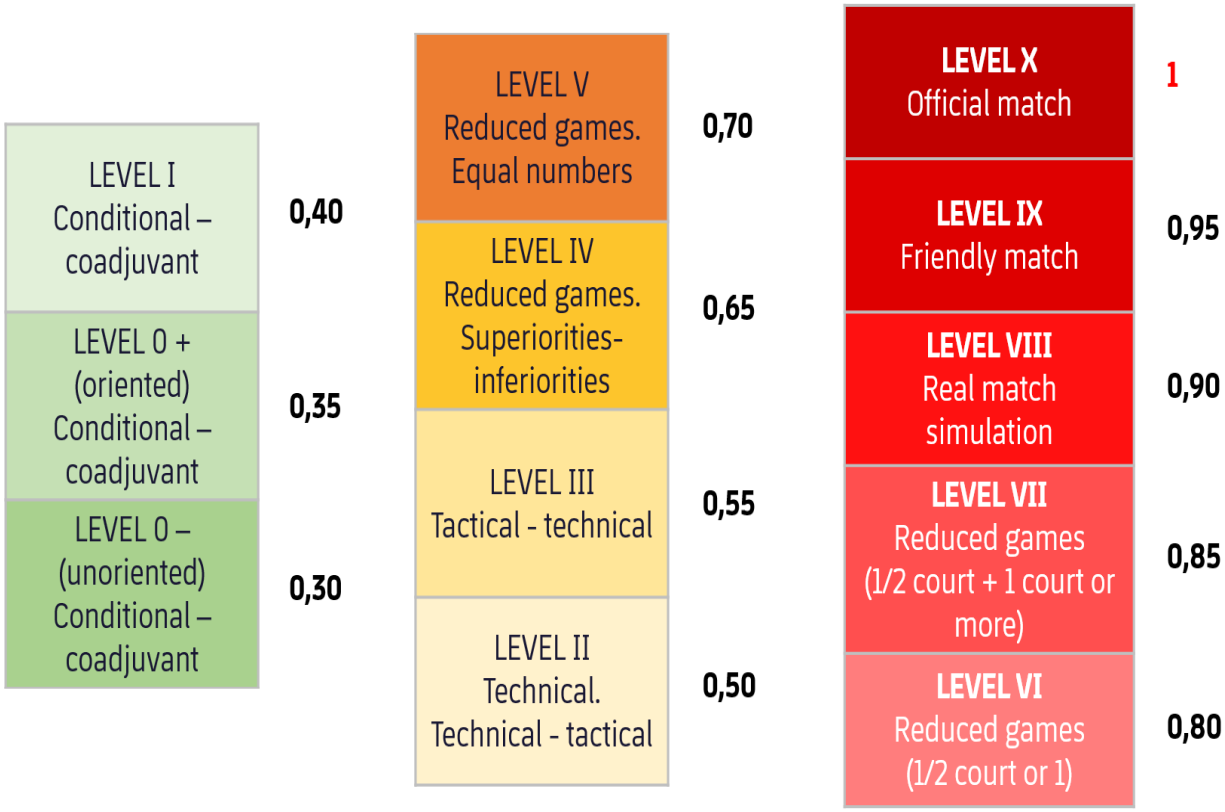
Module 2. Load measurement proposal

And how do we measure load? The proposal is based on specificity levels, establishing a load for each one of those levels, starting from the value 1 arbitrary load we give to official competition.

Below, we express values in each approximation level to competition for training:

- Zero unoriented 0.30
- Zero oriented 0.35
- One 0. 40
- Two 0. 50
- Three 0. 55
- Four 0. 65
- Five 0. 70
- Six 0. 80
- Seven 0. 85
- Eight 0. 90
- Nine 0. 95
- Competition 1

Figure 1: Selected load for each approximation level



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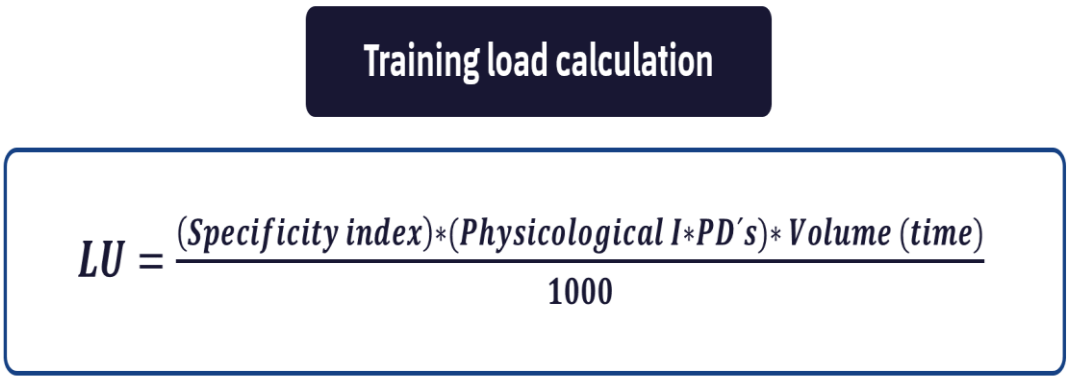
Then, in order to measure load what we propose is the following equation:

Figure 2: Training load calculation



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This specificity index is the one we have shown in relation to the preferential simulating situation we might have faced. It is a physiological index that might be determined by the heart rate or by the RPE and by physical demands. In relation to physical demands, we can point out that here we can establish different variables, for example, acceleration variables, distance variables, high intensity distance variables or we can establish a sum of some of them.

We will multiply all this by the time volume taken for every task we have proposed and we will divide it by a thousand in this case, for example, just to reduce data we would obtain.

It is important to establish the physiological index, because sometimes it is not easy to obtain heart rate or because in basketball mainly it is quite uncomfortable and players are quite reluctant to wear a pulsometer because of impacts, falls, etc. So, we give you this tool in case it is useful for you, because we can establish an estimation of beats per minute in relation to the intensity put in the exercise we might propose. This way, for example, even if the exercise is walking or jogging, beats will be less than 110 per minute, if intensity is medium-low it will be 110 to 130 beats per minute. If density is 1, 2 or 1:4, we can establish 130-150 BPM. For a density of one one two one, beats will be 150 to 170 per minute.

With a continuous density of 1:0, we will establish a parameter bigger than 170 beats per minute.

It is very important to indicate that this is just an estimation and it has a range for error that might be important, but if we are able to establish always the same conditions and the same values, we could have it into account for our load control. Another option which is simpler, as we said, is using the RPE instead of the physiological index. Another

practical and important aspect for load control, besides the specificity value we have given to levels, is to establish a value for each of those levels in relation to each of the structures. That is, we will be able to reach a range of values between 1 and 8 for bioenergetic structure in the unoriented level zero. We can also establish the following: For a level 9 in a friendly match we could be between a four or four and a half for the bioenergetic structure demand in relation to the official match. Then, we can establish the same for each figure. And for each structure.

Figure 3: Load value for each approximation level according to the structure

	Bioenergetic	Conditional	Coordinative	Cognitive	Creative – expressive	Social – affective	Emotional – volitional	Mental
LEVEL IX Friendly match	4	4	5	4-5	4-6	**4 - 5**	**4 - 5**	**4 - 5**
LEVEL VIII Real match simulation	4	4	5	4-5	4-6	4	4	**4 - 5**
LEVEL VII Reduced games (1/2 court + 1 court or more)	**3 - 4**	3-4	4-5	4	4-6	3-6	4-6	3-4
LEVEL VI Reduced games (1/2 court o 1)	1-4	1-4	1-5	4	4-6	3-6	1-4	3-4
LEVEL V Reduced games. Equal numbers	2-7	3-5	3-4	1-3	3-5	2-4	3-6	2-4
LEVEL IV Reduced games. Superiorities – inferiorities	2-7	2-7	2-2	1-2	2-4	2-4	2-7	2-2
LEVEL III Tactical – technical	1-8	1-8	**1-3**	**1-3**	0-4	2-3	2-6	1-2
LEVEL II Technical. Technical – tactical	1-8	1-8	3-7	0-2	2-7	0-2	2-6	1-2
LEVEL I Conditional – coadjuvant	2-8	2-8	4-5	0-2	0-2	0-1	3-8	1-3
LEVEL 0 + (oriented) Conditional – coadjuvant	2-10	2-10	1-8	0	0	0-1	2-8	1-2
LEVEL 0 – (unoriented) Conditional – coadjuvant	**1-8**	**1-8**	1-7	0	0-2	0-8	1-7	0

Source: Own creation.

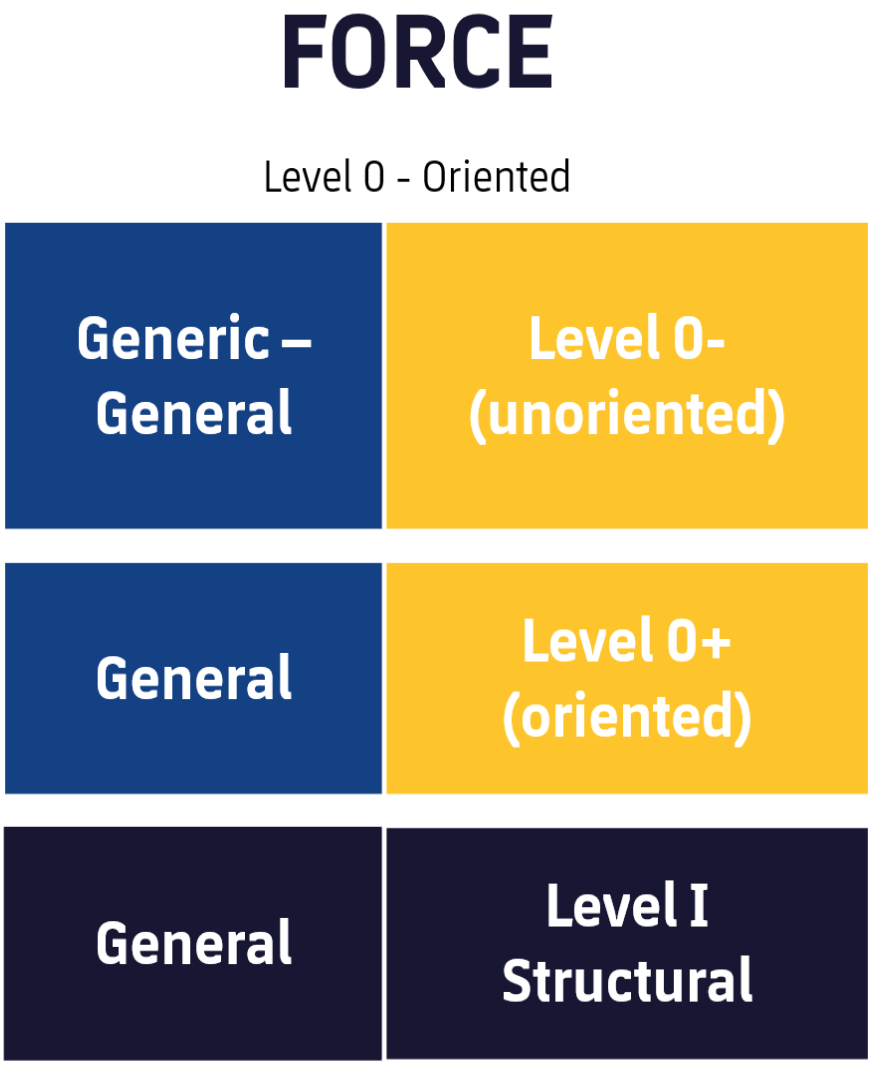
This allows us to obtain values above average or below the official match's values, but with different levels, that is, with different specificities. We can get a superior level to the official competition's one, for example, in the bioenergetic structure, by doing a nonspecific coadjuvant training task in the unoriented level zero, getting to a 6 or 7 value, that is, with higher demands at the energetic level for the aerobic system.

Specifically, what might be for a match, generating a nonspecific task. However, we can get to that level 6, for example, by performing a specific level task that belongs, in this case, to a special orientation in reduced games situations in superiority or inferiority. Therefore, it is also a way to establish a load measurement, which would allow us a variety to obtain the same goal through different specificity level.

Well, we have been mainly talking about orientations towards resistance capacity, that is, using levels with an orientation towards resistance work.

However, we can also use these levels with an orientation based on force. This way we would also make a distinction for a generic-general orientation with an unoriented level zero. In this work the following would be included: proprioception or balance works, nonspecific and without a clear transference tasks without transparent transference. In relation to compensation exercises, in this unoriented level we would find also compensation exercises which, as its name indicates, complement a session or basketball needs in general, all of them will be included without decision making or with very simple decision making.

Figure 4: Approximation levels with an orientation based on force A



Source: Own creation.

Regarding some more details about this unoriented level zero work, it is important to establish that work for CORE will be emphasized with or without destabilizing material, performing different types of planks, which could be used with fit ball, bosu, with TRX, with aerosling. Doing foam rolling work, for gluteus medius and using mechanical vibrations, taking advantage of its biggest activation due to the tonic vibration reflex.

The oriented zero level would be again a nonspecific work, without decision making or simple decision making and without significance, but it implicates the musculature that takes part in movements typical in basketball.

Level 1, with a general orientation, would have a dynamic direct transference with the technical gestures that appear in competition, but without concerning movement speed,

this aspect will happen especially because as we work with overload, it will always be slower than in competition.

As an example, we are going to present the development of a jump by approximation levels with orientation to force.

In the first place, we can distinguish the unoriented zero level with different exercises, like doing circles on a bosu or on an unstable base, keeping certain weight at the front of the body. We can work doing diagonals with a conical pulley or with a normal pulley. And we can also make movement with weight dissociations performed on a destabilizing vibration platform.

In relation to level zero, we could highlight two exercises like press leg, leg extension in the press or in the hip thrust.

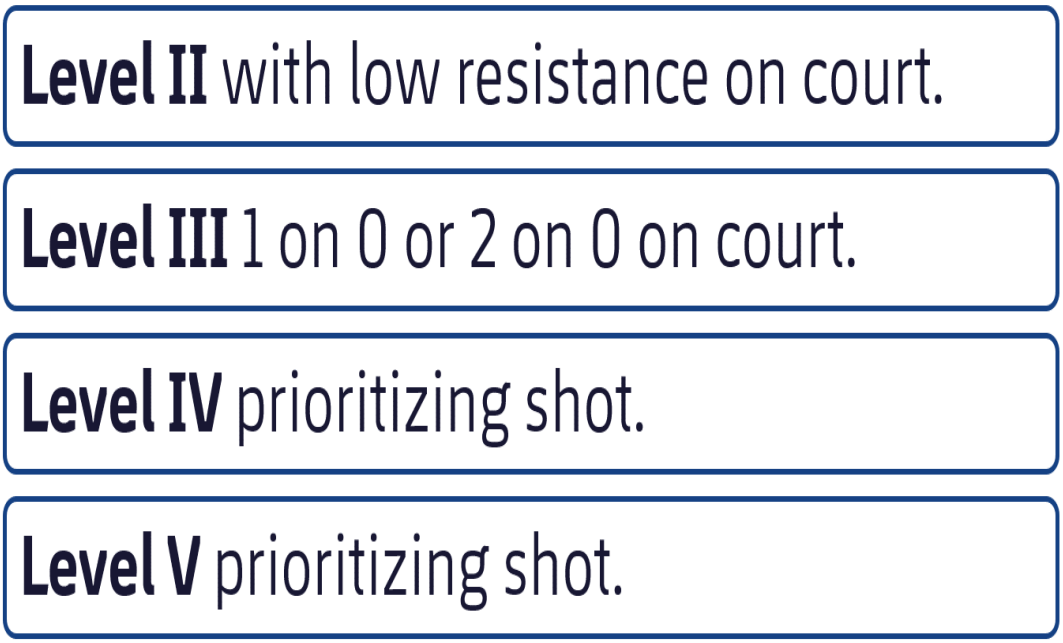
In relation to level 1, we can distinguish different movements, like doing squats in a conic pulley or with free weight with weight on a vest, using a hexagonal bar and using also some of the olympic movements.

Level 2 would be composed by the exercises we have previously described, but establishing low resistances, like with a vest that might represent an 8 or 10 percent of the body weight of a sports human being who plays basketball. To perform basket shots. Level 3 would include basket shots. Therefore, we would be developing the jump in 1on0 or 2on0 situations.

Level 4 would include work in special situations, not only in number equality, but also in superiorities and inferiorities, but prioritizing shot, that is, every time the player scored with a layup or he/she continued in suspension, as we would establish a higher punctuation.

And in the last level, the competitive level, we would do the same as in level 4. We will prioritize the jump shot within the task in question.

Figure 5: Approximation levels with an orientation based on force A



Source: Own creation.