Development of a Pilates Teaching Framework from an International Survey of Teacher Practice

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ABSTRACT

Objective: Pilates is used increasingly in a variety of clinical settings. However, there is lack of clarity in the literature as to what is meant by the term. Teachers incorporating apparatus based on the designs of Joseph Pilates (1883-1967) into their practice refer to themselves as Comprehensive Teachers, and this group divides itself further into Classical and Contemporary practice. The aim of this research was to explore the meanings of these terms with Comprehensive Teachers and to develop a framework that reflects current views and practice.

Method: Online international survey of Pilates Teachers through closed Facebook forums. Open questions were used to elicit views of the definition and practice of Pilates, and how standards should be set across the sector.

Results: Of 109 participants, 35% were based in the UK and 32% in the USA; 48% identified as Classical teachers, 32% as Contemporary, 5% as both and 15% as Matwork instructors. A thematic analysis of the qualitative data revealed agreement on the scope and content of Classical and Contemporary Comprehensive Pilates, however the discourse indicated there might be stereotyping about each other’s practice. Classical teachers, for example, spoke of their own practice as authentic while Comprehensive teachers used terms such as strict and inflexible for Classical practice. However, members of either group may incorporate both Classical and Contemporary approaches within their practice. We have designed a Pilates Teaching Framework to take into account the types of apparatus, the types of exercises and the order in which the exercises are executed.
Conclusions: A framework that emphasises Pilates teaching rather than teacher practice is proposed for consistency and clarity when describing Pilates in professional and public contexts.
INTRODUCTION

Joseph Pilates (1883-1967) was the creator of a system of exercise which he termed “Contrology” (Pérez Pont & Aparicio Romero 2013; Pilates 1945). His exercises on the mat and uniquely designed pieces of apparatus, were so well established and valued amongst those who had worked closely with him that they passionately continued his legacy, and the name Pilates is synonymous with the system that he referred to as the Method. The concept of “lineage” is often used in Pilates, with the term “elder” or “first-generation teacher” used to describe teachers who learned from Pilates himself (Pérez Pont & Aparicio Romero 2013).

Pilates-based exercises are used in a variety of clinical settings (Geneen et al 2017; Kuntze et al 2017; Mazzarino et al 2015; Macznik 2014). A PubMed search for articles with the term “Pilates” in the title or abstract reveals an exponential growth in the literature over the last ten years (Figure 1). However, across this literature, there appears to be a great deal of freedom by what is meant by Pilates. A systematic review concluded that Pilates exercise is defined as a mind-body system that “focuses on strength, core stability, flexibility, muscle control, posture and breathing” with “exercises that can be mat-based or involve use of specialised equipment” (Wells et al 2012). Peer-reviewed papers that report the impact of Pilates-based exercises, for example within rehabilitation settings, often fail to provide detail on whether apparatus is used or of the details of the exercises.

Although there are just 34 mat exercises described by Pilates (Rogers & Pilates 1957), he designed in excess of 500 exercises for the various pieces of apparatus (Pérez Pont & Aparicio Romero 2013). Many of the exercises on the apparatus were designed to enable successful work on the Mat. They also allow progression to greater levels of strength, flexibility, balance
and co-ordination. An example of such a progression is shown for one exercise, the “Teaser” (illustrated in Figure 2). Work on the Cadillac and Spine Corrector prepares the individual for the Teaser on the Mat, and these skills are further developed on the Wunda Chair and Reformer. There is a perception however that Pilates-based exercises may entail specific risk. There is a case-report of spontaneous intracranial hypotension following a Pilates Reformer class, for example (Davis et al 2014).

Within the industry, those practicing the full Pilates system using both mat and apparatus, are referred to as Comprehensive teachers. Within this group, the labels Classical and Contemporary are also used to refer to their practice and differences in views between these two groups are a source of tensions within Pilates communities internationally.

The aim of this research was to explore the meanings of the terms Classical, Contemporary and Pilates expert used amongst Pilates teachers today, and explore the views on the scope of practice in order to create a framework that can be used by all professionals in describing this area within the physical activity and health contexts. Such a framework might also be useful to underpin approaches to formal professional recognition.

**METHODS**

The Pilates Teacher Association was established in 2013 as an independent body to represent the community of Comprehensive Pilates teachers and protect the Comprehensive Method. Although the organisation is based in the UK, the membership is international and social media has been important in gathering views and communicating ideas. An online
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questionnaire was developed in collaboration with the Pilates Teacher Association membership and was distributed online using SurveyMonkey® (SurveyMonkey Inc., San Mateo, California, USA) through closed Pilates Teacher Facebook forums with international reach. Since the level of active participation in these groups, and therefore how many members read the invitation, is not known, a response rate could not be determined. At the start of the survey participants were informed that the outcomes would be published. Questions were designed for quantitative and qualitative responses and included information on country of residence and teaching experience. Inductive approaches were incorporated from the start and open questions were used to elicit views of the definition and practice of Pilates, and how standards should be set across the sector. The research was approved by the School of Health Nursing and Midwifery Ethics Committee, University of the West of Scotland.

Qualitative data were analysed for emerging themes after the method recommended by Braun & Clarke (2006), in groups according to country of residence and whether the participants identified themselves as Classical Comprehensive teachers, Contemporary Comprehensive teachers or Matwork instructors. The researchers are from different discipline backgrounds. One has previous experience teaching Comprehensive Pilates (both Classical and Contemporary). The other two researchers have backgrounds in occupational health, medicine and higher education. The data were analysed by each member of the research team, independently. The team then discussed the analysis together to reach a consensus on the key themes that emerged. Teachers-in-training were excluded from the analysis. Quantitative data were analysed by the Chi-squared test using Prism 6 (GraphPad Software Inc).
RESULTS

Participant characteristics

There were similar numbers of participants from the US and UK (Table 1), but with more people in the US identifying themselves as Classical Comprehensive teachers. Most of the participants identifying themselves as Matwork teachers were UK-based, none were US-based. Six individuals identified as a teacher of both Classical and Contemporary, none were UK-based. To protect anonymity, these responses are not highlighted in the following analyses. The rest of the world were represented by teachers from countries within Europe (17), as well as Australia (11), Canada (6) and two others.

As shown in Table 2, most participants (72%) identified themselves with a first-generation teacher and of these 62% related to more than one and 36% related to three or more. Only two of the Classical teachers (<4%) did not identify with one of the first-generation teachers, compared to 23% of Contemporary teachers and 56% of Matwork instructors (Chi-square 23.02, df 2, \( P<0.001 \)). Almost all of those identifying as Classical teachers (92%) named Romana Krysanowska, compared to 31% of Comprehensive teachers and 44% of Matwork instructors (Chi-square 37.08, df 2, \( P<0.001 \)).

Teacher perspectives on Classical Pilates

When asked the open question \textit{How would you define Classical Pilates?} there was commonality in the responses from Classical and Contemporary teachers. Classical Pilates was generally defined as being the original Method incorporating the full range of exercises and apparatus designed and used by Joe Pilates.
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“As close to the source as possible with little variation from Joseph's original exercises” (Contemporary, UK)

“If Joe walked through the door he would know what you were doing.” (Classical, Europe)

However, some of the comments from the Contemporary teachers indicated a perception that the Classical approach to Pilates is inflexible.

“A strict, almost no nonsense, order of teaching a set routine.” (Contemporary, UK)

The Classical teachers used language that suggested Classical Pilates is the “authentic” form and referred to it as something that is a “lived” experience.

“It's a philosophy ... it should be something experienced and felt. The Voices book by Peter Fiasca (2014) helps portray this.” (Classical, UK)

These different views of Classical and Contemporary teachers, existed regardless of whether participants were from the UK, US or the rest of the world. Views of Matwork instructors were, on the whole, similar to Contemporary teachers.

Teacher perspectives on Contemporary Pilates

When asked the open question How would you define Contemporary Pilates? there was general agreement that it was based on the original Method, with flexibility in the order and with modifications of exercises and apparatus.
“A routine of exercise which draws upon the classical methods, but is more flexible in order” (Contemporary, UK)

“Interpretations of the original work on modified equipment.” (Classical, UK)

A theme emerged, from the responses of both Classical and Contemporary teachers, that “modern science” is used to underpin the Contemporary approach, and there is a focus on rehabilitation, for example

“(Contemporary teachers) follow newly learned science and discovery of how humans can rehab and recover from injury and illness.” (Contemporary, UK)

Some Classical teachers perceived that commercial interests might also be motivating Contemporary approaches.

“They may have also used "science" as a way of justifying the changes.... and have created their own brands and put a spin on it. ...There are also brands who make equipment and then add short courses to sell the equipment.” (Classical, UK)

Both Classical and Contemporary teachers raised concerns that some Contemporary approaches may have shifted too far from Joseph Pilates original intent.

“Contemporary Pilates has modified certain aspects of the method ... in which case should we be calling it Pilates?” (Contemporary, UK)

“Some Contemporary methods are as far away from the Classical as one can find, making it unrecognisable. Some Contemporary methods have kept very closely to the Classical, with a few modernisations for the sake of keeping up with science and
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modern day man. The range is vast and sadly lumps everyone into one.” (Contemporary, UK)

Is the order of exercises important in Pilates?

Rogers & Pilates (1957) stated that: "Each student is given as nearly as possible the same regimen". Participants were therefore asked whether they agreed with the statement that The order of the exercises should be an integral part of an education programme and in common across all programmes. All participants responded, using a five-point Likert scale from strongly agree to strongly disagree. Most Classical teachers agreed or strongly agreed with this statement (64%), compared to 48% of Contemporary teachers and 26% of Matwork teachers (Chi-square 37.53, df 8, \(P<0.001\)). In addition, there were 57 open comments in response to this question. There was a view that the order is an important part of the Pilates Method.

“The system and order is very important to understand, it is absolutely vital and integral to understanding Pilates.” (Classical, UK)

Those who disagreed with the statement referred to a need to vary the order and justified this on scientific or clinical grounds.

“A classical course should teach the classical order and a rehab course should teach a clinically reasoning system to order the exercises” (Contemporary, Australia)

“Current science added to classical movements provide safe and challenging experiences tailored for each student's needs.” (Contemporary, USA)
Although the order is central to the Classical approach, the Classical teachers indicate the importance of being reflexive in supporting the student through the flow of exercises.

“... it is beautiful how the system works together. At times I can leave an exercise out but will keep the flow, and then of course end with some individual needs.” (Classical, Europe)

While both Classical and Contemporary teachers reported student-centred practices, those in Contemporary practice also referred to a different type of flexibility in teaching:

“we prefer to use an order that is arranged by the type of movement rather than a specific exercise order.” (Contemporary, UK)

Some refer to the introduction of practices from outside Pilates as acceptable in Contemporary practice.

“I like to take ideas and 'methods' from many different styles of teaching. I then meld them together, adding my own 'twists and teaching style' to produce my classes.” (Contemporary, UK)

Are Pilates users “patients” or “treated”?

Rogers & Pilates (1957) stated that: “Contrology is not ‘medicine’ or even ‘Physical Therapy’. For its aim is not specifically corrective but generally body building and co-ordinating. Hence its users are neither ‘patients’ nor ‘treated’”. Participants were asked How strongly do you agree or disagree with this statement in relation to Comprehensive Pilates today? All survey participants responded to the question. Most participants agreed or strongly agreed with this
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statement (75% of Classical, 57% of Contemporary and 75% of Matwork teachers). There were 57 open comments in response to this question. There was general agreement that, although clients often present requesting physical therapy, Pilates teachers are not trained to diagnose or give treatment. However, there was a view that because Pilates trains the whole body, it may be therapeutic.

“Pilates in its nature leads to corrective patterning, it is an unavoidable benefit. I agree that clients are not patients or treated by us though.” (Contemporary, UK)

“Pilates is demanding physical exercise. It is corrective movement and it can be therapeutic, but it is not therapy.” (Classical, Canada)

“Pilates is first and foremost a movement system. ... Because it is a workout and done so as a movement system rather the isolated movements it become(s) corrective.... You change habits not treat patients.” (Classical, US)

There was also a view that Pilates can be used within or alongside rehabilitation.

“It is not Physical Therapy, and I am not a physical/medical expert. However Pilates can sometimes work hand in hand with physical therapy and also be a bridge into a healthy workout method after physical therapy.” (Classical, Europe)

“Pilates is a fantastic complementary exercise method that can be used alongside physiotherapy.” (Contemporary, Europe)

Those who disagreed or strongly disagreed with the statement also referred to the potential complementary role of Pilates-based exercise.
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“Pilates exercises have been instrumental in treating patients with all sorts of medical conditions.... In my view, it's definitely physical therapy. Perhaps Joseph never envisaged it as such, but Pilates has come a long way in us understanding its benefits.”
(Classical, Europe)

Who should set the standards for Comprehensive Pilates?

Since there are drivers, internal and external to the sector, towards standardisation of Pilates teacher training, participants were asked to describe how you would envisage a body of appropriately qualified Pilates Experts assisting in the quality control of the education and assessment process. There was general agreement that standards across Comprehensive Pilates teaching were needed and that this would help in differentiating Pilates teachers and creating a professional identity. The importance of continuing education was also a strong theme.

“If we are to be taken seriously as a profession, there needs to be some oversight as to continuing education... it should be apolitical and open to both Classical and Contemporary schools, recognising the fact that both have a place in practice.”
(Contemporary, UK)

Although the importance of “bridging the gaps between various schools” was recognised, there were references to the importance of neutrality. Current tensions in the community were highlighted and there was a view that it would be difficult to establish a quality mechanism in an unbiased way.
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“I am not convinced a third party can be unbiased..... I strongly do not believe in the teachings of some systems and do not feel that being governed by the same body is necessarily a good thing. The only thing I feel could be positive is that the profession becomes recognised.” (Classical, UK)

“I worry about how the body of 'suitably qualified experts' would be selected. There is a lot of elitism out there within our field of work...” (Contemporary, UK)

“Given the state of the field today, it is impossible for there to be an unbiased, objective body of Pilates professionals.” (Classical, US)

The positive value of involving an independent body in a transparent way to keep the public informed and to raise the profile of Pilates with other professions was highlighted.

“Third parties would be essential in giving the perspective more from a member of the public or having experience of other professional bodies.” (Contemporary, UK)

“To protect the original intent of the Pilates method and insist on a level of standards required of instructors. This would assist in the acceptability of the Pilates industry to the public and health related professions in the absence of required licensure.” (Classical, US)

Some perceived that clear standards would assist in maintaining the integrity of Comprehensive Pilates and raise confidence by the public.

“I believe a set of educational & assessment standards must be established to regulate our industry. The current lack of such standards has led to so many pseudo Pilates
programs in the marketplace. This is both confusing and unsafe for consumers. Not to mention disheartening to those trying to preserve Joseph Pilates original teachings.” (Classical, Canada)

“I strongly believe that the name Pilates should only be used by Comprehensive Pilates Teachers - the end client should be informed at the outset .... what they are being taught.... consumers of Pilates think they are going to a comprehensively taught instructor and what they get in a Gym is Fitness Pilates.” (Contemporary, Australia)

Pilates experts were seen as central in the process of setting standards.

“We are our own best quality controllers” (Contemporary, UK)

When asked *How would you define a Pilates expert?* there was a general view that an expert was someone who knows and embodies the Method, has practiced and taught for many years (5-20+ years), and demonstrates commitment and continuing professional development.

“Experts are fully trained and qualified instructors via an internationally recognized body....with more than 10 years experience who update and refresh their training and teaching and care about their clients” (Contemporary, Europe)

An expert was also seen as someone who is independent.

“whose life is teaching and living Pilates minus commercial influence” (Classical, US)

Many referred to lineage as a key to expertise.
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“Joe taught the person in front of him. Each of these individuals represent a facet of the 'gem'. Collectively, this group is the best representation of the body of knowledge known as Pilates.” (Classical, US)

“A Pilates expert is one who is in direct lineage of Joseph Pilates, one who continuously networks with like teachers and is continuing their own journey of Pilates on their own body as well as clients.” (Contemporary, Australia)

However, there was also a view that an emphasis on lineage could be destructive.

“The emphasis on the so-called "lineage" has helped to foster an environment in which far too many in the field base their sense of self worth--and the worth of others--on lineage alone. It has promoted a very destructive environment.” (Classical, US)

**DISCUSSION**

In this survey of individuals identifying themselves as teachers of Pilates, definitions of Contemporary and Classical teaching practice were remarkable in their similarity across the groups. There was, however, evidence of stereotyping in the language used by Contemporary and Classical teachers about each other’s practice. Classical teachers spoke of their own practice as authentic, using exercises and apparatus as designed by Joseph Pilates himself, while Contemporary teachers often referred to Classical teaching as strict and inflexible. Contemporary teachers considered that their practice was an interpretation of the original work, but underpinned by modern science, while some Classical teachers referred to
Contemporary teachers as using commercial interests to move away from the original intention of Pilates. These tensions appear to pervade the worldwide Pilates community.

Pilates is increasingly used in clinical settings. Although many of the teachers agree with the statement that Pilates is not therapy, many speak of its use in therapeutic terms. Contemporary teachers were more likely to incorporate views of science and offer Pilates as rehabilitation. The views of participants may have been influenced by their training and their perception of affiliation with first-generation teachers. The concept and prestige of lineage is important in Pilates, and the views of the Classical teachers in this research may have been strongly influenced by the ideas of Romana Krysanowska, who worked closely with Joe and Clara Pilates and continued to teach in their studio after Clara’s death in 1977 (Pérez Pont & Aparicio Romero 2013).

When Classical and Contemporary teachers speak of modifying the original exercises, they appear to interpret this in different ways. Classical teachers speak of adapting an exercise for a particular individual while that individual developed the necessary strength, flexibility or co-ordination to enable them to fully complete it. Thus, the aim of Classical teaching is to work toward the ideal execution of each exercise as it was described by Joseph Pilates. This is distinct from the Contemporary approach where modified exercises are created and taught as exercises in their own right, and may even be given new names. These modified exercises may be based on Pilates exercises but could also be influenced by other movement methods e.g. yoga and physical therapy. Some Classical teachers were of the view that many Contemporary teachers had a focus on branding for commercial gain, however the responses indicated that Contemporary approaches were fostering creativity and an inventiveness that might appeal to the public and to collaborating professionals in the health promotion areas.
Despite contrasting views that could be barriers in the development of agreed definitions, it was reassuring that there was general agreement on the scope and content of Classical and Contemporary Comprehensive Pilates teaching. Individual teachers usually identify as either Classical or Contemporary, often based on their training lineage, however in reality there is evidence that members of either group may incorporate both Classical and Contemporary approaches within their total practice. In order to make this clearer to the wider health and exercise community we propose a framework that emphasises teaching rather than teacher practice. This framework is illustrated in Figure 3.

The Pilates Teaching Framework has two dimensions: the exercises and the apparatus. Pilates teachers in this study identify apparatus as core to Comprehensive Pilates teaching. When the apparatus that is used is close to the original designs of Joseph Pilates, together with exercises that are close to the original exercises, in the original order (A1 plus E1), this meets a definition of Classical Comprehensive Pilates teaching that is likely to be accepted across the Pilates community. In this context, apparatus is used to develop strength, flexibility and co-ordination, to complement the original Pilates matwork exercises. The definition of Contemporary Comprehensive Pilates teaching, in this framework, encompasses teaching on apparatus that is either close to the original (A1) or modified, but Pilates-based (A2), together with teaching exercises that are close to the original (E2) or Pilates-based (E3). It is unlikely that teachers using modified Pilates-based apparatus will be following the original order of exercises (A2 plus E1) but in this framework, this would also meet the criteria for Contemporary teaching. It is acknowledged that some teachers regard that apparatus that is not Pilates-based can be used to accommodate exercises that are close to original exercises (A3 plus E1 or E2), or Pilates-based (A3 plus E3) and these are given the definition of Pilates-
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based exercise teaching in our Pilates Teaching Framework. Teaching without apparatus, and teaching exercises that are either close to the original Pilates matwork exercises or Pilates-based, are defined within the framework as Pilates-based matwork instruction.

An important limitation of this study is that the teachers were asked to identify themselves as Classical or Contemporary Comprehensive teachers, or Matwork instructors. It would be of interest to independently confirm what their practice looks like. This is possible in future studies, using our Pilates Teaching Framework. Although participants were recruited online, they were members of active Pilates Teacher forums, and their views were consistent between groups of teachers and countries. Furthermore, because this was an online anonymous survey, it not possible to be sure whether the participants were honest in their responses, or whether they completed the survey more once. Apart from the country of origin no other demographic information was collected. There may therefore be an element of bias in that participants who responded are likely to be those with an interest in developing the occupational standards.

Classical and Contemporary teachers clearly articulate the view that Pilates is a distinct method, with the exercise and apparatus of Joseph Pilates at its core. Although the separation of Classical and Contemporary was not intended by Joseph, it is a reality of Pilates as it is today and, although there is remarkable consistency in definitions, it is sometimes accompanied by stereotypical perspectives. In this paper, we offer a framework that can be used by anyone to define teaching practice. It should be emphasised that this is a teaching framework, and that in order to better define the role of the Pilates teacher, further exploration is needed. Further work is required in collaboration with key stakeholders, to
describe the core knowledge, behaviour and attitudes required for practitioners, along with a system of review and recognition for those responsible for training.

**ACKNOWLEDGEMENTS**

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REFERENCES

Braun V, Clark V 2006 Using thematic analysis in psychology. Qualitative Research in Psychology 3: 77-101

Davis J, Yanny I, Chatu S, Dubois P, Hayee B, Moran N 2014 Spontaneous cerebrospinal fluid leak following a Pilates class: a case report. Journal of Medical Case Reports 8: 456


Macznik AK, Schneiders AG, Sullivan SJ, Athens J 2014 What "CAM" we learn about the level of evidence from 60 years of research into manipulative and body-based therapies in sports and exercise medicine? Complementary Therapies in Medicine 22: 349-353


Rogers RR, Pilates JH 1957 The Pilates Pamphlet: Return to Life Through Contrology.
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Complementary Therapies in Medicine 20: 253-262
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FIGURE LEGENDS

Figure 1 Pilates publications

Publications using the word Pilates in the Title or Abstract in PubMed database search up to and including 2017 yielded 378 papers. The line represents fit to an exponential growth equation ($R^2=0.9831$) and a doubling time of 2.94 years (95% CI, 2.70, 3.30).

Figure 2 Use of apparatus for one of the original Pilates exercises to enable work on the Mat and for further skill development.

The Teaser is an original exercise developed by Joseph Pilates. Use of the push-through bar on the Cadillac (a) and use of the Spine Corrector (b) prepare the individual for the doing the Teaser on the Mat (c) and these skills are further developed on the Wunda Chair (d,e) and Reformer (f). The exercise is demonstrated by a 65-year old Comprehensive Pilates Teacher.

Figure 3 The Pilates Teaching Framework

This framework is designed to be used to describe Pilates teaching, for use by those who identify as Pilates teachers, as well as by other professional groups and the public. Both scales should be used in describing teaching: for example, teaching that is A1/E1 is defined as Classical Comprehensive teaching.
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Table 1 Participant country of residence and Pilates teaching practice

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<td><strong>16</strong></td>
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Chi-square for Table 44.89, df 6, $P < 0.001$

*aWithin Europe (n=17), Australia (11), Canada (6), other (2)*

Table 2 Pilates lineage: participants’ affiliations with first-generation Pilates teachers

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$^b$Others identified by participants as first-generation teachers with whom they are affiliated were: Kathleen Stanford Grant (n=28), Eve Gentry (23), Lolita San Miguel (20), Jay Grimes (19), Ron Fletcher (16), Mary Bowen (13), Carola Trier (11), other (10)
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Figure 1

![Graph showing the number of publications from 1996 to 2016. The x-axis represents the year, ranging from 1996 to 2016, and the y-axis represents the number of publications, ranging from 0 to 100.]
Figure 2
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Figure 3

APPARATUS
- A1: Classical
- A2: Contemporary

EXERCISES
- E1: close to original Pilates exercises
- E2: following the original order
- E3: close to original Pilates exercises, modified
- E4: not Pilates-based

A1: close to original Pilates designs
A2: based on Pilates designs, modified
A3: not based on Pilates designs
A4: no apparatus