Professional Development of Teachers and Future Teachers: Factors and Challenges

Oksana V. Vashetina[1], Elena V. Asafova[2], Balwinder Kaur[3], Balwant Singh[4], Parveen Sharma[5], Martha Maria Prata-Linhares[6], Vania Maria de Oliveira Vieira[7], Maria Alzira de Almeida Pimenta[8], Marilene Ribeiro Resende[9], Tatiana V. Sibgatullina[10]

[1] *Kazan Federal University, Kazan, Russia*
E-mail: vashetina@yandex.ru
ORCID: https://orcid.org/0000-0001-5021-9228

[2] *Kazan Federal University, Kazan, Russia*
E-mail: Elena.Asafova@kpfu.ru
ORCID: https://orcid.org/0000-0001-8696-4123

[3] *Partap College of Education, Ludhiana, Punjab, India*
E-mail: balwinder_kaur@ymail.com
ORCID: https://orcid.org/0000-0001-5290-2135

[4] *Partap College of Education, Ludhiana, Punjab, India*
E-mail: bsinghpc@gmail.com
ORCID: https://orcid.org/0000-0002-8897-1850

[5] *Partap College of Education, Ludhiana, Punjab, India*
E-mail: parveentara@gmail.com
ORCID: https://orcid.org/0000-0002-1765-4153

[6] *Federal University of Triângulo Mineiro, Uberaba, Brazil*
E-mail: martha.prata@gmail.com
ORCID: https://orcid.org/0000-0003-014-3532

[7] *University of Uberaba, Uberaba, Brazil*
E-mail: vaniacamila@uol.com.br
ORCID: https://orcid.org/0000-0001-9839-0235

[8] *University of Sorocaba, Sorocaba, Brazil*
E-mail: alzira.pimenta@gmail.com
ORCID: https://orcid.org/0000-0002-5775-5856

[9] *University of Uberaba, Uberaba, Brazil*
E-mail: marilene.resende@uol.com.br
ORCID: https://orcid.org/0000-0002-6740-1787

[10] *Moscow City University, Moscow, Russia*
E-mail: sibgatullinatatiana@yandex.ru
ORCID: https://orcid.org/0000-0002-8993-1172

Abstract
The article discusses the features of professional development and self-development of teachers and students of pedagogical educational institutions in Russia, India, Brazil.
Russian researchers analyze the influence of activity of future teachers in digital environment on their professional development and self-development, as well as the relationship of professional development with students' self-determination, namely, goal setting. Empirically, the relationship between the digital activity of students of the pedagogical magistracy and the desire for professional self-development was revealed, which, in turn, depends on the severity of the goals and their orientation on obtaining a teaching profession.
The study of Indian scientists is aimed at studying the quality of life of teachers on the effectiveness of professional development. It was found that the majority of Indian teachers has a low level of professional development. Factors that negatively affect the level of professional development were identified, namely: low financial status, unfavorable family environment, physical and psychological well-being, job security. Researchers also consider reasons for professional development, including lack of time, lack of accountability for professional development activities etc.
The Brazilian study examines the features of social perceptions of teachers about teacher education and their professional development. The authors depicted social perceptions of teachers about teacher education based on four categories: planning, didactic procedures; assessment and teacher-student relationship.
The article also provides recommendations for the successful application of pedagogical practice and the creation of an environment for the teachers' professional development, taking into account the results of all three blocks by countries participating in this study.
Keywords: goal setting, digital resources, professional development, factors and challenges, university teaching, social representations.

Аспекты профессионального развития практикующих и будущих педагогов: факторы и вызовы

Оксана В. Вашетина[1], Елена В. Асафова[2], Балвиндер Каур[3], Балвант Сингх[4], Парвин Шарма[5], Марта Мария Прата-Линарес[6], Вания Мария де Оливейра Виейра[7], Мария Альзира де Алмейда Пимента[8], Марилен Рибейро Ресенде[9], Татьяна В. Сибгатуллина[10]

[1] *Казанский федеральный университет, Казань, Россия*
E-mail: vashetina@yandex.ru
ORCID: https://orcid.org/0000-0001-5021-9228

[2] *Казанский федеральный университет, Казань, Россия*
E-mail: Elena.Asafova@kpfu.ru
ORCID: https://orcid.org/0000-0001-8696-4123

[3] *Педагогический колледж Партап, Лудхияна, Пенджаб, Индия*
E-mail: balwinder_kaur@ymail.com
ORCID: https://orcid.org/0000-0001-5290-2135

[4] *Педагогический колледж Партап, Лудхияна, Пенджаб, Индия*
E-mail: bsinghpc@gmail.com
ORCID: https://orcid.org/0000-0002-8897-1850

[5] *Педагогический колледж Партап, Лудхияна, Пенджаб, Индия*
E-mail: parveentara@gmail.com
ORCID: https://orcid.org/0000-0002-1765-4153

⁶ Федеральный университет Триангуло Минейро, Убераба, Бразилия
E-mail: martha.prata@gmail.com
ORCID: https://orcid.org/0000-0003-014-3532

⁷ Университет Убераба, Убераба, Бразилия
E-mail: vaniacamila@uol.com.br
ORCID: https://orcid.org/0000-0001-9839-0235

⁸ Университет Сорокаба, Сорокаба, Бразилия
E-mail: alzira.pimenta@gmail.com
ORCID: https://orcid.org/0000-0002-5775-5856

⁹ Университет Убераба, Убераба, Бразилия
E-mail: marilene.resende@uol.com.br
ORCID: https://orcid.org/0000-0002-6740-1787

¹⁰ Московский городской университет, Москва, Россия
E-mail: sibgatullinatatiana@yandex.ru
ORCID: https://orcid.org/0000-0002-8993-1172

Аннотация
В статье рассмотрены особенности профессионального развития и саморазвития педагогов и студентов педагогических направлений России, Индии, Бразилии.
Исследователи России рассмотрели аспект влияния активности будущих педагогов в цифровой среде на их профессиональное развитие и саморазвитие, а также взаимосвязь профессионального развития с самоопределением студентов, а именно с постановкой целей обучающимися. Эмпирически была выявлена взаимосвязь между цифровой активностью студентов педагогической магистратуры и стремлением к профессиональному саморазвитию, которое, в свою очередь, зависит от выраженности целей, соответствующих направленности на получение педагогической профессии.
Исследование индийских ученых направлено на изучение влияния качества жизни учителей на эффективность их профессионального развития. Было установлено, что большинство индийских учителей имеют низкий уровень профессионального развития. Были выявлены факторы, негативно влияющие на уровень профессионального развития учителей, а именно: низкий финансовый статус, неблагоприятная семейная среда, физическое и психологическое благополучие, гарантия занятости. Ученые также выделили причины низкого профессионального развития, включающие нехватку времени, отсутствие собственной ответственности за профессиональное развитие.
Бразильское исследование посвящено рассмотрению особенностей социальных представлений начинающих учителей о педагогическом образовании и профессиональном развитии в высшей школе. Авторами были выявлены социальные представления учителей об их педагогической практике с учетом четырех категорий: планирование, дидактические процедуры; оценивание и отношения учитель-ученик.
В статье также представлены рекомендации для дальнейшего совершенствования практики преподавания и создания среды для профессионального развития педагогов с учетом полученных результатов по всем трем блокам стран-участниц данного исследования.
Ключевые слова: целеполагание, цифровые ресурсы, профессиональное развитие, факторы и вызовы, высшее образование, социальные представления.

Introduction

The pedagogical education that future teachers and lecturers receive is the key to their professional development (PD). In the process of studying in higher education, students of the pedagogical educational programmes not only acquire professional knowledge, which are consolidated in the course of practical activities, but also improve professionally significant personal qualities that help to successfully implement pedagogical activities in the context of the transformation of educational systems. However, it should be noted that while absolutely all school teachers receive a pedagogical education, a significant proportion of higher education teachers in many countries, including Russia, India and Brazil, do not have a pedagogical education and go to work at a university with a high level of qualification in the field of the taught discipline, but without comprehensive pedagogical training (Prata-Linhares et al., 2021). In this context, it becomes especially important for teachers to realize the importance of their own PD, to concretize their social ideas about its goals, content, variety of ways and methods. Teacher's awareness and motivation for PD and self-development (SD) directly affects the quality indicators of their pedagogical activity (de Sousa, 2017). Consequently, teacher's activity in achieving the best results in teaching is the basis of PD. Thus, the success of PD depends on teacher's professional position, which is understood as "a stable attitude to a complex of professionally important tasks and conditions of professional activity and to oneself" (Gorshkova, 2010, p. 28). The nature of the implementation of pedagogical activity depends on a professional position, it acts as a source of teacher activity based on a system of intellectual, volitional and emotional-evaluative attitudes towards the world and pedagogical activity (Voronina, 2015).

It is teacher's active transformation of the inner world, leading to new ways of professional activity, that is associated with PD (Mitina, 2005). PD refers to the activities that stimulate the thinking as well as professional knowledge of an individual. It bestows rich opportunities to broaden the professional knowledge, gain experience to improve teaching, make institution environment healthier as well as more academic and it ensures that the practice is up-to-date and critically informed. PD, as described by Little (1987, p. 491) is "any activity that is intended partly or primarily to prepare the faculty for improved performance in present and future roles, it is the process by which teachers review, renew and extend their commitment as change agents and by which they acquire and develop critically the knowledge, skills, planning and practice, through each phase of their teaching lives". Smith (2003) put forward a number of suggestions for encouraging PD, such as attending academic studies, participation in seminars and workshops, staff development and feedback on one's own teaching. The steps of teacher's PD and maintaining it at the required level occur in two main forms: self-education and self-improvement based on professional needs and advanced training (Dauletbaeva, 2015). And the components of SD act as a factor in the professional growth of teachers and lecturers (Ivaniuk et al., 2020).

Koster et al. (2008) and Ben-Peretz et al. (2010) indicated that the professional development of teachers comprises various types of learning, ranging from implicit ways of learning to deliberate actions to advance one's own competences. Drawing on her own involvement and experiences, Al-Basheer et al. (2008) examined the perceptions of 120 teachers towards the effectiveness of professional development in the teacher education programme at the Hashemite University in Jordan and it was found that all participants were favourable towards the effectiveness of professional development and its impact. Komba and Nkumbi (2008) scrutinized the perceptions of educationists towards the Professional Development and indicated that majority of the respondents professed

the importance of Teacher Professional Development for improving the potentials of teachers professionally, academically and technically.

Thus, the problem of PD of teachers in the process of continuous professional education and self-education is one of the topical issues today in the theory and practice of education. The process of PD has different goals, objectives and content depending on the level of education and aspects of teacher's professional activity. Moreover, the readiness of teachers for professional SD and self-education is determined not only by specific skills, but also, to a greater extent, by the internal state and professional attitude, which allows one to successfully carry out self-educational activities. Therefore, this problem is of an integrated nature and requires a comprehensive study. Within the framework of the current study, three main aspects of the problem of teachers' PD in the process of continuous professional education and self-education are considered: influence of the future teachers' digital activity on their PD and SD as subjects of educational relations; influence of teachers' quality of life on the effectiveness of their PD, as well as the peculiarities of social perceptions of novice teachers about teacher education and PD in higher education. The choice of these aspects for the study is due to the actual needs of the educational systems of universities - current study participants, which, in turn, reflect the existing request of the national educational systems of Russia, India and Brazil in the field of theory and practice of PD and SD of teaching staff.

Kazan (Volga region) Federal University (Russia) and 3 Universities of Brazil (Federal University of Triângulo Mineiro, University of Uberaba, University of Sorocaba) became the study base. Also 300 randomly selected teachers from two states of India - Punjab and Haryana participated. The choice of these educational organizations as a platform for the research is due to many years of successful experience of the listed universities in the field of vocational education, retraining and advanced training of teachers, as well as the development of theoretical models and methodological materials related to the PD and SD of teaching staff at different levels of their education and careers.

The aim of the study is to determine the essence of the concept of teachers' PD, to identify the features of the influence of digital activity factors, quality of life and social perceptions of teachers about teacher education on the effectiveness of their PD and SD.

Features of the influence of future teachers' digital activity on their PD and SD as subjects of educational relations have become the subject of the research by experts from the Kazan (Volga Region) Federal University. The attention of researchers to this aspect of the problem of teachers' PD is due to the fact that at present, a necessary condition for a systematic improvement in the quality and expansion of opportunities for personal lifelong is the digital educational space developed in the world (Abukova et al., 2018). The digitalization of teacher education is, first of all, an orientation towards the purposeful formation of the readiness of future teachers to carry out professional activities, taking into account the prospects for the development of society and education. The digitalization of teacher education includes formation of the necessary personal qualities as a key component (Borisenkov et al, 2021). First of all, this is associated with the mastery of future teachers and current teachers with competencies in the field of information and communication technologies, as well as the skills to use these technologies for professional self-improvement. However, the aspect of the possible influence of the future teachers' digital activity on their PD and SD as subjects of educational relations and finding its relationship with the features of professional self-determination (in particular, with the goal setting for future professional pedagogical activity) has not been sufficiently disclosed.

300 randomly selected teachers from two states of India - Punjab and Haryana – participated in the study for finding the features describing the influence of teachers'

quality of life on the effectiveness of their PD. This aspect of studying the problem of PD was the focus of this research, since it has been proved through numerous research studies that teachers who have extensive and enduring professional learning experiences are more likely to provide high quality teaching as well as learning experiences to the students and positively inspire them to achieve their best. Knight (2002) pointed out that providing teachers with opportunities for PD is essential because initial teacher education programs cannot provide them with all the competencies that are needed in the classroom, especially the procedural ("how to") skills, which primarily develop in settings. "Strong professional development communities are important contributors to instructional improvement and school reform" (Little, 2002, p. 917). PD opportunities are needed for the hard-working teachers and educators, not only because they promote the recognition of their work as professionals, but also because new opportunities for growth, exploration, learning, and development are always welcome. Moreover, it improves the job commitment and satisfaction, hence having positive effects over attrition and turnover (Dede et al., 2009). Consequently, there are both external and internal motives that encourage teachers to PD. The teaching staff is an important resource responsible for improving the quality of education based on their own quality of life and PD. Professionally competent teachers bring up effective teachers for the country, who, in turn, prepare the future and quality of life of an entire generation. All this causes the need to study the issue of the quality of life of teachers in the aspect of their PD.

The peculiarities of social perceptions of novice teachers about teacher education and PD in higher education were studied in the educational process of 3 universities of Brazil. In the last years, Brazil, India and Russia had an expansion of higher education institutions (Guimarães, 2013; Carnoy et al., 2014; Loyalka et al, 2014). This fact inevitably led to an increase in the number of teachers in higher educational institutions. At the same time, as noted earlier, most university teachers, having a high level of qualification in the field of the discipline they teach, do not have a full-fledged pedagogical education, because they were trained at non-pedagogical programmes. Such a personnel situation is not only in Brazil, but also in many other countries, in particular, Russia and India. This expansion has brought to light the need for programs that contribute to the professional development of Bachelors in Teaching (Barros et al., 2019; Oliveira et al., 2018; Prata-Linhares et al., 2021). In this context, it becomes important for the teachers to understand their social representations about the professional development of teachers, since they influence and direct the pedagogical practices developed by them (de Sousa, 2017). This aspect of the study was devoted to solving the problem of identifying the social perceptions of novice teachers about teacher education and PD in the field of higher education. The theoretical framework of this aspect includes the Theory of Social Representations (Moscovici, 1988, 2011) and the Structural approach (Abric, 2005). According to this theory social representation is a construction that the subject makes to understand and communicate with the world, trying to make the obscure and the unknown that threatens and generates discomfort into something familiar (Moscovici, 1988). Within the framework of teacher education and retraining, PD seeks to promote change in teachers to grow as professionals and human beings (Marcelo Garcia, 2009). Another theoretical assumption underlying this study is the Theory and practice integration: The concern with "what to teach" (the contents of the subjects) was added to "how to teach" (the form and manners, the ways) (Leite & Tassoni, 2002). The practice of teaching requires at least two movements: a critical reflection on that practice and an awareness of the values and intentions that underlie those practices (Franco, 2016).

Research Methodology

The current research has three parts, so it would be reasonable to list the methodology for each country.

2.1 Russia

2.1.1 Approaches of the study

The methodological basis of our research is conceptual ideas about the professional development of a teacher, provisions of the competency-based approach in education. The empirical source of the study was the data obtained from the use of survey research methods.

2.1.2 Stages of research

In this study, a survey was conducted to determine the use of digital educational resources by undergraduates. The survey involved 153 students of the 1st year of study (2019-2020 and 2020-2021) of the pedagogical master's program of the Kazan Federal University. We developed Author's questionnaire of 10 questions (2018) "Use of online resources in education/self-education". To determine the orientation and readiness of undergraduates for teaching, self-assessment diagnostics was used (Nieskens & Sieland, 2001). Students were asked to choose those closed answers that they correlate with the goals and desires in the profession. Some of the answers are more consistent with the orientation towards pedagogical activity, the other part, on the contrary, towards non-pedagogical professions. Among other empirical methods was the diagnosis of partial readiness for professional and pedagogical self-development (Fetiskin, 2002, pp. 311-313). The latter technique was a map of self-assessment of readiness for self-educational activity which allows to assess formation of skills and abilities of self-development in a number of components: motivational, cognitive, moral-volitional, gnostic, organizational, communicative, as well as the ability to self-government. A feature of this diagnostic is the inverse relationship between the number of points that the respondent gains during self-assessment and his/her readiness for professional self-development (the more points the respondents gain, the less their readiness is). The obtained data were processed using the methods of mathematical statistics. The significance of the differences obtained was assessed by Student's t-test ($P \geq 0.95$).

2.2 India

2.2.1 Approaches of the study

Mixed method approach (quantitative as well as qualitative) has been used for the study.

2.2.2 Stages of research

Participants. Initially the data were drawn from 300 randomly selected teachers of two states of India- Punjab and Haryana. The only criterion for inclusion of participants was that they have at least five years of teaching experience. For qualitative data 30 participants were selected through purposive sampling.

Data Collection. To find out the status of professional development, Self-Assessment Proforma (SAP) standardized by UGC (a statutory body set up by the Ministry of Education, Government of India) for the 5 consecutive years were analysed. SAP is filled by every teacher annually in all the teacher education institutes. To collect required information permission was taken from heads of the institutions by illustrating the purpose of the study. Whereas for the qualitative data participants were selected with purposive sampling technique to focus on population with particular characteristics that are of interest, (Saldana & Omasta, 2017). Teachers whose PD scores were below average were focused to know the reasons of their low professional development. All the participants were explained the purpose of the study and interviews were fixed with

the consent of participants. For the ease and comfort of participants interviews were conducted face to face, virtually/telephonically with selected participants which lasted for about 15-20 minutes each. The conversations were recorded and transcribed for further analyses as suggested by (Saldana & Omasta, 2017).

2.3 Brazil
2.3.1 Approaches of the study
The study has a quantitative-qualitative approach. The authors used the theoretical-methodological support of the Theory of Social Representations (Moscovici, 1988, 2011) and the structural approach of Abric (2005).
2.3.2 Stages of research
The study involved 64 novice faculty members of three institutions located in different Brazilian regions. Data collection was carried out with a questionnaire containing open and closed questions and a focus group. For the analysis, the support of the theory of social representations, content analysis (Bardin, 2011), and the use of EVOC and IRAMUTEQ software. The first software processed the words of the Free Word Association Technique and identified the central core and peripheral system of social representations. The second software helped categorize the open questions of the questionnaire and in the teachers' narratives during the focus group. After identifying the faculty members' social representations, the difficulties and weaknesses related to teacher training were mapped. In this study, teacher training is understood as training needs related to teaching practices.

Results

3.1 Russia
The results obtained during the survey indicate that future teachers use digital educational resources in teaching (40%), in self-learning (29%), and also combine these opportunities (learning + self-learning) (27%). Only 4% of respondents do not use digital resources (Figure 1A).
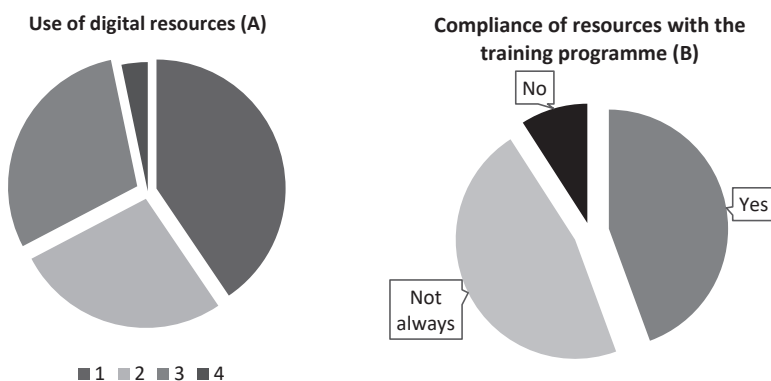

Fig. 1. The use of digital resources by students at the pedagogical master's program in: 1 – learning, 2 – learning + self-learning, 3 – self-learning, 4 – do not use.

The majority of students who use digital content in education choose resources according to the programme of education (44.4%) or partially corresponding to the chosen programme (46.5%) (Fig. 1B). Only 9% of respondents point out the inconsistency of the applied resources with the pedagogical educational programme.

Self-assessment of the orientation and readiness of undergraduates for pedagogical activity (Nieskens & Sieland, 2001) made it possible to establish that students with diffuse goals are characterized by a greater use of digital educational resources in self-learning, as well as in a combination of learning and self-learning (44%) compared to students with a clear (expressed) focus on pedagogical activity (32%). At the same time, the latter most actively use digital resources in teaching (68%) than students with unclear goals (51%) (Figure 2A).
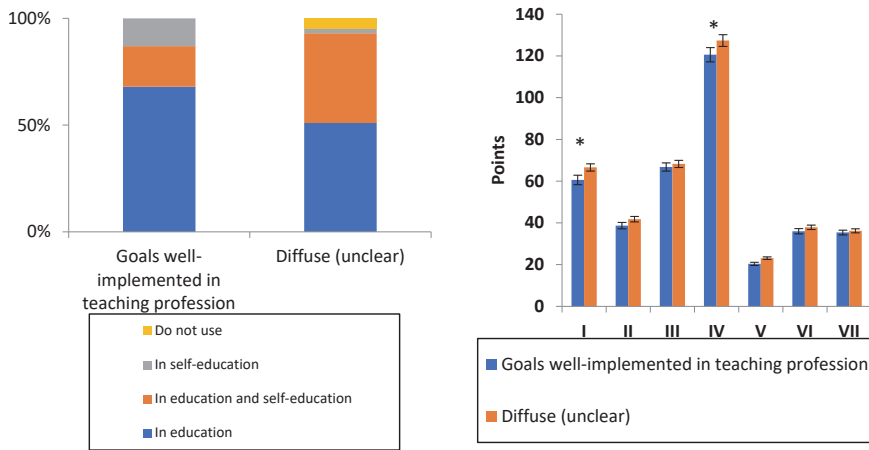

Fig. 2. The influence of the focus on pedagogical activity on the use of digital resources by students of the pedagogical master's program (A) and the partial readiness for professional SD of undergraduates whose goals correspond to the teaching profession (B), where I-VII are the components of professional and pedagogical SD: I – motivational, II – cognitive , III – moral-volitional, IV – gnostic, V – organizational, VI – ability to self-government, VII – communicative; differences are significant * – (P≥0.95).

In turn, it is students with goals that are well implemented in teaching who have a higher partial readiness for professional and pedagogical SD than students with diffuse goals, in particular, motivational and gnostic components (P≥0.95) (Fig. 2B). Specifying the indicators of the motivational component, it can be stated that a higher readiness for professional and pedagogical SD is manifested, for example, in the awareness of the importance of continuous education in pedagogical activity, presence of cognitive interests in the field of pedagogy and psychology.

3.2 India

For finding the status of Professional development of Teachers, Self-Assessment Report of teachers was analyzed and scores were calculated under three categories:
- Category I Includes Teaching, Learning and Evaluation Related Activities.
- Category II Includes Professional Development, Co-Curricular and Extension Activities.
- Category III Includes Research and Academic Contributions

Category wise as well as total score of professional development of teachers for each of the five years was calculated. Mean score of professional development of teachers was found to be 60. That depicts the low level of professional development of teachers in India.

Table 1. Range of average score of professional development of teachers

Category	Mean Score (Max.)	Mean Score (Min.)
I	57	43
II	1.8	0.3
III	15.5	6.86

Table 1 depicts that in category I, i.e., Teaching, Learning and Evaluation related Activities, the average performance of the 300 teachers selected as a sample varies in range score of 57 to 43. For category II, i.e., professional development, co-curricular and extension activities, the average score range is from 1.8 to 0.3. Also in category III, i.e., Research and academic contributions, average scores range is 15.5 to 6.86. Thus, these results interpret that for professional development, teachers are much inclined only with category I (Teaching-Learning and Evaluation related activities) which is dominating and contributing a lot for average score of teachers in the field of professional development. Category II (Professional development, Co-curricular and extension activities) and Category III (Research and Academic Contributions) are representing negligible contribution for professional development of teachers. Following figure- 1represents category wise distribution of PD of teachers and depicts that teaching learning and examination related activities (Category I) are playing a major role. Category II and III are contributing a very little in PD.
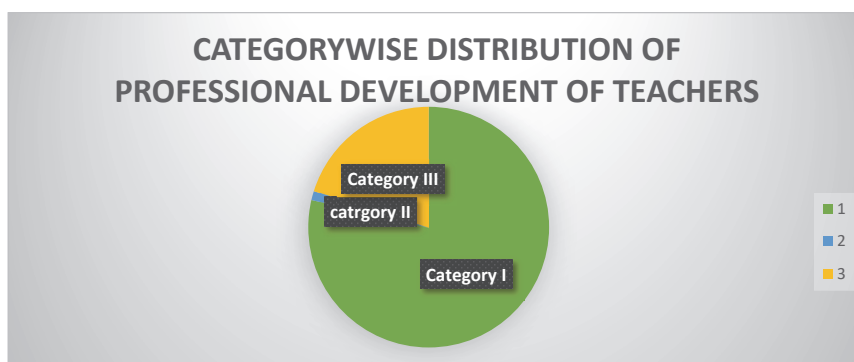

Fig. 3. Contribution of category I, II and III in professional development

For the second research question "What are the contributing factors of professional development of teachers?", 30 teachers were interviewed. The initial analysis of the interview responses revealed broader aspects which were further analysed using the qualitative analysis. The factors that affect the PD among teachers are Low Economic status, Family structure, Wellbeing, Job security, Lack of Knowledge, Attitude of Teachers, Lack of Time, Lack of Accountability.

Findings revealed the challenges and factors that highly affected the PD are –

Low Economic Status

Teaching is the most respected profession ever across the globe, but in India in recent years, the situation and social status of teachers is getting worse. They are provided with the least resources to comply with their jobs. Not only the uneven payment structure, they have to face delays in payments. There are many teachers who are the only bread winner in the family of 5 and more members, in such cases spending money for professional

activities and maintaining average life is a struggle. As TE from Punjab working in a private college expressed that,

"…with small income, I manage to pay school fee of my children and other household expenses…it's difficult for me to spend a single penny on buying latest mobile and joining any PD course, writing and publishing research paper…"

Family Structure

Teachers' Professional growth is not solely determined by the intrinsic character of the job, family is equally contributing factor. As majority of the participants in our study were women, so it was observed that they perceive more imbalance between work and home as they have more child rearing and home-making responsibilities than men. As a result, teachers remain unable to perform additional task and activity. Not only the family responsibilities are the reason of low PD, but it was realized that many teachers have broken or disturbed families due to which they live under stressful state of mind.

"Core responsibilities of home and family are on me, so most of the times, it's very difficult for me to maintain balance between personal and professional life… many times I have to compromise with my career goals…"

Well-being

Well-being includes having good mental health, high life satisfaction, a sense of meaning or purpose, and ability to manage stress. More generally, well-being is just feeling well. There are various factors associated with wellbeing which directly influence teachers' life. "Teaching is a profession characterized by constant mental and emotional strain, which can ultimately pose a health risk for teachers". Some common responses were related to poor health, low self- esteem, negative feelings, fatigue, pain and discomfort, lack of sufficient sleep, dependence on medical substances etc…

Our results corroborate previous research done by Yao et al. (2015) stating a negative effect of burnout on health and quality of life faculty members. Another study by Arandelovic et. al. (2010) has also confirmed burnout as a risk factor associated with a decrease in quality of life. Hence, absence of wellbeing and adverse living situations pose hindrance to develop professionally.

Job Security

On expectation about continuity in current job situation is job security. There are numerous research studies which indicate that teachers' job security is the determining factor of their life satisfaction, general happiness and quality of life. Teachers working in private sector are in constant fear of losing job, as a result they remain reluctant to involve in any progressive learning. A participant having 6 years of experience working in private institution shared that,

"Our future is uncertain, we are working in a self-financed college, any day our services can be terminated… I am unsure about my future plans..."

Lack of Knowledge

The responses indicated that despite the long teaching experience, low professional development was observed among teachers, and majorly it was due to lack of knowledge. Due to degree-oriented examination system, teacher do not get enough exposure for any research related activities during pre-service training as well as during job span. A senior teachers responded that,

"I never attended any refresher course as I do not have enough knowledge about how to join…"

Teachers don not believe that their professional development is useful for their own professional performance and the learners they deal with. Another teacher from Hisar also gave similar response,

"I have no idea regarding why teachers need to perform any extra activity as they just need to teach pre-service teachers and it's easy to do…"

Attitude of Teachers

It was observed that majority of the participants have negative attitude towards any activity other that teaching. And, teachers presented their opinions regarding the organisation of professional development programs and in majority of the cases teachers attended the courses but they were not benefitted as the courses were not authentic and relevant. As a result, they remain unsuccessful in updating their professional knowledge. A participant from Haryana state told that,

"I like to attend refresher courses organised by university because by this I get chance to spend some good time free from daily routine … I enjoy company of my colleagues."

Some participants' views on this issue are-

"I could never develop interest for research-based activities."

Similar responses were recorded from some more educators who expressed that attending any professional program for the learning and skill enhancement is the least preferred goal, they join either it was directed by an administrator to do so or they join with the purpose for taking vacation from job.

Lack of Time

Availability of enough time was most frequently reported as a significant reason. Some of the teachers also responded that they do not have enough time for in-service training courses as they already have so much to be done on the daily basis that they hardly could spare time for any additional tasks. Secondly, the timings of the courses are inconvenient for them. Teachers usually cannot participate in professional training course as the time schedule conflicts with their work schedule. As a teacher asserted that,

"Timing of any training program is mostly inconvenient, that is why we could not attend…"

And, teachers have a high workload and they have to spend much time at their college, so they do not have enough time for professional development activities.

Lack of Teachers' Accountability

There are often problems with the quality and variety of the tools used to observe and supervise teachers and provide them with feedback about their teaching. There are no performance check criteria for the teachers to track their professional growth. It was also felt that there are lacks in systems as teachers get no incentives to encourage and help them improve their practice. As one of the respondents shared,

"We are not paid for extra hours and I have seen professional development programs provide neither improvements in own practice nor led to promotion…".

Main findings:

– Majority of Indian teachers were found to have low professional development.

– The contributing factors of low professional development among teachers are Low financial status, uncongenial family environment, their physical as well as psychological wellbeing, job security whereas the factors like lack of time as well as awareness, attitude and having no accountability for professional development activities etc. are reasons of low professional development.

3.3 Brazil

The results indicate that the participants are building representations about their pedagogical practices, anchored in elements present in the Central Nucleus, which denote positive feelings. For novice faculty members, the pedagogical practices can result in learning as long as good planning considers interactivity. The difficulties and weaknesses

identified in the social representations were mapped from four categories: planning, didactic procedures; evaluation/assessment; and the teacher-student relationship.

• Planning: Although the majority "carry out teaching planning to verify if the objectives have been achieved and what needs to be replanned", only 22 university teachers consider it essential to choose the content based on the students' prior knowledge.

• Didatics procedures: Most use the "lecture with the aid of audio-visual resources", which, for many authors, can be a promising instrument for the teaching-learning process.

• Assessment: Although most university teachers understand the assessment of learning from a formative assessment concept, some contradict themselves, demonstrating that they understand it as a classifying practice, to pass or fail the student.

• Teacher-student relationship: Most perceive it as a "relationship that favors student learning". That is, this relationship has occurred in a harmonious way, which makes it possible to help the students' learning process.

Weaknesses and difficulties regarding pedagogical practices implementation:

Table 2. Summary of participants' difficulties and weaknesses regarding pedagogical practices

Planning my classes	Integration of different curricular components
	Lack of teaching resources to include in planning
	Lack of experience with active methodologies
	Organizing content with available time
	To plan a new discipline
	To make a plan that considers the students' different levels
	To discover broader technical resources
	To plan to teach students with special needs
	Time to plan
Teaching didactic procedures	To discuss theoretical content so that students are motivated
	To know new didactic procedures other than the lecture
	To prepare projections for the classes
	To use didactic procedures that encourage students to study and read before classes
	To discover new technologies
	To use didactic procedures that motivate students
	Didactic procedures that motivate students to learn Mathematics
Learning assessment	To know and use other assessment tools in addition to the traditional theoretical test
	To make the student learn and not just to take tests
	To conduct individualized assessments that consider the students different levels
	To develop creative and meaningful assessment instruments
	To evaluate seminars and group activities
	To perform diagnostic evaluation
	To convert real assessment into formative moments
Teacher- student relashionship	The absence of a continuous students and teachers psycho-emotional monitoring of students and teachers

This mapping was discussed and reflected in focus group meetings, resulting in suggestions for studies and actions that may contribute to university teaching and higher education professional development. Although the investigation preceded the COVID-19

pandemic, its results can be used and contribute to discussions and reflections on the pedagogical practices developed during this period.

Discussion

Updating the educational system, expanding the possibilities of digitalization of the educational environment led to the widespread use of digital educational resources by students of the pedagogical master programmes, as evidenced by our results (Fig. 1). Features of the impact of the digital activity of future teachers on their PD and SD as subjects of educational relations act as an independent multidimensional problem that requires careful theoretical analysis in combination with methodological support and practical application of the results obtained. The complexity of studying this aspect of teachers' PD is complicated by the fact that, firstly, information technologies are updated and improved with a very high intensity, which requires regular updating of teachers' professional competencies in this area; secondly, in the digital educational environment, even within one university, there is a large number of multidirectional materials, which, moreover, have a heterogeneous level of quality and accessibility. It creates an additional need for the development of critical thinking skills among future teachers and the formation of their skills for effective search and selection of scientific, educational and methodological products in the digital environment based on the quality criteria of digital educational products. Basically, digital resources correspond to the programme of education, and are actively used in self-study (independent work). It was found that the development of digital content depends on the focus of undergraduates on teaching activities (Fig. 2). Pedagogical orientation and pedagogical goal-setting are distinguished among the professionally significant qualities of a teacher's personality, which are significant for achieving mastery in pedagogical activity (Bykova et al., 2018). Goal-setting as a pedagogical phenomenon is associated with setting goals and objectives in professional activities and is a factor that influences and ensures the achievement of students (Idowu et al., 2013; Moeller et al., 2012; Schippers et al., 2020). Previously, we found that goal-setting, corresponding to implementation in the teaching profession, is a condition for high readiness for professional and pedagogical development and self-development (Asafova & Vashetina, 2022). In this study, we supplemented our ideas about teacher PD in connection with the expansion of the digital educational environment, considering this trend as a challenge, which may be one of the conditions for professionalization of a future teacher. The activity of teachers and future teachers in digital environment implies not only developed information competencies and regular access to digital educational resources, but also a meaningful critical attitude to the content used, the desire and ability to create their own high-quality educational products. At the moment, the educational syllabi of the pedagogical master's program do not provide special sections or topics dedicated to the competence of future teachers in the field of assessing the quality of educational content. Probably, in order to increase the positive impact of the digital activity of future teachers on their PD, it is necessary to develop models for including future teachers in the process of developing digital educational products in the field of pedagogical activity (for example, as thesis projects).

Analysing the study results in terms of the influence characteristics of teachers' life quality on the effectiveness of their PD, it should be noted that the strengths and quality of whole education system largely depend upon dedicated teachers, their work as well as quality of life and professional development. So, this research was aimed to explore the level of PD of teachers of Punjab and Haryana state. Teachers' 5 years SAP reports depicts low professional development and Table-1 exhibits that teachers put maximum efforts and get involved in category -I, with 57 maximum and 43 minimum mean scores. Whereas,

Category II and III are displaying complete opposite trend, the maximum and minimum mean score are 1.8 & 15.5 and 0.3 & 6.86 respectively. Category- I includes teaching learning and examination related activities which are the ordinary job responsibilities for every teacher to be performed. But Category – II and III includes professional development and research contributions which were found to be in scant proportion. It was also observed that many teachers are living on marginalised economic conditions and due to multiple responsibilities at home and work place. Other observed challenges for being low in PD and research related activities was that majority of the teachers were unaware about the importance of professional development and a few expressed their negative attitude towards PD, the results are in tune with the study conducted by Han et al. (2014). There is also a lack of systematic and regular monitoring of their progress for the continuation of job based on their professional development, as a result teachers do not pay heed towards extra activities. In addition, to participate in professional learning programs, no support from their institution heads is provided nor they allocate any additional time to do so. This leads to a decrease in the motivation of teachers for professional development and self-development. The study revealed that in both the states majority of the teachers' physical health and their social as well as family environment adversely affect their PD. Teachers struggling with hardships of life – financial instability, illness, stress and disturbance within family – remain devoid of availing benefits of professional learning. Therefore, to increase the effectiveness of the process of PD of teachers, it can be recommended, firstly, to optimize the organizational and technical conditions that allow teachers to be engaged in PD at the workplace (especially if he does not have the appropriate conditions at home); secondly, the inclusion of PD indicators and research activity in the list of qualitative indicators of professional success (for example, when holding professional competitions or as criteria for material and non-material incentives for teachers); thirdly, increasing the availability of scientific, methodological, educational materials for PD, foremost, in the digital educational environment, and popularization of these resources among educators. At the state level, concrete efforts should also be made to increase the level of PD and provide multidimensional ways for PD of educators. State support will lead to the restoration of the high status and priority of the teaching profession. To do so, it is necessary to change the working conditions and employment of teachers, the introduction of an appropriate content and volume of work and a reasonable level of wages, social guarantee packages, which will lead to an increase in the social status of teachers and will have a positive effect on improving their quality of life, ultimately helping to increase the aspirations of teachers for PD and SD.

The study on social representations of teachers about their pedagogical practices depicted the importance of institutional spaces to promote the teachers' PD. By bringing to light teachers' social representations of their pedagogical practices, it was possible to open space for dialogue about their training needs. We recommend that the research process with the results described here be preceded by training actions meeting the identified needs. Bringing up social representations can be a way of initiating and designing teacher professional development programs.

Conclusion

The analysis of the study results allowed us to draw the following conclusions.

PD of teachers is a purposeful complex process of improving professional knowledge and practical skills, as well as the personal qualities of teachers in order to increase the effectiveness of their professional activities in conditions of socio-economic challenges that entail a continuous process of transformation of the educational area. This process can be carried out both independently through self-education and individual self-

improvement of teacher's professionalism, and through the organized inclusion of teachers in the process of continuous professional education (training courses, master classes, etc.).

PD stimulates the development of pedagogical culture and pedagogical thinking of teachers, provides ample opportunities for improving the quality of education and acting as a guarantor of the relevance of pedagogical activity. PD is based on the active professional position of a teacher.

Readiness for the PD by a teacher is determined by a change in the activity of the individual in connection with an increase in the results of pedagogical activity during the transformation of the educational system, in particular, the digitalization of the educational environment. The empirical results obtained by us may indicate an indirect relationship between the activity of students of the pedagogical master programmes in using digital educational resources and the desire for professional SD, which depends on the severity of the goals corresponding to the focus on obtaining a teaching profession and self-realization in it.

The findings of the research highlighted that in India PD of teachers is low with negligible contribution to research and professional development activities. Teachers' health status, psychological well-being, social well-being as well as environmental factors determine their development in profession. Organisational, financial and social conditions play a significant role in the determination of professional development of teachers. Job security, family structure, teachers' attitude towards of PD activities, lack of incentives, promotions and quality of education, lack of awareness and time are the primary reasons that greatly influence their PD. Thus, to mitigate the educational problems and improve quality of education system, educational leaders must find creative ways to engage the teachers. Some concrete efforts should be made by the policy makers to uplift the level of PD and provide multidimensional channels of professional development. Education institutes should also give vital importance to teachers' employment, relevant and judicial salary packages and social status to improve the quality of life which will ultimately uplift their professional development.

The research devoted to social representations highlighted that they are structured in contexts, experiences, interactions, and day-to-day communications and are translated into the actions and verbalizations of subjects integrated with this reality. That is why it is essential that those involved, in our case, Higher Education professors, know their representations in the teaching-learning process. Thus, through the promotion of pedagogical procedures, dialogue, and teachers' professional development, there will be possibilities for transformations and, when necessary, for reconstructing social representations. The results can be used and contribute to discussions and reflections on the pedagogical practices developed by faculty members and the necessity of programs related to professional development inside higher education institutions. In addition, the results can bring about elements when creating university teachers' professional development programs.

Statements on open data, ethics and conflict of interest

All authors declare that they have no conflicts of interest.

References

Abric, J. C. (2005). La recherche du noyau central et de la zone muette des représentations sociales. In J.-C. Abric (Ed.), *Méthodes d'étude des représentations sociales* (pp. 59-80). Érès.

Abukova, L. A., Dmitrievsky, A. N., Eremin, N. A., Linkov, Y. V., & Pustovoy, T. V. (2018). Digital modernization of the educational process. *Distance and Virtual Learning, 1*, 22-31.

Al-Basheer, A., Khasawneh, S., Nabah, A. A., & Hailat, S. (2008). Perceptions of student teachers towards the effectiveness of co-operating teachers, school principals and university supervisors participating in the teacher education program in Jordan. *International Journal of Lifelong Education*, *27*(6), 693-705. doi: 10.1080/02601370802408340

Arandelovic, M., Nikolic, M., & Stamenkovic, S. (2010). Relationship between burnout, quality of life, and work ability index–directions in prevention. *The Scientific World Journal, 10*, 766–777. doi: 10.1100/tsw.2010.83

Asafova, E. V., & Vashetina, O. V. (2022). Goal-setting as a condition for professional self-development of master's students in teacher training programme. *ARPHA Proceedings, 5*, 97-107. doi: 10.3897/ap.5.e0097

Barros, C. D. M. P., Dias, A. M. I., & Cabral, A. C. D. A. (2019). Institutional actions for teachers training: what are the contributions to the development of Bachelors in Teaching? *Ensaio: Avaliação e Políticas Públicas em Educação, 27*(103), 317-339.

Ben-Peretz, M., Kleeman, S., Reichenberg, R., & Shimoni, S., (2010). Educators of educators: their goals, perceptions and practices. *Professional Development in Education, 36*(1-2), 111–129.

Borisenkov, V., Gukalenko, O., & Pustovoitov, V. (2021). Digitalization of education: trends in teacher training. In *XIV International Scientific and Practical Conference "State and Prospects for the Development of Agribusiness - INTERAGROMASH 2021"* (Vol. 273, 12075). https://doi.org/10.1051/e3sconf/202127312075

Bykova, N. S., Zhelezova, Ya. I., & Shvetsova, Yu. V. (2018). Professional development and personality formation of a future teacher. *Problems of Modern Science and Education, 121*(1), 44-46.

Carnoy, M., Froumin, I., Loyalka, P. K., & Tilak, J. B. G. (2014). The concept of public goods, the state, and higher education finance. *Higher Education, 68*(3), 359-378.

Dauletbaeva, G. K. (2015). Ways of professional development of a teacher in the process of modern transformations. *International Journal of Experimental Education, 12-4*, 517-518. Retrieved from https://expeducation.ru/ru/article/view?id=9199

de Sousa, C. P. (2017). Desafios da formação de professores. *Revista Diálogo Educacional, 17*(53), 739-756.

Dede, C., Ketelhut, D. J., Whitehouse, P., Breit, L., & McCloskey, E. M. (2009). Research agenda for online teacher professional development. *Journal of Teacher Education, 60*(1), 8-19.

Fetiskin, N. P., Kozlov, V. V., & Manuilov, G. M. (2002). *Socio-psychological diagnosis of personal development and small groups*. Moscow: Publishing House of the Institute of Psychotherapy.

Franco, M. A. S. (2016). Pedagogical practice and teaching: a view from the epistemology of the concept. *Revista Brasileira de Estudos Pedagógicos 97*(247), 534-551. https://doi.org/10.1590/S2176-6681/288236353

Gorshkova, M. A. (2010). Active professional position of the future teacher and the background of its development in the educational space. *Science, Education, Technology, 4*, 26-29.

Guimarães, R. R. M. (2013). The future of higher education in BRIC countries: A demographic perspective. *Reista Brasiliera De Estudos De População, 30*(2), 549-566.

Han, K. T., Park, E. C., Kim, J. H., Kim, S. J., & Park, S. (2014). Is marital status associated with quality of life? Health and Quality of Life Outcomes, 12:109. doi: 10.1186/s12955-014-0109-0

Idowu, A., Chibuzoh, I., & Madueke, M. (2014). Effects of goal-setting skills on students' academic performance in English language in Enugu Nigeria. Journal of New Approaches in Educational Research (NAER Journal), 3(2), 93-99. https://doi.org/10.7821/naer.3.2.93-99

Ivaniuk, H., Venhlovska, O., Antypin, Y., & Vovchok, Y. (2020). Self-development as a factor in the professional growth of future teachers. *Journal of History Culture and Art Research, 9*(4), 77-86. https://doi.org/10.7596/taksad.v9i4.2873

Knight, P. (2002). A systemic approach to professional development: learning as practice. *Teaching and Teacher Education, 18*(3), 229-241.

Komba, W. L., & Nkumbi, E. (2008). Teacher professional development in Tanzania: Perceptions and practices. *Journal of International Cooperation in Education*, *11*(3), 67-83.

Koster, B., Dengerink, J., Korthagen, F., & Lunenberg, M. (2008). Teacher educators working on their own professional development: Goals, activities and outcomes of a project for the professional development of teacher educators. *Teachers and Teaching: Theory and Practice, 14*(5-6), 567-587.

Leite, S. A. S., & Tassoni, E. C. M. (2002). A afetividade em sala de aula: as condições do ensino e a mediação do professor. In R. G. Azzi & A. M. F. A. Sadalla (Eds.), *Psicologia e formação docente: desafios e conversas* (pp. 113-141). São Paulo: Casa do Psicólogo.

Little, J. W. (1987). Teachers as colleagues. In V. Richardson-Koehler (Ed.), *Educators' Handbook: A Research Perspective* (pp. 491-518). New York: Longman.

Little, J. W. (2002). Locating learning in teachers' communities of practice: Opening up problems of analysis in records of everyday work. *Teaching and Teacher Education*, *18*(8), 917-946.

Loyalka, P., Carnoy, M., Froumin, I., Dossani, R., Tilak, J. B., & Yang, P. (2014). Factors affecting the quality of engineering education in the four largest emerging economies. *Higher Education, 68*(6), 977-1004. doi: 10.1007/s10734-014-9755-8

Marcelo Garcia, C. (2009). Desenvolvimento profissional docente: passado e futuro. *Revista de ciências da educação, 8, 7-22.*

Mitina, L. M. (2005). Professional development and health of the teacher: problems and solutions. *Vestnik obrazovaniya Rossii – Russian Education Bulletin, 7,* 48-58.

Moeller, A. J., Theiler, J. M., & Wu, C. (2012). Goal setting and student achievement: A longitudinal study. *The Modern Language Journal*, *96*(2), 153-169. doi: 10.1111/j.1540-4781.2011.01231.x

Moscovici, S. (1988). Notes towards a description of Social Representations. *European Journal of Social Psychology, 18*(3), 211-250.

Moscovici, S. (2011). An essay on social representations and ethnic minorities. *Social Science Information, 50*(3-4), 442-461.

Nieskens, B., & Sieland, B. (2001). *Do you want to become teachers? A guidance for high-school graduates before the beginning of studies.* Lüneburg: Leuphana, Universität Lüneburg.

Oliveira Júnior, A. P. D., Prata-Linhares, M. M., & Karwoski, A. M. (2018). Professional development in the higher education of Brazilian federal institutions context. *Ensaio: Avaliação e Políticas Públicas em Educação, 26*, 52-90.

Prata-Linhares, M., da Fontoura, H. A., & de Almeida Pimenta, M. A. (2021). Faculty entitlement: Perspectives of novice Brazilian university professors. In *Understanding Excessive Teacher and Faculty Entitlement* (pp. 179-190). Emerald Publishing Limited.

Saldana, J., & Omasta, M. (2017). *Qualitative research: Analyzing life.* London: SAGE. .

Schippers, M. C., Morisano, D., Locke, E. A., Scheepers, A. W., Latham, G. P., & de Jong, E. M. (2020). Writing about personal goals and plans regardless of goal type boosts academic performance. *Contemporary Educational Psychology, 60*, 101823. https://doi.org/10.1016/j.cedpsych.2019.101823.

Smith, K. (2003). So, what about the professional development of teachers? *European Journal of Teachers, 26*(2), 201–215. doi: 10.1080/0261976032000088738

Voronina, M. V. (2015). Features formation of future teacher's professional position during his study at the university. *Bulletin of Tomsk state pedagogical university, 160*(7), 128-132.

Yao, S. M., Yu, H. M., Ai, Y. M., Song, P. P., Meng, S. Y., & Li, W. (2015). Job-related burnout and the relationship to quality of life among Chinese medical college staff. *Archives of Environmental & Occupational Health*, *70*(1), 27-34. doi: 10.1080/19338244.2013.859120