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# Collaboration in Online Learning and Simulation

## Lessons for Community Colleges

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## Introduction

In March 2020, a thousand community colleges in the United States shifted to online instruction, which affected around 10 million students.[1] Many colleges moved all classes online in just a few days or used their spring breaks to make the pivot, telling students and faculty not to return to campus. It was a huge undertaking. The COVID-19 pandemic has generated an unprecedented wave of challenges for students, faculty, and staff.

Community colleges are used to responding to their communities during times of crisis. But individual colleges should not have to carry this weight alone. And they do not have to. Lessons from the last recession can show how to share the burden and improve online learning and simulation through collaboration.

This is not the first time that community colleges have faced a difficult time and shown that a group of institutions can improve access and instruction. During the Great Recession, Congress created the Trade Adjustment Assistance Community College and Career Training (TAACCCT) program as part of a larger economic relief package to support innovation at community colleges, including in online learning and simulation. These grants were made to individual colleges or to a consortium of colleges.

The consortia built collaborative initiatives to grow and support online learning and simulation. Our research on the outcomes of these grants has shown that groups of institutions together often built programs better than each could have done on their own. These initiatives were both more efficient and better able to reach new students than many solo ventures.

As colleges move past the initial emergency responses to the coronavirus pandemic, they are looking for longer-term strategies to ensure high-quality learning. While the stress of the pandemic continues, colleges must establish sustainable ways to reach more students both now and after the pandemic. The structure and goals of each type of collaboration in the last recession empowered colleges in different ways. These strategies helped colleges reach more students during TAACCCT and, done sustainably, they can help colleges in the present environment and into the future.

## TAACCCT and Technology

Congress created the $2 billion TAACCCT program in 2010 at the height of the deepest recession in more than a generation. The program was the largest targeted investment in community colleges that the federal government has ever made and was meant to increase the schools' capacity for providing training for in-demand jobs. With unemployment approaching 10 percent at the time, the idea was to build the country's national capacity to get people retrained and back into employment. With each of four rounds of grants, the Departments of Labor and Education identified promising practices that applicants could implement as part of their grant.

When the Department of Labor issued the first solicitation for grant applications (SGA) for TAACCCT in 2011, integrating technology into the programs of study was a required element of proposals. It continued to be a required element though every round. Yet, the purpose of integrating technology and the way it was described evolved. In the first round, the Department of Labor's SGA encouraged community colleges to leverage technology-enabled learning to accelerate students' progress towards a credential. But by the third and fourth rounds, the solicitation described a more expansive role for online and tech-enabled learning. The third round SGA described tech-enabled learning as a way to provide access to trade-displaced workers and others who were struggling to complete their programs while managing the many demands of life: caregiving, work, and study. By the fourth round, the SGA emphasized access and acceleration while adding a focus on simulation as a means of increasing access and completion for more students pursuing a credential.

As community colleges grapple with the simultaneous need for well-targeted workforce training and the need to maintain social distancing, online and simulated learning experiences still offer ways to provide access and accelerated learning opportunities. Much-needed new federal support for community colleges in this time will empower these institutions to build out technology-enabled learning experiences.

## Data and Methods

This brief is part of a larger project that attempts to understand the implementation and impact of the TAACCCT investment through a systematic review of third-party grant evaluation reports. The project involves a team of six researchers from Bragg & Associates and New America who have collected and reviewed 220 final evaluation reports available from 256 TAACCCT projects.[2] It has three phases: scanning and scoring, systematic review, and semi-structured interviews with evaluators and grantee institutions.

In the first phase, our team collected 220 evaluation reports available from the four rounds of TAACCCT. Our team reviewed each report at least twice, and two different team members graded each report on three elements: theory of change, implementation analysis, and impact analysis. We identified 55 high-quality final evaluation reports based on a rubric. From this list of high-quality final grant reports, we selected five TAACCCT grants (see Figure 1 below).

The grants covered a variety of occupational sectors, geographic areas, rounds of grants, and types of online and simulated learning supported by the grant. Two of the grants, Online2Workforce and Enhancing Programs for IT Certification, built out the system-wide, online Learn on Demand platform in Kentucky and they contribute to one case study. Together, these five grants provide lessons around collaboration in online and simulated learning.

**Figure 1: TAACCCT Grants Covered in Case Studies**

| Grant | Institution(s) | Sector | Round | Type | State |
|---|---|---|---|---|---|
| New Mexico SUN PATH | 11 community colleges and branch campuses | IT, health care | 4 | State consortia | NM |
| MoHealthWINs | All 13 community and technical colleges led by the Missouri Community College Association (MCCA) | Health care | 1 | State consortia | MO |
| Online2Workforce | Elizabethtown Community and Technical College | Health care | 2 | Single | KY |
| Enhancing Programs for IT Certification | Six Kentucky Community & Technical College System institutions | IT | 4 | State consortia | KY |

| Grant | Institution(s) | Sector | Round | Type | State |
|---|---|---|---|---|---|
| KanTRAIN | Flint Hills Technical College, Garden City Community College, Washburn Institute of Technology, Washburn University, Wichita State University Campus of Applied Sciences and Technology | Manufacturing, health care | 4 | State consortia | KS |

## Four Examples of How Colleges Can Collaborate to Improve Online and Simulated Learning

In each of our case studies, community colleges developed a collaborative approach to tackling common challenges facing the state. In New Mexico, the colleges wanted to be able to provide courses to give students in rural areas access to programs as well as the courses they needed to graduate in a timely fashion. In Missouri, the programs needed to meet a workforce demand for allied health professionals were distributed across a large geographic area. In Kentucky, a set of colleges wanted to provide access to adult learners juggling family and job responsibilities and they needed resources to build additional programs on that shared platform. In Kansas, colleges needed to build out their simulated learning environments, which led them to share those resources with each other and with employers. This collaborative problem solving has implications for community colleges navigating their response to the pandemic.

## Sharing Online Courses: New Mexico SUN PATH

In a large, mostly rural state like New Mexico, geographic access to higher education can be a challenge. Sometimes colleges struggle to ensure that programs with workforce relevance are available in remote areas. Other times, colleges need options to make sure that students across the state have access to the courses they need to progress and graduate.

A consortium of 11 New Mexico community colleges and regional public universities received a Round 4 TAACCCT grant with a strategy to address these issues. In addition to other aspects of the grant, the New Mexico Skill Up Network: Pathways Acceleration in Technology and Health Care (New Mexico SUN PATH) grant included a strategy to create a course-sharing hub among member institutions known as SUN Online, making online courses available to residents across the state no matter which institution in the consortium they attended.

Rather than starting from scratch, the SUN Online initiative brought some of the colleges' strongest, most valuable courses together in one hub in a way that benefited all consortium members.

SUN Online provided students with the opportunity to take courses that may not have been offered when they needed it in order to graduate expediently. For example, if a student at Santa Fe Community College needed an advanced IT course to graduate on time, but spots were all full at their home campus, that student's advisor or a faculty member could consult the SUN Online course catalog to see that Central New Mexico Community College offered the same course and had a seat available. The Santa Fe student could enroll online and pay tuition to their home institution, while making use of the timeliness of the CNM course to stay on track. Before SUN Online, such course-sharing opportunities did not exist among these institutions.

The SUN Online initiative enabled each participating institution to offer some of their most sought-after courses and programs to students in far-flung areas of the state who otherwise would not have been able to enroll. Two in every three undergraduates enroll within just 25 miles of their home, and this is true for an even higher share of community college students.[3] This increased access to high-quality programs provides additional value by helping students access the courses they need when they need them.

In 2017, the SUN Online consortium collaborated with the Western Interstate Commission for Higher Education (WICHE) to strengthen the initiative and ensure continued support through WICHE's Online Course Exchange. SUN Online continued to determine its own business rules including the cost structure for course enrollment, how students were charged, and how the revenue was

split. Since the end of the TAACCCT grant, additional New Mexico colleges have joined the SUN Online consortium, while others have stepped back. With state budget cuts looming, institutions may find it difficult to sustain their contribution to SUN Online. Additional resources at a time like this could go a long way in ensuring New Mexicans can continue to access these courses and programs.

As colleges continue to improve their new, online offerings in the face of the COVID-19 pandemic, the SUN Online consortium can provide lessons for how they can collaborate rather than offer every class themselves. If one college has expertise in offering a particular class or program online, there is no need for every college in the state to recreate it. Instead, colleges can share course content in a way that will benefit all institutions and students.

## Offering Hybrid Health Programs: MoHealthWINs

Across Missouri, especially in small towns and remote areas, there is a growing need for specialized health care professionals in the community. But, particularly in specialized fields, the demand for allied health positions may not support a program that only serves a small geographic area.

To help address this need, community colleges have created a number of hybrid health programs that allow students to do most of their academic work online, while providing lab space in proximity to their homes and connecting them to clinical sites. Many of these hybrid programs—like ones to train hearing instrument specialists, diagnostic sonographers, and medical laboratory technicians—were supported or scaled up through the MoHealthWINs TAACCCT grant.[4] The grant also forged relationships across the community colleges that created the groundwork for continued collaboration.

One way that colleges continue to collaborate closely is through the Missouri Health Professions Consortium. Participating community colleges—Moberly Area Community College, State Fair Community College, East Central College, North Central Missouri College, and Three Rivers College—offer occupational therapy assistant and medical laboratory technician programs. Individuals can enroll at any of these institutions and begin one of the available programs through a combination of online classes, on-campus lab experiences, and clinical experiences.

Each of these programs culminates in an associate of applied science degree. Students enroll for their first year of general education courses at their home campus and complete the second year between their home campus and a designated partner college for joint lab exercises. While students have to travel to campus to complete lab exercises—usually to their home colleges, but sometimes to a partner institution—they can complete clinical requirements at a more convenient site near their community. Travel for lab exercises weekly or a few times a semester reduces the number of lengthy commutes to attend college. Faculty also travel to the designated college sites to teach lab sections each week, working in rotating shifts so that each can work with students at each campus over the course of the program.

Consortium colleges have taken the lead on the two programs to streamline administration. Moberly Area Community College coordinates the medical laboratory technician program, while State Fair Community College coordinates the occupational therapy assistant program.

There were challenges getting the programs up and running and keeping them strong. Colleges have had to work to overcome the concerns of specialized accreditation bodies. For example, accreditors took issue with colleges offering

the same lab course in different locations at different times. It was also a challenge to coordinate administrative aspects of the programs, like different academic calendars and course withdrawal deadlines across multiple colleges. The consortium colleges meet four times a year to address these logistical challenges and set a budget based on the expected number of students and level of expenses, which is shared.

Through this innovative partnership and other hybrid allied health programs, colleges in many regions of Missouri are pooling resources, faculty, and students to meet challenges affecting each of their service areas, as they aim to ensure they have enough trained health care professionals to serve their communities. The Missouri Health Professions Consortium provides another model for how colleges during the pandemic can connect their students to high-quality, existing online programs available in their state without losing enrollment.

## Building on Statewide Online, Competency-based Education: Learn on Demand

Community colleges are well aware of the difficulty that older students may have as they juggle school with work and caregiving responsibilities. With a large number of adults without a postsecondary credential in the state, the Kentucky Community & Technical College System has made it a priority to provide opportunities to access education that accommodates busy lives. The Kentucky Community & Technical College System (KCTCS) devised a strategy ten years ago that would increase access for working adults and allow them to study at the pace their lives allow.

In 2009, as the Great Recession was in full swing, system leaders acknowledged the difficulty that working Kentuckians were having with a traditional semester schedule that was not built with their needs in mind. In response, they created Learn on Demand (LOD), a set of programs that are modular, self-paced, and workforce-relevant. Students choose to enroll at several given dates and proceed through the program at a speed that works for them as they demonstrate mastery of new skills and knowledge. With its self-paced, competency-based approach, Learn on Demand made it possible for participating KCTCS institutions to reach prospective students and help them earn workforce-relevant credentials.

Learn on Demand also provides students with opportunities to earn credit for prior learning for every class.[5] Before starting a class, students take a pre-test to assess their competency. If they reach a certain score and pass the course post-test, they receive credit for the course. For some students, self-paced learning may mean taking longer than the traditional course length to complete. For others, a quick pre- and post-test may be enough to prove that they deserve credit for their existing knowledge and skills. Learn on Demand's adaptability makes for an individually tailored learning experience.

The model is administered jointly by the system's central office and seven charter colleges that created and provide the programs.[6] The central office provides important services like dedicated success coaches, faculty training, and technology support. The delivering college keeps 90 percent of the tuition revenue and contributes 10 percent of the remaining revenue to a distribution pool that is divided equally among the colleges and the central office at the end of the year. While many new degree programs were supported by external grants like TAACCCT, the charter colleges can also propose new programs to the group and receive a small loan from the central office to get them started.

The KCTCS central office and the charter colleges have continued to strategically use grant funds to build out LOD. In 2011, the system received funding from Complete College America to provide professional development to faculty and

advisors about LOD.[7] And in 2013, Elizabethtown Community & Technical College, a KCTCS institution, was awarded a TAACCCT grant—Online2Workforce—to create modularized, competency-based, online courses in business. These would be available throughout the system while the college was building out the LOD success coaching model. The program served over 450 students who earned 107 credentials during the grant period, which is a large impact for a single-institution TAACCCT grant.[8] That scale was possible due to the systemwide nature of the LOD model. Six KCTCS institutions received additional TAACCCT funding through a Round 4 grant—Enhancing Programs for IT Certification—to create additional information technology programs available through LOD.

Today, KCTCS students can earn competency-based credentials in IT, business, medical IT, criminal justice, and logistics and operations management. In this time of uncertainty, LOD remains a critical strategy to reach Kentuckians who could benefit from these programs, wherever they may be located throughout the state. KCTCS's opportunistic strategy to sustain and improve an existing statewide consortium with grant funds rather than building a new initiative from scratch provides a valuable example for other states and systems.

The struggle of working adults to balance family life and school work has been exacerbated by the COVID-19 pandemic as many children are learning from home and normal support from friends and family may be limited to slow the spread of the virus. The statewide collaboration represented by Learn on Demand can provide lessons for addressing some of these struggles while allowing colleges to build on their strengths.

## Collaborating to Provide Simulation: KanTRAIN

While traditional clinicals offer students opportunities to interact with real patients, in-person clinicals vary based on setting, location, and the needs of patients who happen to be receiving care during a student's clinical hours. Simulated experiences present a method of ensuring students confront a variety of situations in the work environment. Simulated clinicals can also be filmed and reviewed with faculty or other skilled mentors in ways that interactions with living patients in a care facility cannot.

That is why, when a consortium of Kansas community and technical colleges received a Round 4 TAACCCT grant, these institutions had their eyes on enhancing their ability to provide high-quality, hands-on learning in key programs. Each institution—Garden City Community College, Flint Hills Technical College, Wichita State University Campus of Applied Sciences and Technology, and Washburn Institute of Technology—focused on one or two subject areas and used grant funds to create or expand simulated learning opportunities for students. Garden City and Flint Hills, for example, built and equipped new welding simulation facilities, expanding their capacity to welcome new welding students.

The largest simulated learning initiative in the consortium took place at Washburn Institute of Technology in Topeka, which created a new, state of the art Regional Simulation Center (RSC) for allied health students through the KanTRAIN grant. Resources from KanTRAIN helped renovate spaces to house the RSC and financed equipment for four bays, each with a simulated care facility where students could practice new skills. KanTRAIN and Washburn Tech convened local employers early in the process to help design the space and advise on which simulation exercises students should complete.

While partnerships with local employers were already strong at Washburn Tech, the introduction of the simulation lab created room for increased engagement. One local employer, St. Francis Health, hires many home health aides who complete training at Washburn Tech. St. Francis encouraged and helped the college create a simulated home environment and simulation exercises to better prepare home health aides for a variety of situations that might arise on the job, all in a low-risk environment. Thanks to the RSC and a key employer's engagement in their training, home health aides from Washburn Tech have a wide range of practical experience behind them when they start their first job.

The simulation lab helps train students in many allied health occupations including respiratory therapist, nurse, nursing assistant, and emergency medical technician. Washburn Tech students, as well as students from their sister institution, Washburn University, also use the simulation lab for anatomy and physiology classes.

Employers, including regional partner hospitals, are starting to use the lab to offer continuing education opportunities for their employees. The lab equipment that supports students before they earn a credential or license has much to provide these employers who are working to ensure their workforce stays up to date. Mark Warren, curriculum and support specialist for the RSC, hopes this trend continues and that more local employers make use of the center for employee training exercises.

The biggest annual event for the lab is the "Big Sim," a day-long, interdisciplinary simulation exercise requiring nursing, nursing assistant, EMT, and home health aide students to work together on one, integrated case. The event has been a big hit with students. Last year, the military brought in a helicopter and worked with Washburn Tech to help simulate transferring a patient in need of being airlifted. While there will be no 2020 Big Sim due to the COVID-19 pandemic, the lab remains a central place of learning for current students at Washburn Tech who benefit from simulated clinical exercises while the pandemic makes it trickier to engage in in-person clinicals. Warren hopes that some smaller interdisciplinary simulation events—safer, but still in the spirit of the Big Sim—will be available to students soon.

The college is rightly proud of the facility and the benefits it brings to the Topeka regional health care workforce. "It's really a jewel of our campus," Warren says. "Anytime we have people come for tours, we always make sure to show them the simulation lab." From the early engagement with employer advisors for the RSC to employer use of the simulation equipment, Washburn Tech has created a loop of employer engagement that strengthens both the college and its workforce partners.

Amid the pandemic, colleges across the country have been leaning more heavily on simulated learning experiences to ensure their allied health students get the hands-on learning they need to prepare for a job. Some nursing assistant programs, for example, were able to move to full simulation while traditional clinicals in long-term care facilities were closed off due to COVID-19. Collaboration between colleges and employers to provide space for simulations could go a long way to addressing this need.

## Key Takeaways

These successful projects show how leveraging relationships and strengths across systems can help sustain and improve the quality of simulation and online learning. Course and program sharing consortiums like SUN Online and Missouri Health Professions Consortium can expand the capacity of colleges to meet both student and workforce demand, particularly in rural areas. System wide efforts like Learn on Demand can create a foundation for new programs and help those programs scale up quickly. Sharing simulation capacity and other laboratory experiences, like KanTRAIN and Missouri Health Professions Consortium, can help create capacity for more simulation and hybrid programs across a state. For programs that require hands-on experiences, hybrid programs with enhanced and distributed simulation components can work and should be a priority. And all of these efforts lead to new and improved relationships across colleges, which in turn leads to more collaboration, more sustainability, and higher quality instruction.

But innovative collaboration is not always easy. Colleges may resist these types of collaboration efforts out fear that they will cannibalize their current enrollments, making choosing what programs and courses to offer across colleges or a system tricky. Coming up with a fair way to fund the start-up and sustaining costs of these efforts can also present a challenge to colleges and systems. One way to address these concerns is by allowing colleges to opt into the effort and creating a fair revenue sharing model. How to divide the tuition and state appropriations allocation can make or break a collaborative effort. Another challenge that these collaborations face is harmonizing institutional policy like start dates, add-drop deadlines, and financial aid rules. When these administrative policies conflict between a student's home institution and the college offering the instruction, it can be confusing. These policies need to be discussed and addressed from the beginning. Last, specialized accreditation can be a challenge to innovative and collaborative program design, particularly in allied health occupations. Working with specialized accreditors can be time-consuming and colleges may not always be able to address their concerns.

# Recommendations

As colleges look to the future, they can use these lessons to sustain and improve quality during the COVID-19 crisis and beyond. Although collaboration across colleges in online and simulated learning can be a challenge, its rewards are substantial. Below is a set of recommendations to support that collaborative work:

## For federal policymakers

***Encourage collaboration***

A new investment should prioritize consortium building and collaboration across colleges. While some TAACCCT grants went to consortia, grants also went to many single institutions. In our research, we have found that the relationships and collaboration fostered through the TAACCCT grants were one of its biggest benefits. For states like Missouri, where there is no community college system, the grant forged relationships and strengthened collaboration in ways that would not have happened organically.

***Build on existing work***

Future federal investments should also encourage scale and sustainability by prioritizing proposals that build on existing successful online and simulated learning initiatives over proposals that seek to build from scratch. Grants should not limit funding to brand new initiatives and instead reward building on existing efforts.

***Invest in online and simulated learning environments***

The pandemic has given the federal government an opportunity to support the improved quality and sustainability of collaborative online and simulated learning environments. Future investments in community college capacity should continue to support these initiatives.

***Invest in holistic student supports***

We know that many students do not succeed in purely online learning environments, and simulation can be less engaging than in-person practicums. To make these experiences effective, we need continued investment in holistic student support services, especially success coaches who guide students from enrollment through job placement. Any federal investment should prioritize making these support services available remotely in conjunction with online and simulated learning.

## For practitioners

### *Figure out funding*

Revenue sharing is very important to successful collaborations in online programs and simulation. Failure to agree on the revenue split has spelled the end of more than one collaborative online model. If start-up costs for a program are covered by a grant, colleges and consortiums still must decide who gets what share of the tuition revenue. This can be tricky in models where the student is enrolled at one college but taking courses from another.

### *Share challenges and solutions*

Collaboration and collective problem solving is essential. Whether colleges are looking to improve the innovations they have been forced to adopt during the COVID-19 pandemic, augment their course offerings, generate enough enrollment to make a program sustainable, or meet a workforce need, collaboration can offer the solution. Working with employers to build and sustain simulated learning environments can address challenges both for the employer seeking qualified workers and for the college trying to offer hands-on instruction during a pandemic. It can also strengthen the relationship between the college and the employer.

### *Build on what works*

Once colleges know what their shared challenges are, they should inventory each other's strengths. We have seen that projects that leverage the TAACCCT grants to build on work that was already successful were more likely to persist and be scaled up. There is no need to start something new when good work is already underway.

### *Define roles clearly*

Based on their inventory of strengths, collaborators need to decide the role of each organization in administering shared online or simulated instruction. In the examples we have outlined here, there are many potential models. In one example, the system office took a leadership role. In another, the colleges worked together to administer the program. In still another, the Western Interstate Commission for Higher Education took on the responsibility of ensuring the consortium functions. The important thing is that roles and responsibilities are outlined clearly, with regular meetings of the governing body to deal with the administrative hurdles that are sure to arise.

## Notes

1 For a discussion of trends in online education pre-pandemic, see "Shifting to Online Education," *DataPoints* (blog), American Association of Community Colleges, April 7, 2020, https://www.aacc.nche.edu/2020/04/07/datapoints-shifting-to-online-education/. Here, we couple information about the pandemic-driven shift online with current enrollment numbers described in American Association of Community Colleges, "Fast Facts 2020," https://www.aacc.nche.edu/wp-content/uploads/2020/03/AACC_Fast_Facts_2020_Final.pdf

2 In Round 1 of TAACCCT, third-party evaluation was not mandatory, as it was in Rounds 2-4. Therefore, final evaluation reports only exist for some Round 1 grants, leaving us with only 220 final reports out of 256 total TAACCCT grants made.

3 For a discussion of geographic access to higher education, see Nicholas Hillman, *Place Matters: A Closer Look at Education Deserts* (Washington, DC: Third Way, 2019), https://thirdway.imgix.net/pdfs/override/PlaceMatters-A-Closer-Look-at-Education-Deserts.pdf

4 For more information about health sciences programs developed through the MoHealthWINs TAACCCT grant, see the SkillsCommons platform for the program flyer distributed at St. Charles Community College when new programs became available, https://www.skillscommons.org/bitstream/handle/taaccct/2758/allied%20health%20flyer%20to%20students.pdf

5 A description of the opportunities to earn credit for prior learning through Learn on Demand can be found at the Kentucky Community & Technical College System (website), "Credit for Prior Learning," https://kctcs.edu/education-training/kctcs-online/learn-on-demand/about/prior-knowledge.aspx

6 See the list of KCTCS distance learning policies and procedures at the Kentucky Community & Technical College System website, https://policies.kctcs.edu/administrative-policies/4-14.aspx

7 "Kentucky Awarded $1 Million to Assist 'Learn on Demand' Online Degree Program," *KYForward*, July 29, 2011, https://www.kyforward.com/kentucky-awarded-1-million-to-assist-learn-on-demand-online-degree-program/

8 In addition to the enrollment and attainment data cited here, the final grant evaluation gives rich detail on the grant's scope and impact. See Jane Jensen, Jessica Horohov, and Christina Wright, *Online2Workforce (O2W) Elizabethtown Community & Technical College TAACCCT Round II Grant Final Evaluation Report* (Lexington: University of Kentucky College of Education Evaluation Center, 2016), https://www.skillscommons.org/bitstream/handle/taaccct/15586/Elizabethtown%20CTC%20-%20Final%20Evaluation%20-%202016.12.07.pdf

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