cost of a new press.
- They need to see all variables, smell the ink, get their hands dirty...
- Only for larger presses. Small offset presses are practical and useful for the basics.

- I do not believe that a simulator alone will prepare a student for employment operating a press. However, I do wish that we as instructors had inexpensive access to a simulator to enhance our curriculum.
- Yes, but a student needs some experience with an actual machine to fully understand all of the components and variables of an offset press.
- Way too expensive to justify. In my opinion, simulation is difficult for students to truly learn how to become a press operator.
- Hands on real equipment is invaluable.
- If places are scrapping their offset printers in droves there's no point in teaching an unnecessary skill to an entire class. Learning digital or screen printing tends to be a much more desired and transferable skill.
- I have the equipment needed and would not consider a printing press simulator. I have seen this technology and do not feel it would benefit my program.

Research Implications:

- It seems the desire to go toward digital printing output outweighs any interest in using a simulator to replace traditional offset printing.

Q9. Would you welcome the idea of a training module as a refresher or an entry point to new accreditation areas? (check all that apply):

Answered: 49

Responses:

Yes, in a seminar format	51.02% (25)
Yes, in an online webinar format	63.27% (31)
No	14.29% (7)

Interviewee Comments:

N/A

Research Implications:

- There is a strong interest in training modules as a refresher or an entry point to new accreditation areas which represents an area of opportunity for generating interest and loyalty in PrintED.

Q10. Do you need assistance with curriculum development?

Answered: 50

Responses:

Yes (in an outline form)	14.00% (7)
Yes (in a more extensive form)	34.00% (17)
No	52.00% (26)

Interviewee Comments:

Research Implications:

- Majority of respondents (52.00) did not desire help with curriculum development.
- 34% did ask for curriculum development in an extensive form which represents an area of potential for PrintED.

Q11. In terms of the PrintED accreditation process itself, have you experienced any issues you would like to mention/elaborate on?

Answered: 8

Responses:

I would like to elaborate on this point 100% (8)

Interviewee Comments:

- My students are incarcerated and have no access to the internet tests. We did have permission to do written instructor verification tests but was cancelled. Currently we have no way to give students PrintED certification.
- It's so extensive, teachers should be able to receive national board certification if they pass this process.
- Need more time to complete. Teaching overload with large classes.
- As a newcomer to PrintED, I love the competencies but I find the current binder system to be an antiquated system for organizing my PrintED lessons. Some of my lessons/projects incorporate multiple competencies and it seems that maybe an index system of some sort would be a better way to make sure all competencies are covered. Ideally I'd like to see some sort of online database driven system. Also, I need to format my lessons twice next year as I re-certify for PrintED and satisfy my school system's curriculum needs for my Graphic Design class. I am not sure what the answer is, but I'd like to see the curriculum/accreditation process streamlined using technology.
- Too many competencies and very time consuming for an instructor.
- It is just unfortunate that any professional printer I have spoken to has no clue what PrintED is.
- The accreditation system needs to be streamlined and more user friendly. Lesson plans do need to come from PrintED which would make our jobs as teachers easier. Using Mavcc Curriculum is very dry and we the teachers needed to use it as supplements to our text and figure ways to make it work.

- A lack of involvement with school administration by GAERF makes the process a ‘stand-alone’ one with the instructor assuming responsibility (in their spare time) for all aspects of accreditation.
- I think PrintED is fantastic, but there are issues in the education/industry partnership.
- None.
- It is a very lengthy process. I have gone through several PrintED accreditations, and I have not seen the process streamlined very much. Through technology it would be great to have it more condensed and streamlined. After all, the primary focus should be educating students and not producing mountains of paperwork in binders that get opened every five years.
- The binder process was very helpful, but digitizing it would be great, along with the ability to upload documents would save time and money!
- Process/standards are very focused on lower end of Bloom’s taxonomy, not enough higher level thought functions
- Lack of consistency, lack of direction from PrintED personnel.
- None.
- With all the demands on educators in our state, the process is too long. Most printers do not know what PrintED is. Many teachers tell me that they are not interested in the process because it’s too much work, the standards do not align with their state standards or are not on the high school level.
- Unnecessary amounts of paperwork.
- There is a lack of collaboration among PrintED instructors. Some kind of forum/portal would be so very useful.
- We received our PrintED accreditation and there was no follow-up after we paid the fee – we didn’t even receive a certificate for our school.

Research Implications:

- PrintED accreditation is viewed as a lengthy and dated process.
- There is a feeling that there is a lack of communication from PrintED with instructors – particularly with respect to follow-up after a school achieves accreditation.
- Opportunity for PrintED to gain favor by streamlining process – particularly digitizing the process.

Q12. Do you have any suggestions that would help you prepare your students for the PrintED/SkillsUSA Skill Connect Assessments?

Answered: 7

Responses:

I would like to elaborate on this point further 100% (7)

Interviewee Comments:

- The test for the Digital File Prep/Output is too long and the test doesn't seem to be aligned with them. The Intro to Graphic Communications task list is redundant and seems to have been written by someone who hasn't taught them to high school students.
- It would be useful to have more than 10 sample questions with a variety of different questions.
- When students are taking the skill connect test, it would be nice to have some sort of study guide. For example my students did the beta test for DPP and had questions with VDP, they did not know it was variable data printing. We do variable printing all the time in our shop so they missed out on those questions.
- More than just ten questions from the demo. Also a nice high quality printed certificate mailed to the school so they can be presented with something straight from GAERF/PrintED.
- I would like to see our state use the PrintED/SkillsUSA Connect Assessments as our EOC.
- Free pre practice tests. I can go and get free access to previous full tests for SAT, GRE, Board tests, etc. for industry certifications that are required for employment, but have to pay for a non-essential exam.
- We the teachers are doing all we can to get the students ready...but as stated we could use ready-to-use lesson plans to go with the MAVCC curriculums.
- Online tutorials.
- An official 'study guide' would help guide the curriculum to address the specific questions on the tests.
- Study guide and/or a more extensive practice test.

- Good feedback on which areas of the test students were weaker/stronger.
- A better pre-test for the students.
- I personally took the assessments as a college student as part of a survey – and they were very poorly written then. According to students who have taken them since, they are still very poorly written and visually represented now. A specific example I remember (and have had students reporting is still the case) is the concept of ‘value’ the relative lightness or darkness of something – is consistently represented by a dollar sign, which is obviously incorrect.
- The testing process is a ‘blind’ process for students.
- There is too much information and not enough time to cover everything.
- More practice tests would be useful.

Research Implications:

- There was strong constructive feedback with respect to the testing PrintED testing process.
- There is a desire for study guides, more practice questions, and, sample tests to help teachers teach to, and, students prepare for the certification exams.
- There were many comments with respect to the accuracy of the questions/answers and clearness of diagrams used on exams.

Q13. Does your State Government endorse PrintED Accreditation?

Answered: 49

Responses:

Yes	69.39% (34)
No	30.61% (15)

Interviewee Comments:

N/A

Research Implications:

A majority of respondents (69.34%) said that their states supported PrintED (although other respondents indicate a need for better branding and marketing to government officials.)

Q14. Does your State Government endorse any other accreditation programs?

Answered: 41

Responses:

Yes	56.10% (23)
No	41.46% (17)
I would like to elaborate further	7.32% (3)

Interviewee Comments:

- Business and Industry Certification.
- Not sure.
- Adobe Certification.
- Adobe Certification.
- AYES for Auto, Nursing Aide Certification.
- I don't know.
- Currently there is a huge push on certifications from accredited programs.
- Adobe.
- Not sure.
- I don't know.
- NOCTI.
- Our school system wants all trades in our school to have involvement with some sort of major trade organizations, certifications or nationally recognized certificate.
- Adobe Certification.
- Adobe Certification.
- ACA.
- Adobe Certification.
- ASA
- IC3.
- Adobe Certified Associate.
- Not sure (Maryland).

Research Implications:

- Adobe Certification is quite prevalent in schools that also have PrintED.

Q15. Do you have any suggestions that would help build the future of the PrintED program?

Answered: 8

Responses:

I would like to elaborate further 100% (8)

Interviewee Comments:

- Keep PrintED. It has been a valuable asset to my teaching of Graphic Communications since 1998.
- The end of year report is very involved. I have on average 20-24 students graduating and I just cannot find the time to complete that evaluation.
- Less emphasis on print processes at the intro to graphic communications level. Cover more media.
- More networking. I don't feel that I have others to talk to, work with.
- PrintED does not have an option for students to take an "AP" class (AP test for college credit...) By offering this opportunity, you would give students more options and reasons to take the PrintED course.
- The program needs to make sure it stays up-to-date and current with the industry. The option of Web Design/Production as a possible future accreditation area is something I really hope to see come to fruition in the very near future... The technical changes we have in this industry is amazing, but it also makes keeping up very expensive. I have run into a situation in which the federal money is limited for my program since it gets divided out over twenty-plus programs. A PrintED relationship that becomes the link to the big players in our industry would possibly be a great benefit in finding creative ways to fulfill our needs in training, current machinery, hardware and software. Thank you for everything GAERF/PrintED does for our programs and our students, and thank you for wanting to hear our suggestions!
- We need to move more toward the digital side of things – offset is not functional to teach with the current state of the industry and being responsible for making sure students are employed.

- Make the process less of a burden for the instructor.
- There is no curriculum for Screen Printing but I would like to develop one.
- I believe a wide scale marketing strategy needs to be employed to make the printing industry aware of what PrintED certification is and means.
- Maybe more online tests in units.
- Get the word out through the industry, media and whatever means possible. In 20+ years of teaching, the industry seems to have no change regarding PrintED's visibility and importance.
- Industry needs to recognize PrintED. Sell the sizzle!
- Perceived benefit does not equal actual benefit. The perception when you hear about the program is that the students will have a 'feather in their cap,' but PrintED is not known by the industry.
- Help teachers of this valuable trade do their job with input from the actual work force where our students might get employment.
- PrintED doesn't seem to mean anything to industry. Find some ways to make it more meaningful.
- More employee type training and internships should be offered to students in this area.
- Push Pennsylvania to recognize PrintED.
- Recruit more instructors from the prepress and production areas of the industry rather than designers.
- Printing is good for public education.
- Get more industry buy-in. Many of the employers in my area have never heard of PrintED. Therefore, it is difficult for them to place any value on a PrintED Certified Graduate when hiring employees.
- I really got a lot out of the national conference. Collaborating with teachers from around the country was helpful. I am not attending this year as Maryland is once again holding conferences. I cannot attend both.
- More exposure to industry. It is hard to sell it to the principal when not many people in industry have heard of it.
- PrintED needs to be more relevant to the current education environment.
- More emphasis on digital output. Complete revamp of tests – they need to be created and peer evaluated by instructors. Instructors should also have access to better study material if the tests are to remain in their current state. The only reason my students have done as well as they have is because I've

taken the tests, and was able to warn them about poorly written questions or terribly misleading visuals.

- PrintED language needs to be mindful of Federal Regulations, i.e., common core requirements.
- Use assessments to improve curriculums. Post common sources for teaching the competencies on our website. Set up a mentor program of instructors in each state.
- Potential employers should get involved with their local schools

Research Implications:

- There was a great deal of interest to provide constructive feedback by respondents in relation to ideas that could improve PrintED.
- Many cited the need to modernize the certification areas.
- There was a desire to see better marketing of PrintED to government officials, school administrators, and, industry.