

**Characterization of teaching practices that facilitate or limit student participation from a gender perspective. A case study for the training of physical education and mathematics teachers in a regional university in Chile**

**Caracterización de prácticas docentes que facilitan o limitan la participación del estudiantado desde la perspectiva de género. Un estudio de caso para la formación de docentes de educación física y matemáticas en una universidad regional de Chile**

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### **Abstract**

The study addresses from a gender perspective, the scope of the practices that university teachers have implemented in Initial Teacher Education. The main objective was to know the teaching practices in the university and school classroom, which facilitated and/or limited the participation of students from the experience of those who have lived them as students of Secondary Education Pedagogy in Mathematics and Physical Education Pedagogy. This is a multiple case study, with a qualitative approach. The results show the presence of various teaching practices in which both the absence of a gender approach and the persistence of an acceptance of certain gender roles and stereotypes that continue to be transmitted in university and school classrooms are evident. Although future teachers of Mathematics and Physical Education are clearly aware of the characteristics of these practices and the discrimination associated with some of them, new challenges arise from this study to promote changes in initial teacher training which will allow young people to be agents of the social transformation required in terms of gender equity in education.

*Keywords:* initial teacher training, gender perspective, Higher Education

### **Resumen**

El estudio aborda, desde la perspectiva de género, la problemática de las prácticas que docentes universitarios han implementado en la Formación Inicial Docente. El objetivo principal correspondió a conocer las prácticas docentes en el aula universitaria y escolar, que facilitaban y/o limitaban la participación de estudiantes a partir de la experiencia de quienes las han

vivido como alumnos de Pedagogía en Enseñanza Media en Matemáticas y Pedagogía en Educación Física. Se trata de un estudio de casos múltiples, con enfoque cualitativo, realizado a través de entrevistas semiestructuradas cuyo análisis permitió una codificación abierta y teórica que consideró, además, la frecuencia de códigos para conocer la densidad de las categorías. Los resultados dan cuenta de la presencia de diversas prácticas docentes en las cuales se evidencia tanto la ausencia de un enfoque de género como la persistencia de una aceptación de determinados roles y estereotipos de género que continúan transmitiéndose en las aulas universitarias y escolares. Si bien se percibe en los y las futuros docentes de Matemáticas y Educación Física una consciencia clara sobre las características de estas prácticas y la discriminación que está asociada a algunas de ellas, se plantean nuevos desafíos a partir de este estudio para formular cambios en la formación inicial docente que permitan a los y las jóvenes ser agentes de la transformación social que se requiere en materia de equidad de género en educación.

*Palabras clave:* formación inicial docente, perspectiva de género, Educación Superior.

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## Introduction

According to the recent development of current school education, it is relevant to address the multiple edges of initial teacher training

that affect in future professional practices, a fundamental challenge to reverse processes of reproduction of inequalities, especially from a gender approach (Arango & Corona-Vargas, 2016; European Institute for Gender Equality (EIGE), 2020; Programa de las Naciones Unidas para el Desarrollo (PNUD), 2020; Stromquist, 2006). In this sense, moving forward to the incorporation of a gender perspective in teacher training to reduce gaps and eliminate discriminatory practices requires, as has been indicated more than a decade ago, knowing the practices of university teaching staff and understanding how students experience the possibilities and limitations of the training process from a gender perspective.

Of the above, it is established that the unequal representation of men and women in university careers is not a natural phenomenon, but rather naturalized from gender biases (Acker, 2003) that would affect the decisions of university students. This aspect, as has been extensively studied by authors such as Saltzman (1992), who linked the biases to a systematic and simultaneous inequity experienced by women in society. A topic that has infiltrated the agendas of most of the world's countries (Balaguer, 2021).

Therefore, the general objective of this study was to know the teaching practices in the university and school classroom, which facilitate and/or limit the participation of students from a gender perspective, based on those who have experienced them as students of Secondary Education Pedagogy in Mathematics and Physical Education. The study focused on these pedagogy programs because only between both programs in Chile, they gather over 60% of the

male student body in the field of pedagogical training (Consejo Nacional de Educación, 2019). That is why an attempt was made to understand the characteristics of the phenomenon in contexts where the male presence both in those who train and in the student body is massive, a situation that could also imply a masculinization of these teacher training spaces.

### **State of the Art**

Internationally, it has been shown that there are still gaps between men's and women's learning, especially in reading and mathematics, a situation that, although it has decreased since the 1970s until now, is still a concern (Baye & Monseur, 2016; Liu et al., 2020). In Chile according to the growing research on the subject, it has been shown that the school system from kindergarten to university education, privileges men over women in terms of participation as Azúa et al. (2019); Espinoza and Taut, (2016); Larraín and Singer, (2019), among others, have investigated. Likewise, other studies report a male chauvinism and androcentrism that permeates the school system (Silva-Peña et al., 2018), especially in stereotypes linked to traditional gender roles, which would be mostly made known to the new generations by adults in educational establishments (Latorre et al., 2019; Darraz et al., 2017).

In the case of preschool or kindergarten education, there is a tendency of educators to value more the participation of boys than that of girls in the classroom and even to reproduce sexist practices

(Robles, 2012), while a tendency to naturalize gender stereotypes has been identified (Azúa et al., 2019). In mathematics education, it has recently been reported that interactions between teachers and students are more frequent and of better quality with boys than with girls, a situation previously detected in the Mexican context through interviews with teachers in which it was possible to identify the prevalence of gender stereotypes in the teaching of mathematics (Ursini & Ramírez, 2017). In the area of physical education, there is also a marked effort to unveil the invisibilization of women in initial training and the need to build inclusive educational processes (Garay Ibañez de Elejalde et al., 2017). On the other hand, in the field of higher education, another trend has been the demonstration of the existence of highly feminized programs (Weiner, 2017), that is, in which there is a greater participation of women than men. These programs are those in the area of care or assistance in health and education, both jobs that have historically been seen as an extension of domestic work to the world of paid work (Federici, 2015). On the other hand, some university careers have been monopolized by men, such as engineering and others associated with mathematics and physical efforts.

In line with the reality described previously, university education in Chile is characterized because, with regard to the completion of studies in the area of Science and Technology there are 39,000 women graduates, a figure well below the 191,000 men in the same condition (Comisión Nacional de Investigación Científica y Tecnológica [Conicyt], 2018). This aspect reveals certain trends towards the

continuity of practices of reproduction and naturalization of discrimination against women, which is observed in processes that don't guarantee equal conditions to achieve student success for both sexes (Martínez et al., 2019). Specifically, it should be noted that since 2018 a path for the eradication of different practices of discrimination and violence against women began, a challenge initiated from the demands of the same young female students of university education, during May 2018, being recognized as the beginning of a change both in Chile and in the rest of the world (Montes, 2018). As a result of this social movement, structural changes have been implemented, such as, for example, that each university recognized by the State of Chile has a gender unit or similar nowadays, concerned about what is happening in this area and that the Ministerio de Educación itself through its agency for the training and lifelong learning of teachers promotes specific training in the area (Ministerio de Educación, 2017).

Based on what has been said before, the university space is assumed as a place where men and women coexist equally, therefore, it must be inclusive, intercultural and non-discriminatory (Castillo-Briceño, 2015). This implies that teacher training should reflect respect for, among others, the diversity of different gender identities and/or sexual orientations. In turn, the same Ministerio de Educación (2017) delivers transversal guidelines for the strengthening of initial teacher training and explicitly requests to consider the inclusion criterion in the development of strengthening programs, delivering training opportunities for all students in terms of social and cultural inclusion, explicitly considering gender equity, among others.

At a normative level, currently in most of the school institutions in Chile, support programs are being developed to facilitate participation and real acceptance of differences either by ability, sex, culture, religion or sexual orientation, among others, all covered mainly by Law No. 20,536 on School Violence (Ministerio de Educación, 2011) in addition to what is already stated in the General Education Law No. 20,903 of 2009 (Ministerio de Educación, 2016). Even beyond the normative, from the Ministerio de Educación, already in 2017, the aforementioned “Primer for the Gender Approach and its incorporation in the School Management instruments” was generated, a document that clearly guides educational centers on how to reverse these situations.

### **Theoretical references**

In this research, it is proposed that gender is a sociocultural category that arises from sexual difference, which is constructed over and over again in the repetition of forms, practices and sayings regarding oneself and the other who is different from me. We understand, as Butler (2018) points out, that there are diverse social performances with which femininity and masculinity are sustained, produced, tensioned and reproduced.

In addition, we recognize that there has been a social inequality between genders, understood as a pattern in which the sociocultural character associated with the masculine has had a greater relevance as Nicholson notes establish “gender relations are power relations



through which men and their masculine values have acquired a higher status than women and their feminine values, and the socialization of gender roles is an integral part of the patriarchal power structure” (1997, p.71). Based on this inequality, the existence of gender patterns is considered, ways of connecting feelings, attitudes and values that characterize individuals according to their manifestations. Situation that allows positing that there are spaces and practices generalized by norms or customs (Butler, 2018). This understood of gender patterns, dialogues with a vision of society in which these patterns are also related to naturalized injustices (Saltzman, 1992). Chodorow (2002) said to how the most valued actions and thinking correspond to a masculine one, which has led to gaps and subordination processes that are closely related to what is understood as feminine and masculine in a given context, such as education field shows. This critical vision allows feminism, as a mass movement, to move the agenda of many countries and to establish a critical awareness of equality as a criterion of justice with a high level of awareness (Balaguer, 2021). Despite the difficulties posed by the pandemic, for example, in South America, where the gaps associated with gender impact all areas and as demonstrated by the Report of the Center for Sustainable Development Goals for Latin America and the Caribbean (CODS, 2020), progress in gender equity would have presented a limited improvement and that in the face of the pandemic by COVID-19 progress has blocked.

In the case of Chile, this study identified moderate progress in gender equity, except in political representation in parliament and the wage gap, indicators where progress would be blocked. From this, it is understood that although Chile has had public policies focused on gender equity since the 1990s, this alignment has not transcended to the public spaces shared between men and women, such as political life and work. Both spheres represent spaces in which women have been marginalized given that, for example, female participation at the labor level would reach 49% while male participation would reach 80% (Ministerio Desarrollo Social, 2018).

### **Methodological procedure**

The study was designed from a qualitative approach by convenience (Paillé & Mucchielli, 2013) and corresponded to a multiple case study through semi-structured interviews to students and teachers, men and women, of Secondary Pedagogy in Mathematics and Secondary Pedagogy in Physical Education. The criteria for the selection of participants were pertinence and representation of pedagogies study who were identified with strong presence of males. First, the pedagogies were selected using the dates of the case of study and the state of the art. This facilitated the understanding of characteristics of the phenomenon in university careers where the male presence among women student are strong considerer total number of students.

In the case of study, male enrolment is strong in the following programs: Mathematics Pedagogy (48% at 2020) and Physical

Education Pedagogy (72%). The other pedagogy programs had a percentage of male between 5% and 30% like state of art explained to.

The research group contacted the Undergraduate Career Manager to generate a massive invitation to students of both careers (men and women) to participate voluntarily at the study sending an email to the group study. Then, when a student, male or female, made contact, the team assigned a researcher to conduct the process of interview. Consequently, another group of participants were teachers who graduated from the aforementioned careers. The aim is to have both female and male students, as well as female and male graduates.

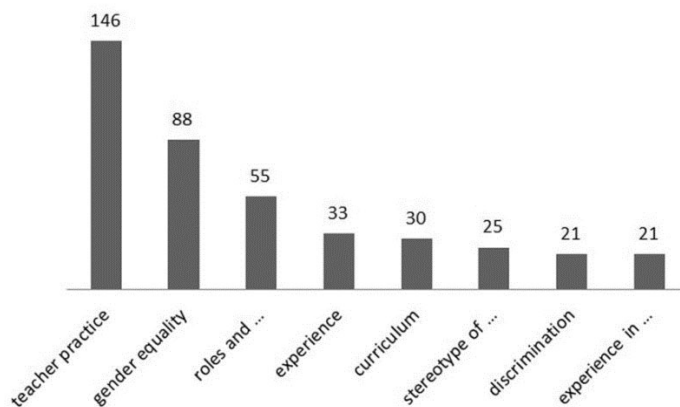
As a result, the participants were four students of Secondary Education in Mathematics, three women and one man; five students of Physical Education, four women and one man; and four graduate teachers, one male and one female mathematics teacher and two female physical education teachers. All the people who took part in the study were previously contacted via e-mail where they were informed about the characteristics of the study and received an informed consent form that they had to sign if they agreed to participate in an interview.

A priori categorie of analysis was proposed and established based on the conceptual framework and the objective associated with this research. This made it possible to prepare a script and questions that were posed to conduct the aforementioned interviews. The interviews were recorded under consent and transcribed for analysis

using Atlas Ti. V7. The analysis procedure corresponded to an open and theoretical coding established according to the literature reviewed and the presence of previously defined thematic categories and other emerging ones (Lamoureux, 2006; Paillé & Mucchielli, 2013; Rodriguez et al., 1999).

### Analysis and discussion of results

After the interviews were conducted, a first exploratory analysis was carried out to define the categories with the greatest presence, as declared by the interviewees. The following graph shows the frequency of these categories:



**Figure 1.** Coding frequencies by most relevant category. Source: own elaboration.

With the data obtained, we proceeded to reorder the categories and group both the emergent and a priori categories into a single structure of analysis, which would make it possible to demonstrate the practices in the university and school classroom that facilitate and/or limit student participation from a gender perspective. The following chart shows the new reordering from which the qualitative analysis was carried out:

**Table 1.** Categories for analysis

Teaching practices
Gender equality
Gender roles and stereotypes
Weak or absent educational curriculum
Undergraduate career stereotype
Discrimination
Classroom experience associated with gender

The first category: teaching practices, both at the school and university classroom level is the most repeated category, that is, according to the opinion of the interviewees, it is the professors and academics who promote gender discrimination both by making explicit an idea that discriminates and by omitting an action or verbalization to avoid such discrimination. This can be evidenced through the following accounts: “they were comments that were linked to making a difference in the mathematics course that it was made for male classmates to make it much easier for them or to

belittle a little the capabilities that we women had". (Student 1, female, mathematics, interview August 20, 2020); "the more masculine practice, sports, all focused on a class for men, more than a class for women (...) perhaps, they should look more to women, to the participation of women, to motivate their participation". (Student 2, female, physical education, interview August 14, 2020).

According to those who participated in these interviews, male teachers who maintained this discourse would be few, describing this as specific experiences and although they realize that this type of practice is outside the norm or the daily experience of teacher training, they recognize that at the moment of living it they cannot prevent it or question it, but rather it is assumed resignedly, as they identify themselves: "after the incident with a classmate who wanted to sue a teacher, but we don't know why (...) the teachers distanced themselves from us women". (Student 3, female, physical education, interview August 24, 2020). Another student points out: "I had basketball, they would say that girls can only play the shots, or girls can only score (...) in reality it made sense but the teacher kind of put this condition that girls had to score". (Student 4, female, physical education, interview August 7, 2020).

The teaching practice referred to by the student, addresses a vision of recognition of the physical difference between men and women, and from this, favoring the development of skills rather than competition in the field of sport. This situation that, according to what was raised by another student for the same course, but a

section in which the teacher of the course is a female teacher, and is related to a practice that is favorable to learning:

I like the subject of the classes with the female teacher I like, they inspire me a lot as professionally I think, I feel that her approach is very different from the other teachers and that motivates me a lot to continue in this this area. (Student 2, female, physical education, August 14, 2020)

In other areas, such as Mathematics, the student refers to practices that go beyond the inclusion of a binary gender perspective:

the teachers have tried to be very cautious in what they say in how they comment on it and how they express themselves towards us, so finally one can consider that they bring us together, put us together or include us all equally. (Student 1, male, mathematics, interview August 5, 2020)

For the category Gender Equality, the participants of the study report experiences that show the existence of a reproduction of social inequalities among students at the University, and that these experiences of inequality are related to a limited gender perspective that is manifested in the common life of the classroom. For example,

It is important because, of course, if you don't talk about it at the time, it will remain there and will continue to be covered

up, in a certain way./ And if you don't educate yourself about this, discrimination is repeated, it is like a cycle at the end, so it is something that has to be eradicated, it has to be eliminated at some point and you have to learn and understand, in order not to repeat this later in the classroom and professional practice, ideally. (Student 2, female, mathematics, interview August 10, 2020)

The meaning of this experience, according to the study participant, can be educational, since talking about situations that are related to an unjust reality can help to learn and in the future reverse this situation. On the contrary, by normalizing experiences of injustice and discrimination, the reproduction of inequalities is endorsed.

Regarding the category of Gender roles and stereotypes, the opinions of students and graduates show a clear differentiation in the actions of teachers linked to the physical education specialty in their classes and outside of them, according to gender. In these classes, they felt that their abilities are less than those of male students just because they are women, which teachers marked this difference and that outside the classroom, there was a distant behavior in dealing with them, but not with men. This is reflected in the following comment:

There were things in which perhaps men participated more, as in the purely physical education classes, but in others, such as pedagogy classes, it could actually be mixed, pedagogy was



more personality than anything else, and physical education was more oriented towards men, because men are more, as if they entered any sport (...) it gave me a hard time because my skills were not as developed, so in the end someone else was going to do it better, so one would better sit and one of my colleagues would do it. (Teacher 1, female, physical education, interview August 13, 2020)

Another account from a student points out “they treated us distantly, as if whatever we asked them was far-off and straight, with the men they can talk, socialize with them and not with us” (Student 1, female, physical education, interview August 13, 2020).

It is evident that the treatment of teachers of physical education and mathematics pedagogy obeys historical stereotypes that differentiate the physical abilities of men and women by their condition of being male or female and that is not shared by the students, who report a notorious differentiation, about putting to their abilities, the fact of being a woman. An example of this is shown in the following comment, “Not because I am a woman, but because it is me I preferred to participate less, not to affect, for example, my team, but not because I was a woman”. (Female student 1, physical education, interview August 13, 2020). Another student expresses “that the professor said that you are more than a pretty face and things like that, do you understand? then it is like underestimating in a certain way the capabilities or skills that we

had for the program” (Student 3, female, mathematics, interview August 18, 2020).

However, the physical education students recognize that there is a difference in performance according to body build and resistance and state that there is inequity in the teacher’s expectations in some exercises, since their bodies do not respond in the same way, as evidenced in the following comment from a graduate:

You had to take the same standardized test that was for men, for example, you had to perform the same as a man and the fact of being under that pressure, of wanting to be equal because you have to demonstrate and validate that yes, you could get there the same as them. (Student 3, female, physical education, interview August 24, 2020)

Regarding the emerging category Weak or Absent Educational Curriculum, classroom teachers point out that there is a lack in the current curriculum regarding how to approach gender education in their students, and that they have to make decisions according to their beliefs:

In the curriculum there is only the ability, attitude and knowledge that one has to develop with the student, but at no time is a specific orientation given, unless it is the orientation curriculum, right, where there are units that point to (...) to this. (Teacher 1, male, mathematics, interview August 25, 2020)

Thus, they also raise the difficulty of implementing the mathematics curriculum in the classroom, when the students' context is vulnerable:

The mathematics curriculum is very hard, many times we do not reach the students to work all the objectives that come in the curriculum with the students, or even deepen also the objectives, of course there are private schools, where the students most of them do go to university, they need to go through the whole curriculum. (Teacher 1, female, mathematics, interview August 26, 2020)

Regarding the career stereotype category, both express experiences about the program they studied, an important part refers to the stereotypes that the students had about the program before entering and the stereotypes they met during their training process. The interviewees highlight a preponderance of male students compared to female students in the analyzed programs, which not only influences the student's personal experience, but also influences the way in which they relate among students and between students and teachers: "What I knew is that it was going to be a program with a lot of men". (Professor 1, female, physical education, interview August 11, 2020), or the account of another student: "yes, they are more, I mean, when I entered there were about 70 of us and we were about 10 women and several of them dropped out

anyway, others remained, I don't know if they have left" (Student 4, female, physical education, interview August 7, 2020).

The image expressed by the students, both at a personal level and in the university community, is mainly focused on the competitive environment that is manifested both in physical education and mathematics pedagogy:

Always as in physical education there is a certain competition, the program also tends to be very sports-oriented. Now from the other pedagogies, in which they are really pedagogues, here you enter physical education mainly because you like sports. So, in that sports-oriented view of physical education, performance was above all and performance as something competitive. (Teacher 1, female, physical education, interview August 11, 2020)

This coincides with the account of another student,

I feel that there was a kind of general individualism in the program, in particular, mathematics, so we have talked the same with classmates, not only from the mathematics program, for example, language or English. Mathematics is very individualistic, super individualistic, in every sense, very competitive among the students themselves. (Student 2, female, mathematics, interview August 10, 2020)

The previous quotes express a competitiveness and individualism that influences the way in which men and women who study these pedagogies, develop different experiences. In the case of physical education, competitiveness is based on aspects associated with the sports vision of the program over the pedagogical one, and in the case of mathematics pedagogy, its competitiveness would be associated with aspects of training where there is a predominance of an individualistic vision at the time of studying the program.

Regarding the category Discrimination, reference is made to the relationship with the experience as a student of Mathematics Pedagogy and Physical Education that is associated with women, both men and women recognize that these relationships would be seen differently by teachers, with a predominance of verbal discrimination against their abilities and emphasizing traditional gender roles linked to the lack of competitiveness in physical performance. As evidenced in the testimony:

There was a teacher who was very, well, maybe I am mistaken in the concept, but very macho, so he always treated the girls, our classmates (...) in a bad way, he used to try to motivate the girls a little more (...) he told them no, you are not capable of doing this, no, you are no good, go and cook. (Teacher 2, female, physical education, interview August 19, 2020)

There is a female teachers' account of these experiences as commonplace being more questioned by students of the present

time, but who equally recognize that these experiences are part of reality and are closely linked to a focus on women's inferior capabilities. The quotes reflect the above:

Suddenly the classes alluded to comments that, I don't know, that male classmates were going to be more capable of getting the degree, that desertion was going to be higher in us women, because it was a career more than numbers or something else. (Student 1, female, mathematician, interview August 20, 2020)

Regarding the category classroom experience associated with gender, a set of explicit actions to gender discrimination is declared, fundamentally associated with a more protagonist participation by male students. It is observed that these actions are on the part of the male students themselves, as stated by the student:

For example, in the practices the issue of masculinization is more noticeable, you have to make egalitarian groups, but the colleagues do not help with that either, as they leave us aside, or try to include us, but the... gender gap with women is noticeable in this case, in the program. (Female, student 1, physical education, interview August 12, 2020)

Or the account of another student:

When we make groups, sometimes the male students ask for equitable groups (women and men), but it does not happen much, they say it but it is not an obligation, so I think that it should be reinforced more, at least one woman per group, but sometimes it does not happen, the teachers say, it does not matter and there are only groups of men. (Student 3, female, mathematician, interview August 18, 2020)

Classroom experiences can also be consciously promoted by academics. In our study this idea is observed when an academic, a female professor, teaches in a way that students report positive experiences. One student reports:

She has a very different vision, that men and women have to have the same opportunities, she gave us the first practice was soccer, a woman doing soccer and it was good, it was motivating, to see that a female teacher is doing that branch was motivating, then I think she makes a difference, perhaps by the simple fact of being a woman, she makes a difference in her pedagogical form in the classes. (Student 1, female, physical education, interview August 13, 2020)

In the case of mathematics, classroom experiences associated with gender perspective are observed, relatively balanced. A teacher points out:

There are a couple of students who feel that they are superior, but I don't see that any male student wants to stand out over any other female classmate, there are very good female students in mathematics, they stand out quite a lot in some courses. (Teacher 1, female, mathematics, interview August 26, 2020)

However, the same teacher points out that gender differences associated with the nature of mathematical knowledge are stated:

Men are faster, girls are more structured and they have to follow like an order, a procedure and they do it well, but the man usually skips many steps and is faster and gets to the result faster without necessarily following so much procedure and development to be able to get to the end. (Teacher 1, female, mathematics, interview 26 August 2020)

## Conclusions

The purpose of this study was to evince teaching practices in university and school classrooms, which facilitate or limit student participation in the teaching-learning process, from a gender perspective, in two programs: Physical Education and Mathematics



Education. After analysing the opinions of teachers and students, their answers were grouped according to categories, in order to give an exploratory answer to the questions that initiated this case study.

Regarding the first category *Teaching Practices*, there are some limitations. For both, university and school teachers, certain behaviours are still maintained by them, that reproduce differences in the daily routines of classroom, depending on whether students are women or men, and that favour the latter. Gender discrimination is promoted by making explicit an idea that discriminates or omits an action, or verbalization, and by normalizing them. Those ideas are transformed into practices that naturally reproduce inequality, which also coincides with the opinion of university students.

However, there are differing opinions among students, since, for some of them, discrimination based on physical characteristics between men and women would be an unusual practice in their teacher training. For the context studied, it is possible to propose greater support to introduce the gender perspective in initial teacher training of mathematics or physical education students. The need to continue working on strengthening the performance of teachers in the classroom, in terms of social and cultural inclusion, is highlighted. For *Gender Equality* category, in the opinion of university students, a reproduction of social inequalities in the classroom interactions exists, relating it to a limited gender perspective on the part of the professors. Regarding the category of *Gender Roles and Stereotypes*, in the opinion of the female physical education

students, there is a clear difference in the actions of the teachers linked to the specialty, making them feel less physical capable in relation to the males, as well, female mathematics students indicated that they feel a detriment in their abilities of this discipline, because of their gender. This coincides with historical stereotypes about gender, where differences in abilities are marked, favoring males.

Other categories emerged in the analysis, these are: *Weak or Absent Educational Curriculum*, giving to the opinion of the professors, exists a deficiency in the national curriculum proposal, which leads them to act according to their own beliefs and experiences. Regarding *Career Stereotype*, when choosing what to study, students bring stereotypes that maintain after their training process, where they evidenced the predominance of the number of males per course and how it influences not only the student's personal experience, but also the way they relate among themselves and with teachers.

Regarding *Discrimination* category, both male and female students of the Physical Education course point out the predominance of verbal discrimination in the classroom, to the detriment of feminine abilities, an aspect that discourages competitiveness in physical performance. Also, in the category *Classroom Experience Associated to Gender*, appears in the discourse of the interviewees, teachers and students a set of explicit actions favoring gender discrimination, mainly associated to a more protagonist participation of male students.

Finally, it is possible to conclude that the context studied is characterized by teaching practices that tends to not consider a

gender perspective, which poses the challenge of favoring interactions in the classroom that facilitate the development of positive values towards diversity, in its broadest sense. It is necessary to establish changes in teaching that allow progress towards the effective incorporation of this perspective, which implies uprooting the beliefs of the protagonists. Likewise, any change requires time for its installation in the behaviour of teachers and students, in order to break the circle of discrimination of skills and potentialities according to gender, which is transmitted from teacher to student, so future teachers develop inclusive teaching in their performance, which has been experienced during their initial training.

## References

- ÁCKER, S. (2003). *Género y Educación. Reflexiones sociológicas sobre mujeres, enseñanza y feminismo*. Narcea.
- ARANGO, M. & CORONA-VARGAS, E. (2016). *Guía para la igualdad de género en las políticas y prácticas de la formación docente*. UNESCO.
- AZÚA, X., LILLO, D. & SAAVEDRA, P. (2019). El desafío de una educación no sexista en la formación inicial: prácticas docentes de educadoras de párvulo en escuelas públicas chilenas. *Calidad en la Educación*, (50), 49-82. <https://doi.org/10.31619/caledu.n50.721>
- BALAGUER, M. (2021). *El Feminismo del siglo XXI*. Huso.
- BAYE, A. & MONSEUR, C. (2016). Gender differences in variability and extreme scores in an international context. *Large-Scale Assessments in Education*, 4(1). <https://doi.org/10.1186/s40536-015-0015-x>

- BUTLER, J. (2018). *Deshacer el género*. Paidós.
- CENTRO DE LOS OBJETIVOS DE DESARROLLO SOSTENIBLE PARA AMÉRICA LATINA. (2020). *Índice ODS 2019 para América Latina y el Caribe*. <https://cods.uniandes.edu.co/indice-ods/>
- CASTILLO-BRICEÑO, C. (2015). Posicionando la educación inclusiva: Una forma diferente de mirar el horizonte educativo. *Revista Educación*, 39(2), 123-152. [https://www.scielo.sa.cr/scielo.php?script=sci\\_arttext&pid=S2215-26442015000200123](https://www.scielo.sa.cr/scielo.php?script=sci_arttext&pid=S2215-26442015000200123)
- COMISIÓN NACIONAL DE INVESTIGACIÓN CIENTÍFICA Y TECNOLÓGICA (2018). *Mujeres en Ciencias 2009-2018*. [https://www.conicyt.cl/wp-content/uploads/2015/03/Reporte-Consultas-Ge%CC%81nero-OIRs\\_2018-op.pdf](https://www.conicyt.cl/wp-content/uploads/2015/03/Reporte-Consultas-Ge%CC%81nero-OIRs_2018-op.pdf)
- CONSEJO NACIONAL DE EDUCACIÓN. (2019). *Matrícula Educación Superior*. [www.cned.cl/indices/matricula-institucionesprogramas-educacion-superior](http://www.cned.cl/indices/matricula-institucionesprogramas-educacion-superior)
- CHODOROW, N. (2002). Glass ceilings, sticky floors, and concrete walls: internal and external barriers to women's work and achievement. In B. Seelig, R. Paul & C. Levy (Comps.), *Constructing and deconstructing woman's power*. British Library.
- DARRAZ, M. F., GUERRERO, G. M. & KROYER, O. N. (2017). Hombres y mujeres en las pruebas de lectura del Sistema de Medición de la Calidad de la Educación. Análisis de género, procedencia geográfica, grupo socioeconómico y pertenencia étnica en la región de la Araucanía. *Estudios Pedagógicos*, 43(2), 65-91. <http://dx.doi.org/10.4067/S0718-07052017000200004>

- EUROPEAN INSTITUTION FOR GENDER EQUALITY. (2020). *Gender-sensitive education and training for the integration of third-country nationals*. <https://eige.europa.eu/publications/gender-sensitive-education-and-training-integration-third-country-nationals-study>
- ESPINOZA, A. & TAUT, S. (2016). El rol del Género en las Interacciones Pedagógicas de Aulas de Matemáticas Chilenas. *Psykhe*, 25(2), 1-18. [https://www.scielo.cl/scielo.php?script=sci\\_arttext&pid=S0718-22282016000200003#:~:text=No%20existen%20diferencias%20seg%C3%BAn%20g%C3%A9nero,pr%C3%A1cticas%20de%20ense%C3%B1anza%20m%C3%A1s%20equitativas](https://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0718-22282016000200003#:~:text=No%20existen%20diferencias%20seg%C3%BAn%20g%C3%A9nero,pr%C3%A1cticas%20de%20ense%C3%B1anza%20m%C3%A1s%20equitativas)
- FEDERICI, S. (2015). *Calibán y la Bruja: Mujeres, cuerpo y acumulación originaria*. Tinta Limón.
- GARAY IBAÑEZ DE ELEJALDE, B., ELCOROARISTIZABAL, E., VIZCARRA MORALES, M., PRAT GRAU, M., SERRA PAYERAS, P. & SOLER PRAT, S. (2017). ¿Existe sesgo de género en los estudios de ciencias de la actividad física y el deporte? *Retos*, 34, 150-154. <https://doi.org/10.47197/retos.v0i34.58846>
- LAMOUREUX, A. (2006). *Recherche et méthodologie en sciences humaines*. Beauchemin.
- LARRAÍN, A. & SINGER, V. (2019). Habilidades de argumentación de estudiantes de educación básica subvencionada en Chile y su relación con variables socio-educativas. *Cogency*, 11(1-2). <https://doi.org/10.32995/cogency.v11i1-2.322>
- LATORRE, R., ROBLEDO, P. & NIETO, N. (2019). Representaciones socioculturales de género en estudiantes secundarios/as y violencias

- de género en la escuela. *Última década*, 27(52), 3-24. <http://dx.doi.org/10.4067/S0718-22362019000200003>
- LIU, R., ALVARADO-URBINA, A. & HANNUM, E. (2020). Differences at the Extremes? Gender, National Contexts, and Math Performance in Latin America. *American Educational Research Journal*, 57(3), 1290-1322. <https://doi.org/10.3102/0002831219876236>
- MARTÍNEZ, C., DEL CAMPO, V., PALOMERA, P., VANEGAS, C., MONTENEGRO, M., HERNÁNDEZ, C. & RAMOS, E. (2019). Experiencias formativas de mujeres en carreras de ingeniería: caracterización de prácticas que incentivan la inclusión y equidad. *Cuadernos de Investigación*. [https://www.researchgate.net/publication/338215887\\_Experiencia\\_formativas\\_de\\_mujeres\\_en\\_carreras\\_de\\_ingenieria\\_caracterizacion\\_de\\_practicas\\_que\\_incentivan\\_la\\_inclusion\\_y\\_equidad](https://www.researchgate.net/publication/338215887_Experiencia_formativas_de_mujeres_en_carreras_de_ingenieria_caracterizacion_de_practicas_que_incentivan_la_inclusion_y_equidad)
- MINISTERIO DESARROLLO SOCIAL. (2018). *Equidad de género. Síntesis de resultados*. [http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/docs/CASEN\\_2017-EQUIDAD\\_DE\\_GENERO.pdf](http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/docs/CASEN_2017-EQUIDAD_DE_GENERO.pdf)
- MINISTERIO DE EDUCACIÓN. (2011). *Ley 20536 Sobre violencia escolar*. <http://bcn.cl/2f9eq>
- MINISTERIO DE EDUCACIÓN. (2016). *Ley 20903 Crea el sistema de desarrollo profesional docente y modifica otras normas*. <http://bcn.cl/2f72c>
- MINISTERIO DE EDUCACIÓN. (2017). *Cartilla Enfoque de Género: Incorporación en instrumentos de Gestión Escolar*. Mineduc.
- MONTES, R. (2018). La nueva ola feminista chilena explota en las universidades. *El País*. Internacional. [https://elpais.com/internacional/2018/05/16/america/1526477379\\_243906.html](https://elpais.com/internacional/2018/05/16/america/1526477379_243906.html)

- NICHOLSON, L. (Ed.). (1997). *The second wave*. Routledge.
- PAILLÉ, P. & MUCCHIELLI, A. (2013). *L'analyse qualitative en sciences humaines et sociales*. Armand Colin.
- PROGRAMA DE LAS NACIONES UNIDAS PARA EL DESARROLLO. (2020). *Objetivo 5: Igualdad de Género*. <https://www.undp.org/content/undp/es/home/sustainable-development-goals/goal-5-gender-equality.html>
- ROBLES BOTTINELLI, M. (Ed.). (2012). *Enfoque de género en las prácticas pedagógicas: Documento de apoyo para el personal de las comunidades educativas*. Junta Nacional de Jardines Infantes.
- RODRIGUEZ, G., GIL, J. & GARCÍA, E. (1999). *Metodología de la investigación cualitativa*. Aljibe.
- SALTZMAN, J. (1992). *Equidad y género. Una teoría integrada de estabilidad y cambio*. Cátedra.
- SILVA-PEÑA, I., HORMAZÁBAL-FAJARDO, R., GUÍÑEZ-GUTIÉRREZ, C., QUILES-FERNÁNDEZ, E. & RAMÍREZ-VÁSQUEZ, P. (2018). Explorando las relaciones de género en la escuela. Indagaciones narrativas para la justicia social. In D. Ferrada, (Ed.), *Reflexiones y experiencias educativas desde las comunidades*, Investigación en educación para la justicia social (79-94). Ediciones UCM.
- STROMQUIST, N. P. (2006). Una cartografía social del género en educación. *Educação e Sociedade*, 27(95), 361-383. <https://doi.org/10.1590/S0101-73302006000200003>
- URSINI, S. & RAMÍREZ, M. (2017). Equidad, género y matemáticas en la escuela mexicana. *Revista Colombiana de Educación*, (73), 213-234. <https://doi.org/10.17227/01203916.73rce211.232>
- WEINER, GABY. (2017). *Gender, Justice and Equity in Education*. Oxford University Press.