Optimizing the Development of Prototype Learning Mode of Professional Ability Consolidation (PKP) Courses of the PGSD-UT Study Program in the Archipelago Region

Astri Dwi Jayanti Suhandoko¹
¹ Universitas Terbuka, Indonesia

Abstract
Every semester, Professional Capability Consolidation (PKP) courses are always a scourge for Elementary School Teacher Education (PGSD) students of the Universitas Terbuka (UT). It is due to the lack of student knowledge of the procedures for implementing PKP courses and the limited skills of students in making practical reports. It affects their scores because they do not meet the minimum criteria, and students fail to pass the course. Especially during the pandemic, the implementation of practical courses that are usually held face-to-face is now all based on webinar tutorials. The learning process becomes more difficult for students living on islands with various limitations. This study aims to develop a prototype learning mode to overcome these problems with three main activities, including (1) making procedural video for implementing PKP courses of S1-PGSD, (2) training in writing PKP S1-PGSD UT reports, (3) assisting the undergraduate-PGSD students in the islands face-to-face. The study results show that it was necessary to develop advanced videos as a complement and elaborately detailed procedures for implementing the PKP courses for the students of S1-PGSD UT, the need for writing training with a greater number of meetings and writing practices, and the suitability of holding face-to-face mentoring of PKP courses for the students of S1-PGSD.

Keywords: learning mode; procedural video; writing training; face-to-face mentoring

INTRODUCTION
The Elementary School Teacher Education (PGSD) Study Program of the Universitas Terbuka is the study program with the largest number of students, 29.07% out of 310,794 students. They design the curriculum based on the achievement of pedagogic, personality, professional and social competencies. It aligns with UT’s S1-PGSD Vision: ‘Excellence in producing professional elementary school teachers through an open and distance higher education system’ (Mukhamadovna, Sharipovna, & Supkhonovna, 2020; Universitas Terbuka, 2021). At the end of the undergraduate program, the PGSD study program develops practical courses which are a substitute for thesis preparation, i.e., Professional Capability Consolidation (PKP). This course facilitates students to master the ability to perform problem-solving in five fields of study by applying the rules of Action Research (AR) to improve the quality of learning (Wardani et al., 2016).

Every semester, this course becomes a scourge for PGSD students. Even though they are in-service teachers who are accustomed to having experience in the learning process in the classroom, this does not guarantee that they can complete this course well. Some of the reasons include the lack of student knowledge about the procedures for implementing AR (Suhartono & Darmayanti, 2015) and students’
incompetence in preparing practical reports. It impacts grades that do not meet the minimum criteria, and students fail these courses (Budiastra, Hanafi, & Mardiana, 2019; Fatmasari, 2018; Kadarko, Novita, & Delfi, 2010).

In this new normal era, most schools in the islands have implemented face-to-face learning. The implementation of PKP will return to the previous pattern, i.e., direct/face-to-face mentoring by supervisor II, a civil servant teacher, from where students teach. However, consultations with supervisors/tutors are still carried out indirectly, both in online tutorials and webinar tutorials. Then the assessment of the report does not rely on the PKP course tutor, as implementing the concept of accountability, UT recruits a corrector assigned to provide an assessment of the final report. Thus, the score of the courses obtained by students is objective and can be accounted for.

The implementation of PKP courses during the new normal situations and conditions shows differences from previous studies. Suhartono and Darmayanti (2015) applied lesson study through a participatory action research approach to the S1-PGSD students from the student study groups of Cikokol and Pondok Cabe (UPBJJ-UT Serang). Furthermore, Budiastra et al. (2019) analyzed the implementation and service of PKP practical courses for students in the outermost, frontier, disadvantaged (3T) areas. The previous research shows that alternative learning products and other academic activities are needed to support PKP lectures. Thus, the purpose of this study is to develop and evaluate a prototype of the learning mode of the Professional Capability Consolidation (PKP) course, especially in the islands.

LITERATURE REVIEW

Professional Capability Consolidation (PKP)

An elementary school teacher should have professional competence in enhancing the quality of learning and teaching through research on class action (PTK). Professional competence includes identification, analysis, and resolving education problems (Mukhamadovna et al., 2020; Yang, Kaiser, König, & Blömeke, 2018). In providing that competence, the elementary school teacher program study has a Practice on Professional Skills Advancement with four credits. According to Wardani et al. (2016), after resolving this course, the students should have a chance to improve their learning from one of five program studies implemented for elementary students, as well as through thematic learning by applying research on the class action. Wardani et al. also continues that finishing this course can help students to:

1) Identify the learning problems that are the focus of attention,
2) Analyzing the learning problems/conditions that they are faced;
3) Determine alternative corrective actions/improvement of learning quality based on the causes of the problems/conditions they encountered.
4) Make an implementation plan for the improvement/improvement of the quality of learning based on the selected alternative actions.
5) Implement improvements in the quality of learning based on the improved design.
6) Collect and process data on the implementation of improvements/improvements in the quality of learning that is carried out.
7) Conducting a reflection and evaluation and.
8) Prepare reports as scientific accountability for corrective actions/improvements in the quality of learning that have been implemented.
Mastery of general and special abilities is expected to change students' teaching behavior to be more effective and professional. This is the reason why students are invited to carry out teaching practices to solve the educational problems they face in class using the CAR method independently, guided, and monitored in a structured manner.

**Action Research**

PKP courses are the application of action research or what we know as PTK. This structured and coherent research is carried out by teachers (educators inside the learning environment) which inside its classrooms to solve problems they encounter in the learning process (Dadds, 2020). This research went through several improvement cycles to improve the quality of learning and teaching (De Borja, 2018). The teacher carried out the research in the classroom which was his responsibility as a form of reflection and evaluation on the teaching they had done so far. This stage gives them the flexibility to assess their performance, so once they achieve at the final goal, i.e., enhance the quality of teacher-student interaction, and between students in the learning frame for the better.

![Diagram 1. Action Research (Indriyanti & Prasetyo, 2018)](image-url)

In diagram 1, we can see the stages of classroom action research (CAR), which consist of Cycles I and II, containing similar stages: planning, implementing, observing, and reflecting (Hendricks, 2017). The pre-cycle stage is usually filled with activities to identify problems encountered in the classroom, then analyze the causes of the problem and end with determining alternative solutions. Followed by the stage of Cycle I, namely the determination of learning improvement goals that are prepared referring to the formulation of competencies expected to be achieved by students and teachers. At this stage, the teacher prepares and carries out preparations, initial activities, core activities, and closing activities. The implementation of the first cycle is accompanied by observations of the implementation of the 'new method' used and ends with reflection (Luttenberg, Meijer, & Oolbekkink-Marchand, 2017). Cycle II activities have repetitive stages, only distinguished by another 'new method' that is used as a result of reflection on the previous cycle. As a supplement to these two cycles, it is better to have an instrument to measure the success of the implemented 'new method' (Hiratsuka, 2018). The instrument is given to (1)
students in the form of tests/questions to determine their level of understanding of the material provided; (2) the instrument is in the form of a performance observation sheet by the teacher.

**PKP Implementation Procedure**

The implementation of PKP courses so far is based on three primary sources, namely (1) PKP implementation guidelines; (2) Lecture material provided by the supervisor/tutor; (3) information submitted by the person in charge of practice/practicum in each UT regional office at the time of equalizing perceptions with tutors and students. UT does not provide a special module because PKP is considered the mouth of the course (MK), so teachers are justified as competent in implementing CAR with their previous lectures' experience. However, a number of students in the archipelago experience insecurity in attending lectures and compiling PKP reports, apart from the fact that the guidelines/modules are the only source of learning (Budiastra et al., 2019), this is also influenced by the quality of the tutorial webinar time that takes place. So, it is necessary to develop other reference sources in the form of audiovisuals that can effectively (Susanti, Harta, Karyawan, & Halimah, 2018) be used by students in the archipelago without the need for internet access. The video is a complementary reference source because, technically, the video can be viewed and used repeatedly. Students can use the stop button and take notes when they find important or poorly understood information. If we look closely at its function for learning, a number of studies have found that video is an effective learning medium in improving students' academic achievement (Chen & Deng, 2021; Poquet, Lim, Mirriah, & Dawson, 2018). There will be two videos that will be developed to be given to PKP students. The themes raised in the video include (1) Activities carried out during the Pre-Cycle, such as problem identification and completeness of PKP attachment documents; (2) Action Implementation (Cycle 1) and follow-up reflection; (3) Cycle Design Guidance 2.

In addition to developing technical videos for the implementation of PKP, the research team also developed writing training that aims to direct and guide students in preparing the PKP final report. Writing is simple, but compiling scientific writing whose results can be justified in theory and reality is not easy, especially if the writing is a report that affects a student's academic achievement. Several studies describe that the quality of student PKP reports in the UT Pendas major still does not meet the standards (Widuroyekti, 2015). In addition to mentoring by supervisor 2, an alternative solution that can be done for PKP students is to provide report writing training. Based on the results of research conducted by Wischgoll (2017), it was found that providing variations in writing strategies (composing sentence structures in applications, making summaries, and using language) and providing feedback on training would improve students' academic writing skills.

The last procedure is providing direct guidance to students regarding the technical implementation of PKP lectures, preparing reports, and uploading reports on the pages provided. This direct assistance was carried out in several study groups in each region, collecting various obstacles encountered by students during PKP lectures and then responding to them with effective solutions.

**RESEARCH METHOD**

This study is R&D (Aka, 2019; Gall, Gall, & Borg, 2007) for developing a prototype learning mode for practical courses, which consists of 3 main activities, including (1) Development of videos on AR implementation procedures from PKP courses for the students of S1-PGSD, (2) Report Writing Training for PKP courses of S1-PGSD, and (3) Face-to-face assistance to S1-PGSD students in the islands. These three activities were then evaluated through online FGD interviews with two experts, four students, and
two tutors. The interview data obtained were transcribed and analyzed. The first step is to provide codes for each statement (Deterding & Waters, 2021), followed by creating a data code pattern (category) and the definition of each category (Allan, 2020). The activities to develop a prototype learning mode for the PKP courses of S1-PGSD are described in Table 1.

| No | Activities |
|----|------------|
| 1. | Conducting consultations with the head of the department, and the coordinator of BBLBA |
| 2. | Revising Semester Learning Plan of PKP Courses |
| 3. | Developing storyboard of a tutorial video for Classroom Action Writing (integrated with PKP courses) |
| 4. | Filming a tutorial video for Classroom Action Writing (integrated with PKP courses) in Cycle 1 and 2 |
| 5. | Editing a tutorial video for Classroom Action Writing (integrated with PKP courses) |
| 6. | Socializing the PKP Report Writing Training Activities |
| 7. | Prepare presentation materials for PKP training reports and training schedules and presentation materials for mentoring students of PKP Course outside tutorial hours |
| 8. | PKP Report Writing Training Activities |
| 9. | Face-to-face PKP student mentoring activities |

FINDINGS AND DISCUSSION

The findings and discussion in this study focus on the opinion of the informants regarding the prototype of the learning mode that has been developed, both video implementation procedures, report writing exercises, and face-to-face student assistance. It is shown that the three learning modes have advantages and disadvantages so they require further research and development to perfect the results. This section describes the findings into several categories based on each learning mode developed.

Video Development Presenting an Overview of the Implementation of PKP Courses

Informants expressed a uniform opinion about the usefulness of the developed video, especially in presenting a representation of the stages of implementing the PKP course. Video is considered the right and appropriate media because it can present motion sketches that make it easier for users to understand the intent and purpose of the video (Lange & Costley, 2020; Noetel et al., 2021). This procedural video can present materials that can be duplicated, AReful delivery techniques, and video production with good quality.

P5.Q1.1 The learning media selection needs various considerations. If the purpose of developing media is to make users adapt teaching steps in a practical form, then video is the most suitable choice.

P6.Q1.1 Video is a medium consisting of visual and audio, making it easier for students as users to understand the material in it. For this reason, the video quality must be good so that the purpose of making the video is conveyed. If I correlate the guide in the module with the video content, it is appropriate and representative enough to describe classroom action research.
The procedural videos complemented the PKP guide module. In addition, students, as users, increasingly understood the stages of implementing classroom action research (AR) which are integrated with PKP courses. Furthermore, the video also increased students' confidence in preparing research on the problems encountered in their classes.

Q1.Q1.2 I understand what I have to do in the PKP course. How do I find problems in class, what do I prepare for learning cycles 1 and 2, and what documents are prepared for classroom action research?

P4.Q.1.2 Since it is a video, it is easier to understand. Before that, I saw the PKP guide in the module but was still unsure. We know we have to determine methods to make improvements in learning.

Scenes in the video have succeeded in presenting a general illustration of classroom action research. However, some parts were missing to be included. It raises questions from informants and submits several recommended scenarios to be included in developing the following video. It is in line with previous studies that require AReful preparation starting from scripts, storyboards, filming, and editing the videos based on the material to be delivered so that the products are in accordance with the objectives (Kandriasari, Situmorang, Muslim, & Siang, 2020; Nissa et al., 2021). This AReful consideration makes every video development requires several levels of input, revision, and improvement so that it arrives at the final result and can be used by the audience.

P7.Q1.3 What I learned in the guideline is that there is a supervisor's contribution in supervising classroom action research ARried out by students, then the supervisor's assessment is in the APKG form. However, I did not see it clearly in the videos, both cycles 1 and 2. If there were, they were not explained in written form, so as a video user, I did not catch the intent of some of the scenes.

**Report Writing Training as an Alternative Solution that Supports PKP Course for S1-PGSD students**

In the introductory session, two main obstacles commonly faced by S1-PGSD students in PKP courses have been described: ARrying out AR and compiling reports. In order to solve these problems, the author developed a prototype of another learning mode, i.e., writing training conducted online. Wischgoll (2017) found that providing variations in writing strategies (composing sentence structure in applications, making summaries, and using language) and providing feedback in training will improve students' academic writing skills. Referring to these sources and the PKP guide module, the author prepared training materials full of writing practices such as making research titles, abstracts, introductions, literature reviews, methods, discussions, and conclusions. It is what makes some informants state that writing training is a very helpful solution in preparing reports.

P2.Q2.1 In my opinion, writing is not easy. Sometimes, it takes me a long time to solve TMK or THE questions, let alone to write a report. Yesterday, when I joined the writing training, I learned how to write a research title, and an abstract.
P3.Q2.1 I did not participate in the full writing training, but I know how to find library resources. Indeed, the most difficult is chapter 2. For the title, I have already known.

Writing training is considered as an alternative solution for PKP courses, but some students stated the need for additional material and time. They regretted that the training contained material up to the concluding chapter with a short time allocation for each chapter. The short implementation time made only a handful of students whose writings could be responded to by the speaker. It indicates that additional time is needed or a writing training session 2. Other requests came from students who live in places that often experience network problems. They stated that the writing training was less effective if it was done online because the speaker’s voice was not clear and audible several times during the training.

P3.Q2.2 Yesterday, during the training, many students took part, so not all of them could ask the speakers to check the results of their practice. When I wrote the title, I wanted to ask if it was correct or not, but I did not have time. The network was also not good, so the sound was not clear. Fortunately, there is PPT material provided. If possible, we, living far away, just want face-to-face training.

P2.Q2.2 The discussion chapter should take a bit longer during the training. Judging from the discussion chapter guide, it has the most parts and is difficult. I’m just curious. I hope there will be further training so we can study each chapter in the PKP report in more detail.

It is in line with previous research, in which each training implementation has its own conveniences and challenges. Likewise, with writing training which is held by the author virtually, there were things to be considered in the implementation of further training, including online or offline mode, implementation time, selection of writing strategies, and practice time allocation for each material provided (Cortés, Errázuriz, Esteban, & Parada, 2021; Ghasemi, Akbarilakeh, Fattahi, & Lotfali, 2020).

Face-to-face PKP Student Assistance as Complementary to the Development of Learning Mode Prototypes

In addition to considering the type, technical implementation, and content/material adapted to the competencies to be achieved, Prototyping development must also consider that the resulting product can be duplicated. Implementing face-to-face assistance in archipelagic areas certainly requires no small amount of money, considering that students are spread across various islands over great distances. When some students practice in one of the student study groups as the research sample, the author chose a place where the expenses charged are minimal. Moreover, if UPBJJ-UT can combine two activities in one official trip, this will be effective and efficient in terms of cost, time, thought, and energy. The pattern of activities that are arranged should be considered ARefully as students who participated in face-to-face mentoring stated that they got much information related to (1) preparation for the implementation of the PKP course webinar tutorial, (2) technical implementation of lectures (download the Microsoft Teams application, follow the information) from WAG, attend lectures according to a predetermined schedule, and ARry out tasks assigned by tutors, etc.), and (3) compiling a PKP report and uploading it to the praktikut.ac.id (logged into each practice account).
P2.Q3.1 I feel lucky to participate in face-to-face mentoring at the Sula Islands student study group. Much information was obtained, especially lectures and how to upload reports.
P1.Q3.1 I am a new student, so I do not know much about lectures. When I participated in mentoring, I did not understand immediately. I asked the friend next to me from a higher semester. It turned out that the previous semester he had participated in TUWEB. Thus, I asked about some things that I did not understand to my friend.

P4.Q3.1 We were directed to download the Microsoft TEMS application and joined the lecture using the link in the group. In WAG, we cannot just randomly send messages because it will interfere with messages sent by tutors regarding the direction of the lecture process, including schedules and tasks that must be completed.

P8.Q3.1 If there is assistance from UPBJJ lecturers, of course, we as tutors, will be very helpful, especially regarding downloading the TEAMS application and practicing account activation procedures.

Moreover, the author should also take into account the content of the material to be conveyed, either in the form of soft or hard files. Reviewing the media used in mentoring is a way of adapting to situations and conditions that may occur at the implementation site. In the islands apart from the unstable internet network, the electricity network cannot be guaranteed to be on for 24 hours. Thus, the provision of two forms of files at once can minimize the worst possibility. Unfortunately, these considerations were missing from the author’s mind, so the PPT slides for mentoring prepared by the researchers could not be used when visiting students in the Sula Islands student study group during the power outage.

Q4.Q3.2 We collected to get information about practical courses. The lights blacked out, so the lecturers who came could only explain in practice, directly downloading the application and logging into the practice account.

P2.Q3.2 The information we got is quite complete, even though the lights were off. If the lecturer brought a photocopy of the material, we could save it and make notes.

**CONCLUSION**

The author developed a learning mode prototype as a reaction to the reality of the low graduation rate of students for PKP courses. The main learning modes that are thorough and developed include (1) Making videos of the implementation procedures for the PKP courses of S1-PGSD, (2) Writing training, and (3) Face-to-face student assistance. After implementing the FGD to get responses from user partners, including students, experts, and teachers, it was found that the developed prototype had advantages and disadvantages, so improvements and revisions were needed. The input and suggestions submitted by all informants can be used as a reference for the author for further research and development.
LIMITATION & FURTHER RESEARCH

Recommendations that other writers can do in completing this research are (1) developing procedural videos of a number of meetings in Tutorial Webinar (TuWeb) or online tutorials so that the video contains detailed content of the implementation of the PKP courses every week, (2) conducting blended writing training, i.e., online and offline training with different content and a longer allocation of writing practice time, and (3) assisting students in a blended manner by including supervisors 1 and 2.

REFERENCES

Aka, K. A. (2019). Integration Borg & Gall (1983) and Lee & Owen (2004) models as an alternative model of design-based research of interactive multimedia in elementary school. Paper presented at the Journal of Physics: Conference Series.

Allan, G. (2020). Qualitative research. In Handbook for research students in the social sciences (pp. 177-189): Routledge.

Budiastra, A. K., Hanafi, H., & Mardiana, A. (2019). ANALISIS PENYELENGGARAAN & LAYANAN MATAKULIAH PRAKTEK UNTUK DAERAH 3T. Jurnal Pendidikan, 20(2), 157-171.

Chen, X., & Deng, H. (2021). Research on Personalized Recommendation Methods for Online Video Learning Resources. Applied Sciences, 11(2), 804.

Cortés, J. A. N., Errázuriz, M. C., Esteban, A. N., & Parada, C. (2021). Face-to-Face and Virtual Academic Writing Tutoring Sessions: What Can Be Learnt from their Didactic Strategies? Íkala, 26(3), 643.

Dadds, M. (2020). Passionate enquiry and school development: A story about teacher action research: Routledge.

De Borja, J. M. (2018). Teacher action research: Its difficulties and implications. Humanities & Social Science Reviews, 6(1), 29-35.

Deterding, N. M., & Waters, M. C. (2021). Flexible coding of in-depth interviews: A twenty-first-century approach. Sociological methods & research, 50(2), 708-739.

Fatmasari, R. (2018). Teaching Practice in Distance Education Context. Paper presented at the SHS Web of Conferences.

Gall, M. D., Gall, J. P., & Borg, W. R. (2007). Educational Research: An Introduction (8th Edition ed.). USA: Utah State University.

Ghasemi, R., Akbarilakeh, M., Fattahi, A., & Lotfali, E. (2020). Evaluation of the effectiveness of academic writing workshop in medical students using the kirkpatrick model. Novelty in Biomedicine.

Hendricks, C. C. (2017). Improving schools through action research: A reflective practice approach: ERIC.

Hiratsuka, T. (2018). Narrative frames as a course evaluation instrument. Language Teacher, 42, 3-7.

Indriyanti, R., & Prasetyo, Z. K. (2018). Improving the experiment report writing skills of fifth graders through the discovery learning method. Jurnal Prima Edukasia, 6(1), 102-110.

Kadarko, W., Novita, S. D., & Delfi, R. (2010). Pelaksanaan praktek mengajar bagi guru peserta pendidikan jarak jauh yang tinggal di wilayah terpencil. Jurnal Pendidikan, 11(2), 78-87.

Kandriasari, A., Situmorang, R., Muslim, S., & Siang, J. L. (2020). HOW TO DEVELOP A BREAD PROCESSING VIDEO STORYBOARD. Asia Proceedings of Social Sciences, 5(2), 137-141.

Lange, C., & Costley, J. (2020). Improving online video lectures: learning challenges created by media. International Journal of Educational Technology in Higher Education, 17(1), 1-18.

Luttenberg, J., Meijer, P., & Oolbekink-Marchand, H. (2017). Understanding the complexity of teacher reflection in action research. Educational Action Research, 25(1), 88-102.
Mukhamadovna, T. M., Sharipovna, H. A., & Supkhonovna, H. N. (2020). The system of development of professional competence in future primary school teachers. *SYSTEM, 7*(13), 2020.

Nissa, A. D. A., Toyib, M., Sutarni, S., Akip, E., Kadir, S., & Solikin, A. (2021). *Development of Learning Media Using Android-Based Articulate Storyline Software for Teaching Algebra in Junior High School*. Paper presented at the Journal of Physics: Conference Series.

Noetel, M., Griffith, S., Delaney, O., Sanders, T., Parker, P., del Pozo Cruz, B., & Lonsdale, C. (2021). Video improves learning in higher education: A systematic review. *Review of Educational Research, 91*(2), 204-236.

Poquet, O., Lim, L., Mirriahi, N., & Dawson, S. (2018). *Video and learning: a systematic review (2007–2017)*. Paper presented at the Proceedings of the 8th international conference on learning analytics and knowledge.

Suhartono, S., & Darmayanti, T. (2015). Pemodelan Pembimbingan Praktik Pemantapan Kemampuan Profesional (PKP) Pada Mahasiswa Pendidikan Jarak Jauh Melalui Lesson Study. *Jurnal Pendidikan Terbuka Dan Jarak Jauh, 16*(1), 10-28.

Susanti, E., Harta, R., Karyana, A., & Halimah, M. (2018). Desain Video Pembelajaran yang Efektif pada Pendidikan Jarak Jauh: Studi di Universitas Terbuka. *Jurnal Pendidikan dan Kebudayaan, 3*(2), 167-185.

Universitas Terbuka. (2021). Vision and Mission of Elementary School Teacher Education Program. Retrieved from [http://fkip.ut.ac.id/index.php/pendidikan-guru-sekolah-dasar-s1/](http://fkip.ut.ac.id/index.php/pendidikan-guru-sekolah-dasar-s1/)

Wardani, I. G. A. K., Julaeha, S., Rahayu, U., Marsinah, N., Widiastih, Sapriati, A., & Suhartono. (2016). *Pemantapan Kemampuan Profesional*. Tangerang Selatan: Universitas Terbuka.

Widuroyekti, B. (2015). *Analisis Mutu Laporan Pemantapan Kemampuan Profesional (PKP) Ditinjau Dari Penerapan Kaidah Penulisan Karya Ilmiah Pada Jurusan Pendidikan Dasar Universitas Terbuka*. Universitas Terbuka, Tangerang Selatan.

Wischgoll, A. (2017). *Improving undergraduates' and postgraduates' academic writing skills with strategy training and feedback*. Paper presented at the Frontiers in Education.

Yang, X., Kaiser, G., König, J., & Blömeke, S. (2018). Measuring Chinese teacher professional competence: adapting and validating a German framework in China. *Journal of Curriculum Studies, 50*(5), 638-653.